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Contributors

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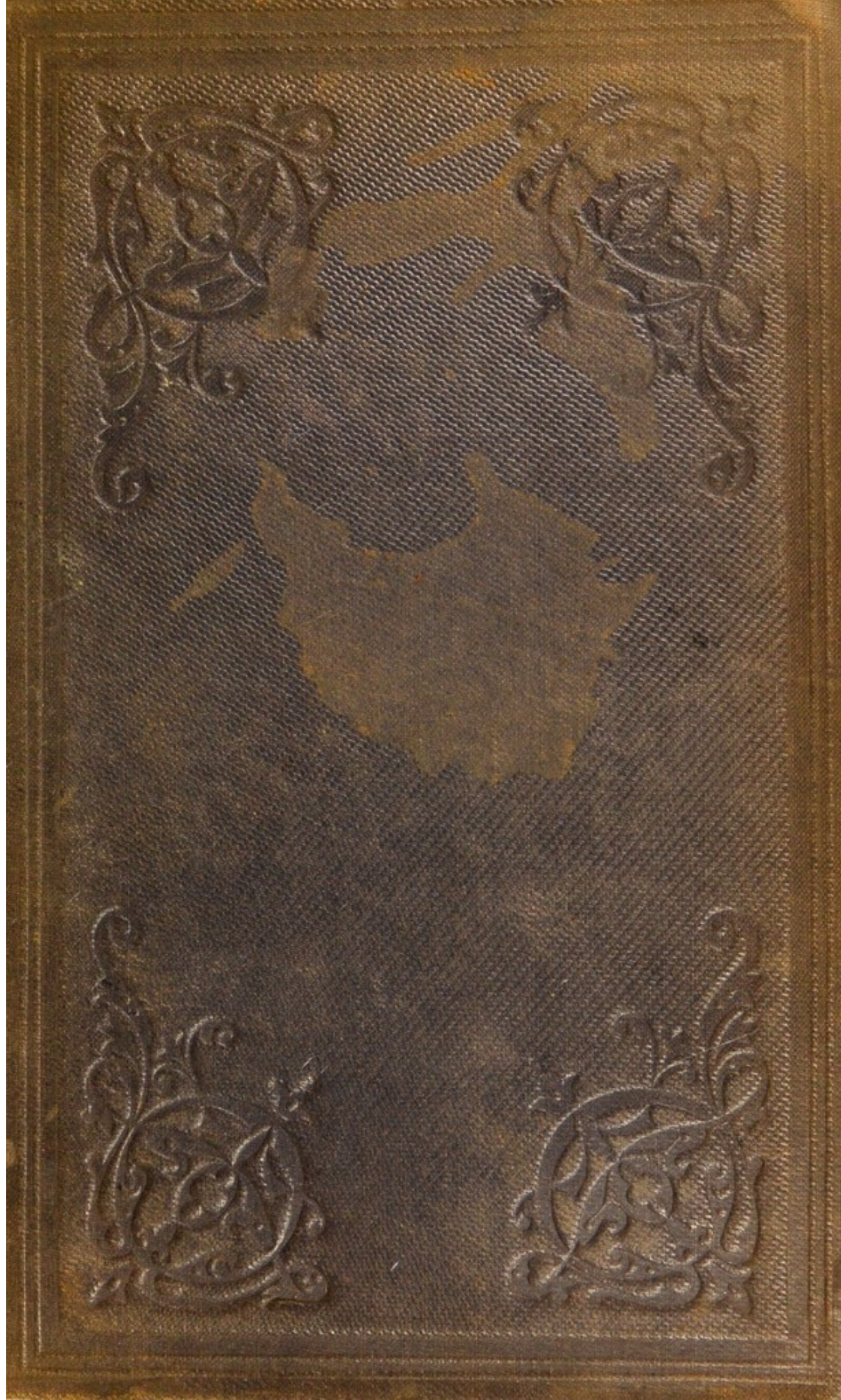
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THE
D I C T I O N A R Y
OF
PRACTICAL RECEIPTS;

CONTAINING THE
ARCANA OF TRADE AND MANUFACTURE;
DOMESTIC ECONOMY;
ARTISTICAL, ORNAMENTAL, AND SCIENTIFIC PROCESSES;
PHARMACEUTICAL
AND
CHEMICAL PREPARATIONS, &c. &c. &c.

BY
G. W. FRANCIS, F.L.S.,

AUTHOR OF THE DICTIONARY OF ARTS AND SCIENCES; CHEMICAL EXPERIMENTS; ELECTRICAL
EXPERIMENTS; THE ART OF MODELLING WAX FRUIT AND FLOWERS; MANUAL OF
LEVELLING; LITTLE ENGLISH FLORA; FAVORITES OF THE FLOWER GARDEN;
GRAMMAR OF BOTANY, ETC. ETC. ETC.

NEW AND IMPROVED EDITION, WITH COPIOUS INDEX.

London:
J. ALLEN, 20, WARWICK LANE, PATERNOSTER ROW;
D. FRANCIS, 24, MILE END ROAD;
AND ALL BOOKSELLERS.

1857.

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PREFACE TO THE FIRST EDITION.

IN projecting the present volume, the sixteenth that I have now offered to the Public, I especially had in my view the same intention that has guided my former efforts at utility—I have aimed at producing a cheap, correct, and comprehensive collection of Receipts, in reference to Manufacturing Processes, Trade—the Fine and Useful Arts—Chemistry, &c., and, to a certain limited extent, to Medical and Domestic Economy.

I have prepared this Work as one of general reference and universal information; useful to the Tradesman and the Artist, by informing them of the operations and processes of others—to the Chemist and Druggist as a *vade mecum* of all his professional formulæ; to the Amateur, as a book of constant reference, and to the Manager of a Family, as a faithful synopsis of numerous Operations, and a register of authentic Receipts, valuable to him in saving expense, and procuring or using a material or preparation which most frequently cannot be purchased without much difficulty and delay. How I have carried out these views the Public will best determine. They will admit, however, that it is difficult, and perhaps impossible, for any person to test the accuracy of all the Receipts herein contained, amounting to about five thousand. Neither is it possible to procure, at all times, Receipts upon many matters of trade—these remain valuable to the possessor only while he keeps the secret to himself, thus it remains perhaps for ever unknown. This is also the particular case with patent medicines; these for the most part contain some one strong drug as a basis, which is disguised by others of less power, and often by a merely odorous or strongly-tasted ingredient, or more generally a combination of incongruous vegetable matters, which perplexes, if not defies, the tests of the chemist.

Another remark I would venture to make relative to the practice of various parties of putting their own names to articles of common use, as implying superiority or change, and also to the variety of names by which drugs and preparations are known in different parts of the kingdom, which often widely differ from the ordinary appellation. Most of these things appear under one name or the other; they could not have been repeated under their various titles without manifest impropriety.

The most valuable and general receipts, however, are of simple names, understood by all, and which no one can alter. Of these this Work is full; it contains many hundreds never before published, and for the correctness of which the Author pledges himself. Indeed he may venture to say, that no Book of Receipts ever appeared in our language which contained so much that is original, or so large a mass of generally-useful information.

G. FRANCIS.

PREFACE TO THE SECOND EDITION.

THE First Edition being disposed of, the Proprietors have taken the opportunity in reprinting to have the Work carefully revised and considerably improved, particularly by the addition of a copious INDEX, which has been prepared at great labor and expense.

PREFACE TO THIS NEW AND IMPROVED EDITION.

THE increased sale, consequent upon the publication of the Second Edition, has again obliged the Proprietors to reprint the Work; in doing so, they have availed themselves of the suggestions of many Subscribers and Friends which have led to further improvements, and the addition of many new Receipts.

August, 1857.

INTRODUCTION.

WHATEVER manipulation may be required in compounding any preparation, it is evident that the proper apportioning the various ingredients must be of the first importance. The following remarks and tables will, it is hoped, render clear any difficulty which the inexperienced may find in the following pages. The quantities indicated in the various receipts are to be ascertained according to the standard weights and measures, Troy and Avoirdupois weights—the former with the modification of it, commonly called Apothecaries' weight, being used in compounding medicines, and in the weighing of the precious metals, most of the fluids, precious stones, &c.—and Avoirdupois weight for common articles. The relative and proportionate value of the subdivisions of these must at all times be remembered, as a mistake may even occasion disastrous consequences; they are therefore annexed, that a comparison may be made between them, when necessary:—

TROY AND APOTHECARIES' WEIGHT.		AVOIRDUPOIS WEIGHT.	
20 Grains (gr.) equal 1 scruple	℥	16 Drams (dr.) equal 1 ounce.....	oz.
3 Scruples " 1 drachm	ʒ	16 Ounces " 1 pound.....	lb.
8 Drachms " 1 ounce.....	ʒ	14 Pounds " 1 stone	st.
12 Ounces " 1 pound	lb	28 Pounds " 1 quarter ...	qr.
25 Pounds " 1 quarter.....	qr.	112 Pounds " 1 hun. weight, cwt.	
100 Pounds " 1 hund. weight...cwt.		20 Hundred weight 1 ton.	

There will here be remarked particularly the different spelling of the word *drachm* and *dram*. The different number of drams that make the ounce—the different number of ounces in the pound—pounds in a quarter and hundred weight, &c. Nor is the pound the same in the two weights, as the pound avoirdupois is equal to 14 oz. 11 dwts. 16 grains troy;—thus the Troy pound is equal to 5760 grains, and the Avoirdupoise pound to 7000 such grains; yet the ounce Troy is greater than the ounce Avoirdupois, and the drachm Troy more than double the dram Avoirdupois.

The measures used by Apothecaries are in a great degree peculiar to themselves, except for quantities of a pint or more.

APOTHECARIES' FLUID MEASURE.

60 minims or drops (m) equal.....	1 fluid drachm.....	f. ʒ
8 fluid drachms "	1 fluid ounce	f. ʒ
16 fluid ounces "	1 pint	℥
8 pints "	1 gallon	C=10 lbs. avoirdupois.

It is necessary besides to have numerous irregular measures, as a handful, a pinch, as much as will lie upon a shilling, &c. This rude method of compounding is never used in cases of any delicacy. The following may assist in ascertaining some of these quantities:—

A table-spoonful of syrup.....	= ½ ʒ	A tea-spoonful of syrup.....	= 1 to 2 ʒ
" of water.....	= 3½ ʒ	" of distilled liquors=	1½ to 2 ℥
" of distilled waters=	2½ to 3 ʒ	" of spirits & tinctures=	1 to 1½ ℥
" spirits & tinctures=	2 to 2½ ʒ	" a light powder=	½ to 1 ℥
A dessert-spoonful of water...=	2 ʒ	" a heavy powder=	1½ to 2 ℥
A wine-glassful of water	= 1½ ʒ	" a metallic oxyde=	1 ʒ to 4 ℥
A tea-cupful of water	= 3 to 4 ʒ	" water	= 80 to 100 drops.
A thimbleful—the same as a tea-spoonful.			

Gasses are measured by cubical inches, of which about 29 make a pint.

DICTIONARY

OF

PRACTICAL RECEIPTS.

ABERNETHY BISCUITS.

I. Make into a stiff biscuit paste, 1 quart of milk, 6 eggs, 8 ounces of loaf sugar, and $\frac{1}{2}$ an ounce of caraway seeds, with flour sufficient to make it to the required consistence. Make them rather thinner than captain's biscuits, and bake in an oven not very hot. These, the original biscuits, are easy of digestion, owing to the lightness given by the eggs. In the more general receipts, the eggs are omitted, as follows:—

II. Take 8 pounds of fine white flour, 8 ounces of loaf sugar, 8 ounces of butter, 1 quart of milk, or water, and $\frac{1}{2}$ an ounce of caraway seeds; crimp the lower side and *dock* the upper. (See *Biscuits*.)

The principal use of docking, or making holes in biscuits, is to prevent them swelling up into the form of cakes, when they are placed in a hot oven. The above quantities will make about fifty biscuits. The mode of working is that of biscuits in general.

ABERNETHY'S BLACK DRAUGHT.

Epsom salts $\frac{1}{2}$ oz., infusion of senna $\frac{3}{4}$ oz., manna $\frac{1}{4}$ oz., tincture of senna $\frac{1}{4}$ oz., spearmint water 1 oz., water 2 oz. Dose, a wine glass nearly full.

ABERNETHY'S MEDICINES.

These are understood to be a 3-grain calomel pill at night, with a black draught in the morning; or where calomel is too violent in its action, as it will be upon some constitutions, a blue pill is substituted, this being mercury in a milder form; also as mercury in any state is apt, if often repeated, to occasion a loosening of the teeth, it is in such a case combined with colocynth; 2 grains of blue-pill and 1 of extract of colocynth, forming a pill, and 1 pill a dose for an adult.

The above remedies are popular and valuable in cases of bilious attack, temporary derangement of the digestive organs, &c., and are to be recommended in almost all cases of slight indisposition.

ABERNETHY'S PILLS.

Calomel and oxy-sulphuret of antimony, each 20 grains, powdered gum guaiacum 40 grains, Castile soap enough to unite them into a mass. Make into 20 pills, of which one or two may be taken occasionally at either night or morning, or both, as a cure for indigestion.

ABSCCESS, TREATMENT OF.

Abscesses, or large swellings containing matter, are of two kinds;—acute or inflammatory, and chronic or scrofulous. The former is but temporary, and the person must take opening medicine and live upon low diet for a few days. Those afflicted with chronic abscess must live well and have strengthening medicines.

Acute abscess.—Prevent its being brought to a head, if possible, by washing it frequently with vinegar and water, or Goulard water, the application of a leech, low diet, and opening medicines. If coming to a head, apply warm poultices of bread and milk, linseed, or marsh-mallow leaves; change the poultices frequently. If very painful, a poppy head may be added to the poultice. After breaking, nothing but poultices will be required. When pointed and with a white top, it may be opened with a needle or lancet, and the matter squeezed out.

Chronic abscess.—Keep upon the part a poultice of oatmeal, mixed up with cold water, in which salt has been added to the amount of a table spoonful to a pint. Or wash the part frequently with Goulard water and spirits of wine, in equal quantities, diluted with water. Taking as a medicine, a calomel and rhubarb pill every three days, and a pill twice a day, of sulphate of quinine 2 grains, extract of gentian 2 grains.

ABSORPTION OF MOULDS, ETC.

If to be bronzed or painted, plaster of Paris works must have previously laid over them one or two coats of very thin size, applied with a brush. When finished and dry, no shining particles should appear upon the surface, or the size has been too thick, and will be apt to peel off. If this is apprehended, pass over them a sponge dipped in warm water. Let the surface dry before it is painted upon. To cast plaster from plaster, absorption and adherence should be prevented by anointing the mould with a mixture of equal parts of tallow and sweet oil; or they may be boiled or washed over two or three times with linseed oil. For delicate objects, or the electro-type, boil the plaster moulds in white wax, previous to their being black-leaded. If casts are to be made in sulphur or wax, wet the moulds with water, putting the back of them only in the water, and letting them remain there till the water appears upon the surface.

The first is, by preventing the unequal and rapid absorption of the turpentine and oil of the paint, to ensure an even surface. This merely acts by filling the pores. The oily and waxy processes prevent the absorption of water, while that in which water itself is to be used prevents the penetration into the pores of the plaster of the wax or sulphur. These processes act by the repulsion which takes place at all times between grease and water.

ABSORBENT POWDERS FOR HORSES.

I. Carbonate of soda 2 drachms, columbo root, powdered, 3 or 4 drachms, ginger 1 drachm; mix for a dose.

II. Prepared chalk or whitening 4 drachms, gentian root, powdered, 2 or 3 drachms, cassia and long pepper 1 drachm each.

III. Aloes 2 or 3 drachms, rhubarb 3 or 4 drachms, carbonate of soda 2 drachms, ginger 1 or 2 drachms.

ACCARIE'S PURIFIED OPIUM.

Digest opium with charcoal powder in water for fourteen days, strain the liquor, clarify with whites of eggs, and evaporate in a water-bath to a thick extract.

This is much milder in its action, and less nauseous in odour and taste, than the raw drug. It is also said to be a better anti-spasmodic.

ACCIDENTS, ASSISTANCE IN.

The following means of proceeding in cases of accident are recommended by an eminent practical surgeon:—

Fracture or dislocation.—The best course to be adopted on finding a sufferer on the road having a fractured or dislocated leg, or in any other case of similar emergency, is to let him be kept on the ground until a couch, door, or gate can be procured, for in raising him up he may die from faintness or loss of blood. When a gate, hurdle, or board is procured, place it alongside him; cover it with a bed of straw, and pillows, and let *men* convey him home or to a neighbouring house. Send a discreet person to his surgeon

and to his home, who can state the nature of the accident. On no account put him into a *vehicle*; let him be borne home *by men*, for the motion of a carriage might cause splintered bones to fatally wound blood-vessels in contact with them.

Fire.—In a house on fire, keep all the doors and windows shut as much as possible. To escape through smoke, creep along the floor with a handkerchief in your mouth, and if you have time, wrap a blanket round you. If clothes catch fire, lie down and roll; and if possible, envelop the burning part in a hearth rug or carpet. If you are burnt or scalded, but the skin is not broken, soak in or bathe the part with cold water; if the skin is broken, wrap over it a piece of cotton wadding, or dust it with flour. If the surface burnt or scalded be very extensive the cold water alone may be too great a shock; it is better in this case to add a very little brandy to the water.

Frost.—A frost-bitten limb must never be brought to the fire, or it will mortify; bring it to by good rubbing with snow. Persons benumbed with cold must also take exercise to restore the circulation; this may be assisted with a glass of hot spirits and water, or hot water alone, hot tea, gruel, &c., &c.

Fits.—If a person fall in a fit, let him remain on the ground, provided *his face be pale*: for should it be fainting or temporary suspension of the heart's action, you may cause death by raising him upright, or bleeding. But if the face be *red*, or *dark-colored*, raise him on his seat, throw cold water on his head immediately, and send for a surgeon and get a vein opened, or fatal pressure on the brain, or apoplexy, may ensue.

In hanging or drowning, or insensibility from noxious vapours.—Expose the chest as quickly as possible, and throw the coldest water you can procure plentifully over it, whilst the body is kept in a sitting position.

Children in convulsions.—Deluge the head with cold water, and put the feet into warm water, till medical assistance can be fetched.

Poison.—Give an emetic of a tea spoonfull of mustard flour in a tea-cupfull of warm water every ten minutes, till vomiting ensue, or medical assistance can be procured.

Starvation.—Wrap the patient up warm, give him half a cup of thin gruel, with a few drops of ammonia or brandy in it, to excite the system. In half an hour give a full cup of similar gruel, without the brandy, and so continue a little at a time for twenty-four hours, with small quantities of food, easily digestible, as rice, sopped biscuit, arrow-root, &c.

By a proper application of these simple rules, life might often be saved, whilst it is well known to medical gentlemen that what is often kindly, though injudiciously done, hastens death.

ACETIC ACID.

Without distillation.—Add to a wine glass full of strong sulphuric acid a large tea spoonfull of water, pour this upon a small handful of acetate of lime, let it stand twenty-four hours, shaking it up occasionally, decant and filter the floating liquor.

The less water used, the stronger the acid produced. It is necessary to have some water, because of the heat it produces with the sulphuric acid being of much use in promoting the decomposition of the acetate. Acetic acid, when in its impure state, as obtained by the acetous fermentation of vegetable extracts, as those of fruit, sugar, malt, &c. is *common vinegar*; when obtained by the distillation of the above, it forms *radical vinegar*; when distilled from wood, it is *pyroligneous acid*, or *pyroxylic spirit*, or *white vinegar*. Either of the above, scented with perfumes, constitutes *aromatic vinegar*; a name applied also to pure *acetic acid*, and to *radical vinegar*.

By distillation.—Mix with 9 fluid ounces of water, 9 ounces by weight of strong sulphuric acid; then put into a glass retort 2 pounds of acetate of soda, pour upon it gently and gradually the fluid, and distil the whole in a sand bath.—(*Lon. Pharm.*)

Acetate of lead is used in the formula of the *Edin. Pharm.*, and the acetate of potass in that of *Dublin*.

The production of acid arises from the decomposition of the acetic salt. The sulphuric acid, having a stronger affinity for the soda than the acetic acid has, attaches itself to the soda, and forms sulphate of soda, suffering the acetic acid to escape. Remember, that in the latter part of all distillations, where purity is an object, the fire is not to be urged too much. In the above example, too strong a fire would drive over a part of the sulphuric acid; also, care should be taken that the acetates are pure.

ACETIC ACID, GLACIAL OR SOLID.

Put into a large retort, 3 oz. of acetate of soda, and pour upon them $9\frac{3}{4}$ of sulphuric acid, close the retort directly; the acid will arise to the amount of $\frac{1}{3}$ of that contained in the acetate; a gentle heat must then be applied, and continued until the contents of the retort become liquid. Re-distil the product found in the receiver which is necessarily connected with the retort, when a pure acid will be obtained equal to about $\frac{1}{3}$ of the materials used. That which comes over in the latter part of the operation, if surrounded by ice or snow, deposits crystals of glacial acetic acid, and which may be rendered perfectly pure by re-melting and freezing. Liebig recommends 3 parts of acetate of lead to 8 of acid. Dolfus' concentrated acetic acid was made by distilling over 7 parts of acid from 12 of acetate of lead and 6 of sulphuric acid.

The same may be made from distilled verdigris. The acid then obtaining the name of *esprit de Venus*, *spirit of verdigris*, &c.; the quantity is nearly equal to half the verdigris employed.

ACETIC EMBROCATION OF HARTSHORN.

Take 1 oz. of sesqui-carbonate of ammonia, (smelling salts,) $\frac{1}{4}$ pint of acetic acid, and $\frac{3}{4}$ of a pint of spirits; add the vinegar by degrees to the salt till the effervescence ceases; lastly, add the spirit of wine.

ACETIC LOTION FOR RINGWORM.

Apply the strongest acetic acid to the part affected by a small brush; one or two appli-

cations will effect a cure in the most obstinate cases. It is recommended also for scald head, but occasions great pain in the application; vinegar is always a good lotion, provided no ointment has been used, which it would decompose.

ACETATE OF LEAD PILLS.

Administered as an astringent in the spitting of blood, obstinate diarrhæa, &c. Sugar of lead 6 parts, opium 1 part, conserve of roses 1 part—make into 4-grain pills, and take two a day, at intervals of twelve hours; wash them down with diluted vinegar.

ACIDITY, TO CORRECT.

Acidity in the stomach arises from an undue or improper fermentation of the food and other causes. It produces for the most part pain, flatulency, indigestion, and often purging. It is to be cured or alleviated by any of the alkaline and antacid medicines, (see these terms,) and also by the following absorbents. Persons thus distressed should abstain from all pickles and acid drinks, fermentable vegetables, such as cabbage, &c.

I. For a child, give as much calcined magnesia as will lie upon a shilling, two or three times a day.

II. From 5 to 20 drops, according to the age of the person, of spirits of hartshorn on a lump of sugar, or mixed with aniseed water.

III. Half a tea spoonfull of whitening or powdered chalk in a little water is an excellent remedy.

IV. Take of the common soda used in washing, or common pearlash, as much as will lie upon a shilling. Dissolve it in a little water, and drink.

ACID MEDICINES.

I. *Eye Water.*—Distilled vinegar 1 oz., spirits of wine $\frac{1}{4}$ oz., water $\frac{3}{4}$ of a pint, used in ophthalmia.

II. *Julep.*—Muriatic acid 1 drachm, simple syrup 1 oz., water $\frac{1}{4}$ pint. One or two table spoonfull given three or four times a day, after a course of calomel.

III. *Linctus.*—(a) Honey of roses 10 drachms, syrup of red poppies 2 drachms, muriatic acid 20 drops, mixed. Good in sore throat, putrid fever, &c.—(b) Conserve of roses 2 oz., oil of vitriol 20 to 30 drops, according to the strength of the acid, so as to make it pleasantly sour.

This acts precisely as the ordinary fever draught in improving the appetite, allaying fever, &c.; and is, moreover, valuable as a cough medicine, particularly for asthmatic persons; half a tea spoonfull may be taken two or three times a day, or when the cough is troublesome.

IV. *Liniment.*—Honey of roses 1 oz., muriatic acid 20 drops.

V. *Lotion.*—(a) Strong nitric acid $\frac{1}{4}$ oz., water 1 pint.—(b) Nitro-muriatic acid 1 dram, water 1 pint. Both used in mortification, gangrene, leprosy, &c.

ACID SOAP, MACQUER'S.

Take of white Castile soap 4 ounces, oil of vitriol to be added a few drops at a time, rubbing it up with the soap in a mortar, till well incorporated; continue the supply of acid as long as the soap will retain its consistence.

It is used for scouring and cleansing where alkalis would be injurious, as in numerous dyed goods.

ACIDULATED DROPS.

I. Take large-grained loaf-sugar; add for every pound from 30 to 40 drops of the oil of vitriol, or still better, the like number of grains of citric or tartaric acid, and so much water as just to damp the sugar. Place it in a pan on the fire, and keep it there till the sugar is near upon boiling. Taste it and regulate the flavor to your wish. Stir it up well, and put a drop upon a cold plate, slightly greased or oiled. It should be thin enough to drop from the spoon on to the plate, yet thick enough to retain the plump round form when on the plate. Faults in either respect are to be corrected by adding more sugar or more water, as required. These drops may be colored by stirring in tincture of cochineal for a red; or saffron for a yellow. The drops will require drying.

II. Boil loaf sugar until a piece taken out draws into a long brittle thread. Pour it on a slightly-oiled marble slab. Strew over every 7 pounds of sugar $\frac{1}{2}$ an ounce of tartaric acid, or rather less of citric acid; fold it over and over, and roll it, to mix the acid, but do not pull it; cut it into strips, roll these into round pipes, which cut up into small pieces with a pair of scizzars; then round them, flatten them, and dust them over with finely-powdered sugar. The whole must be finished while they remain warm.

ACIDULATED LEMONADE.

I. Fresh lemon juice 4 oz., fresh lemon-peel (thinly peeled) $\frac{1}{2}$ oz., white sugar 4 oz., boiling water 3 pints. Strain when cold.

II. Cream of tartar $1\frac{1}{2}$ drachm, a slice of thin lemon-peel, a lump of sugar; pour on them a quart of boiling water. Strain when cold. To be taken as a cooling drink.

III. Cut 2 lemons into slices, add 2 oz. of sugar, and pour on them a quart of boiling water. Sometimes made with cold water.

IV. Syrup of citric acid 2 oz., water a quart, spirit of lemon-peel a teaspoonful.

V. Juice and thin peel of 1 lemon, citric acid 1 drachm, sugar 3 oz., boiling water a quart. It may be varied by substituting for the sugar, syrup of raspberries, or of other fruits.

ACID, FOR GALVANIC BATTERIES.

I. *Dr. Faraday's.* Oil of vitriol 2 fluid oz., nitric acid 1 fluid oz., water 5 pints. It should be tried by dipping into it a piece of sheet zinc. A continuous succession of small bubbles should be produced. (See *Batteries.*)

ACONITE, EXTRACT OF.

Take of fresh aconite leaves a pound; bruise them sprinkled with a little water in a stone mortar, then press out the juice, and evaporate it to a proper consistence.

It will not keep long, and when mouldy is of no use. The dose is from $\frac{1}{4}$ to 5 grains three times a day. It is a dangerous medicine, but considered of much value in cases of rheumatism, gout, tic doreux, scrofulous swellings and other glandular affections. Should too much have been given, the first effect apparent is a slight degree of uneasiness at the stomach, with inclination to vomit, and occasional dimness of sight, which may be removed almost immediately by taking a little warm brandy and water, or other stimulant.

ACORN COFFEE.

This is one of the best substitutes for coffee, and is much used in Germany. The acorns are shelled, split, dried, and roasted like coffee. When taken out of the roaster, a little piece of butter is put over them. It may be used alone or with real coffee.

Although acorns in their raw state are very astringent, yet they lose this when roasted. They are also, in some respects, to be preferred to coffee, having none of the drying properties attributed to that berry.

ACORUS, OR SWEET FLAG, OIL OF.

Pound the root, mix it with water and salt. Use a retort or still that will hold about a sixth part more than the mixture, and distil; a very fragrant oil will come over, which is valuable in perfumery. Distilling 1 pound of the dried root bruised in 2 gallons of water, drawing off 1 gallon, forms an exceedingly pleasant fragrant water. It may be made also without distillation by infusing 1 oz. of the root in a pint of boiling water.

The use of salt in this and other instances of making essential oils is to increase the specific gravity of the liquid, so that it shall not boil till the heat be 220 or more degrees, at which heat the oil passes over readily, while at the heat of boiling water it does not.

ACOUSTIC BALSAM.

Mix together 1 oz. each of the tinctures of benzoin, castor and opium, essential oil of assafoetida 5 drops.

Used in certain cases of deafness, 2 or 3 drops being dropped on a piece of cotton, and applied to the ear. It acts as a stimulant to the inner coat of the ear, and promotes its proper secretions.

ACOUSTIC OIL—HUILE ACOUSTIC.

Olive oil $\frac{1}{2}$ a pound, ox-gall, garlic, and bay leaves, of each $\frac{1}{2}$ an ounce. Boil fifteen minutes and strain.

This is a popular remedy on the Continent for deafness; a little being put on a bit of cotton and applied to the ear.

ADHESIVE, OR STRAPPING PLASTER.

I. Melt together 1 pound of diachylon plaster, 4 oz. of yellow resin, and $\frac{1}{2}$ an oz. of common turpentine, or less if for hot weather or a hot country.

II. Take $\frac{1}{2}$ a pound of yellow resin and 3 pounds of diachylon plaster, mix them together by a gentle heat.

This, by containing more resin than the former receipt, is consequently more stimulant.

AGRIMONY TEA.

A country remedy for the itch, and other skin diseases. Pour a pint of boiling water on 1 oz. of the young tops of agrimony, or 2 oz. of the leaves, and 1 oz. of liquorice root, sliced. Keep it on the hob of a stove, or other warm place, for an hour, and then strain it. A tea cupfull is a dose, to be taken two or three times a day. It is a good tonic.

AGUE.

An ague is an intermittent fever, now rare, but once prevalent in the marshy parts of this country, and still common in Canada, Holland, Italy, and other places. According as its paroxysms return daily, or every three or four days, it is called quotidian, tertian; or quartan. Its attacks, or paroxysms, generally last from twelve to fifteen hours for the quotidian; ten hours for the tertian; and six or seven for the quartan. Each is divided into three stages. The cold or shivering stage; the hot stage; and the sweating stage. The cure is twofold; to prevent as much as possible the recurrence of the paroxysm, and when it has occurred, to render it milder; and the increase or decrease of the disorder is seen by the greater or less frequency and violence of the attacks. The proper treatment in the cold stage is warm drinks and warm clothing, with 30 drops of laudanum on a lump of sugar; but by no means any wine, spirits, or hot mixed liquors. But laudanum must not be given when there is tendency of blood to the head. In the second or hot stage give no laudanum; but the following cooling drink, or some other similar, as tamarind water or lemonade.

To 3 pints of boiling water, add 4 oz. of loaf sugar, $\frac{1}{2}$ oz. of cream of tartar, and an orange cut in slices. In the sweating stage, no medicine need be administered, but only care taken that the patient do not catch cold. In the periods between the paroxysms the most important effects are produced by medicine. Take sulphate of quinine, 24 grains, with extract of gentian, enough to make into 12 ordinary-sized pills. It may be taken three or four times a day, one pill each time, commencing immediately after the sweating stage; or 2 grains of quinine may be given in place of each pill in a little port wine and water, care being taken to continue this medicine for a considerable time after the disease is apparently cured, as a relapse is very likely to occur. Keeping at all times the bowels gently relieved with 2 or 3 grains of calomel and 15 of jalap or rhubarb is indispensable.

Fowler's arsenical solution, or ague drop, as it is called, is a popular remedy, but on account of its danger not to be employed until after the sulphate of quinine has been rejected, or found ineffectual, and when the ague is attended with affections of the stomach or liver, &c.

AGUE DROP, TASTELESS.

Fowler's solution, arsenical solution, &c.—

Take 80 grains each of white arsenic and carbonate of potass, 5 drams of compound tincture of lavender, 1 pint of distilled water. Boil the arsenious acid and the potass with half of the water in a glass vessel, till they are dissolved; when this is cold, add the compound spirit of lavender, and as much distilled water as will make up the whole to 1 pint.

Chemically, the arsenic unites with the potass, expelling the carbonic acid, and forming an arsenite of potass in solution, colored and flavored with the spirit of lavender. Medicinally, it is given in doses of 4 drops, gradually and cautiously increased to 30 twice a day, as a powerful alterative and tonic in agues; but is an exceedingly dangerous remedy. A dram of the solution contains $\frac{1}{4}$ a grain of arsenic; or a table spoonfull between 2 or 3 grains.

ALABASTER.

I. *To choose and work.*—There are two kinds of this stone; one of them is called gypsum or plaster of Paris, (which see;) the other is calcareous, resembling a soft marble, and is used for vases, figures, clock cases, &c. It is composed of sulphuric acid and lime, and that which is taken from the bottom of the quarry mostly contains the carbonate of lime also. This last effervesces with acids, the real sulphate does not. The sulphate alone is to be selected for use, a drop of muriatic acid, showing, by want of effervescence, its good quality. The whitest, hardest, and most granular, is considered by the sculptor to be the best. It is first cut into blocks by a thin saw with sand, and afterwards cut with chisels and gouges. It may also be turned in a lathe, with the same tools which are used for metal works, and which should not have too sharp or thin an edge. Files are also used.

II. *To etch.*—Let the surface be well polished, then covered over with a mixture of 1 oz. of pure white wax, dissolved in 2 oz. of spirits of turpentine; make this mixture hot, and while so, stir in a little dry white lead, or other powder, until of the consistency of paint. Paint this over the surface as evenly as possible. Draw the intended design on a piece of paper with red chalk, place this face downwards on the waxen ground, and rub it gently on the back, till the design is transferred, when the paper is to be removed. Scratch through the design with needles or other tools, as required, being very careful to penetrate to the bottom of the ground. This being complete, soak the whole in pure water for twenty-four hours, or double that time if a deep etching be required. This alone will corrode the exposed surface. Dry the etching, and wash off the ground with spirits of turpentine, and afterwards with soap and water. Wipe it dry, and dust it over with fine plaster of Paris, laid on with a soft brush. A little careful polishing of the general surface with the hand will complete the operation.

In many instances, such as a border of leaves, or other object not delicate, it is better to make the above varnish rather softer, so that it may be used when cold. The surface may, in this case, be left unpainted, the ground being laid on with a small brush, and the design drawn previously upon the alabaster itself.

III. *To clean*.—Nothing is better for this purpose than common soap and hot water, if the objects be merely dirty; but if stained by time, smoke, &c. they should, after being washed with soap and water, be covered over with a white-wash made with lime, then suffered to stand with this upon them for some hours. It being then washed off with clean water, and afterwards a little friction given with a piece of flannel, the figures will be equal to new.

Wax spots should be removed with spirits of turpentine before washing.

The effect of soap is very singular, both in whitening the object and in rendering it glossy. Be it remembered, that alabaster is a sulphate of lime; or composed of sulphuric acid and lime; when soap is applied, it first acts as a detergent, cleansing away all foulness; then being partly decomposed by the sulphate of lime, and its oily part uniting with the acid, it is deposited as grease: at the same time, the acid thus absorbed by the potash of the soap, forms the insoluble transparent salt, sulphate of potash; this also lying on the surface adds to its transparency, and counteracts the opacity of the lime set at liberty, although that lime adds a whiteness to the whole, not otherwise easily accounted for.

IV. *To join*.—Alabaster vases, time-piece stands, &c. are mostly made in several parts, they should therefore not be left to soak, lest the cement, by giving way, should occasion breakage. So also in wiping be very careful lest one part fall from another. Should this be the case, the parts may be reunited with the following composition. To the white of 1 egg put a tea spoonful of quick lime; beat it up and use directly. They may be joined also by superfine plaster of Paris, mixed with as much water as will make a thick cream. Damp the parts to be joined with a wet sponge, previously to applying the plaster.

V. *Staining of*.—It is bad taste indeed to color so beautiful an object as a piece of snow-white alabaster. Should it be desired, it may be readily accomplished by soaking it, or brushing it over with any colored oil or spirituous tincture, also with certain metallic solutions. Cochineal, in spirit or oil forms a crimson. Quercitron bark, Persian berries, or gamboge, a yellow. Alkanet and madder, are reds. Saffron and tobacco, brown. Solution of sulphate of copper, or sulphate of indigo, a blue. Verdigris, a green. (See *Marble*.)

In some books receipts are given as relative to this kind of alabaster, although they apply exclusively to the gypseous variety, known universally as Plaster of Paris, and which is worked, not by carving, as the calcareous, but by moulding; the plaster being first calcined, ground and sifted. In this state it being capable of a rapid and perfect solidification by an admixture of water.

VI. *To preserve objects of*.—Alabaster is decomposed by water, and irrecoverably stained by colored oils, varnishes, smoke, tinctures, &c. Alabaster objects then must never be exposed as garden ornaments, or otherwise to the rain, nor frequently washed. They must also be carefully kept from contact with an alkali. Even a bottle of smelling salts, placed on a mantle piece with an alabaster vase, and inadvertently uncorked, would soon destroy the beauty of it; thus there are many reasons for keeping them covered by a glass shade. Alabaster also often contains a mixture of carbonate of lime with the sulphate; in this case it effervesces with an acid, and would be destroyed by contact with aromatic or common vinegar, spirits of salts, salt of lemons, or almost any other acid. To prevent further disintegration, the part injured must be washed in soap and water, and afterwards dried. The shave grass or Dutch rush, used in polishing, may also be necessary to remove the whiteness which will be found.

VII. *To polish*.—Large and common alabaster statues are polished by rubbing them over carefully with pumice stone and water, and afterwards with a thick mixture of chalk, soap, and milk. When perfectly smooth, let this be well washed off, and the figure being dried, is finally to be rubbed with flannel.

VIII. *Second method*.—For fine and delicate objects. Take off the first roughness by rubbing the article with Dutch rush and water. This will readily take off all the marks of the tools, leaving only the fine scratches itself has made. To remove these, finely-pulverized slacked lime is employed, made into a paste with water. The piece is then washed in soap-suds and lime, and finally rubbed over when dry with pulverised French chalk applied on a piece of flannel.

Alabaster is very apt to become yellow by age and contact with smoke. And the first of the methods of polishing, above given, is said to occasion a yellowness in a very short time. Delicate and beautiful objects well deserve the lime process. Dr. Ure attributes the yellowness to the effect of the pumice stone; we cannot see any scientific reason for this, as no chemical action takes place in consequence; it may rather be attributed to the milk, which is partly absorbed by the surface, and this afterwards turning yellow by oxidation, or from its greasy nature imbibing smoke, &c., occasions more rapidly the yellow tinge complained of. The lime also enters, in some degree, the minute pores, especially in the second process, rendering the object whiter and smoother, while this is counteracted in some measure by the milk, used in the first method. Both the receipts give a transparent appearance; if a whiter opacity be required, dry and very finely-sifted plaster of Paris is rubbed over the surface.

ALBATA, ARGENTINE, OR GERMAN SILVER.

I. An alloy, of different degrees of fineness used for imitating silver articles, such as spoons, forks, candlesticks, &c. The real and original receipt is as follows:—1 part nickel, 1 zinc, and 2 copper, melted together.

When intended for rolling, 25 nickel, 20 zinc, 60 copper; to which, if for casting, 3 parts of lead may be added.

II. Two nickel, $3\frac{1}{2}$ zinc, and 8 copper. This is the commonest article of the kind that is made.

III. To the last add 1 part nickel. This is a better admixture, and it becomes a superior article by a still larger admixture of the nickel, until this metal is added to the amount of $\frac{2}{3}$ the weight of the copper. Where more than 3 parts nickel are used to 8 of copper, the alloy is called *electrum*. The argentine contains substitutes; 1 part silver for 1 part nickel.

ALBUMEN.

A peculiar animal principle found nearly pure in the white of egg. To obtain it absolutely pure, agitate the white of an egg with half a pint of spirits of wine; a white flocculent substance will fall down, which may be collected on a filter of paper.

ALBUMEN POWDER. FLAKE ALBUMEN. SOLUBLE SOLID ALBUMEN.

Pour the white of several eggs into a plate or other vessel, expose it to a drying heat, as that of the sun, or to a current of air, it will soon assume a dry brittle condition, when it may be pounded, and being placed in phials will keep for any length of time. It is restored to its original state when wanted, by merely agitating it with cold water until dissolved. Useful as a clarifier.

ALBUMINOUS VARNISH, OR GLAIRE.

Beat up the white of an egg with twice its weight of cold water, till it is well incorporated with it. It is usually made as wanted, and is the best possible varnish for, indeed the only one, that can be used upon the covers of leather bound books; also, kid shoes that will not, of course, take blacking, may be readily polished by a little of this varnish laid on with a small piece of sponge.

ALCOHOL, TO STRENGTHEN.

I. Take of rectified spirit 1 gallon, chloride of calcium (commonly called muriate of lime) 1 pound; put the chloride of calcium into the spirit, and when it is dissolved, distil it in a glass retort, until 7 pints and 5 fluid oz. pass over. This will be pure spirits of wine, without water; or anhydrous alcohol.

Chloride of calcium is a salt which has a great affinity for water, and is soluble in spirit: when the solution is distilled, the chloride remains in the retort with nearly the whole of the water. (*Lon. Phar.*)

II. Put the spirits of wine into a well-cleaned bladder, and hang it up for a few days in the air, or exposed to the sun, keeping the bladder as full as possible. The water will penetrate the sides of the bladder and escape, while the alcohol will be retained.

This is a method which was often pursued by the batter and varnish maker, to produce a spirit strong enough to dissolve copal. The spirits of wine of commerce being rarely sufficiently freed from water for this purpose. Prepared in this way it is often called varnish maker's alcohol.

III. Make some caustic potass red hot to drive off any water it may contain. Let it get gradually cool enough to handle, then pound it and sprinkle it in the spirit, using about the same weight of potass and spirit. Filter off the spirit which floats or runs from it; this will be very nearly pure alcohol.

The reason of the action here is very similar to that of the first method, except that in the first, as the salt employed is soluble in the spirit, distillation is necessary to separate them; but caustic potass is not soluble in spirit, therefore filtration is all that is necessary after mixing the substances.

ALE BREWING.

I. To make one barrel—put 25 gallons of boiling water into a tub, capable of holding double the quantity; let the water get sufficiently cold, that upon looking down into it you can see your face reflected from the surface; or if you have a thermometer, it should indicate from 165 to 170 degrees. Then having ready the proper quantity of malt, which should be for good ale a sack of 3 bushels, add it to the water, stir the whole up well for a few minutes, so as to separate and thoroughly wet all the malt, and then cover it up with sacks. In this state it may rest for one hour; during this time another copper of water should be boiled ready, and also the mash tun should be mounted on a stool, it having been previously fitted with a tap, to the inside of which a small basket has been attached. Putting the underback under the mash tun, draw off the wort very gently and in a small stream, so that it may run as clear as possible. In the underback may now be placed the proper quantity of hops, which is about 3 pounds, breaking them up when put in. This prevents any sourness arising in the wort, and soaks the hops for future boiling. The worts being all run off, stop the tap, and pour as a second mash about 27 gallons of water from the copper, reducing it to its proper heat by cold water, or still better by letting it cool. Here it is advisable to draw the fire because unless table beer is to be made afterwards by a third mash, the rest of the water in the copper will not be wanted; it must therefore be emptied when the brewer is at leisure. At present he has to conduct his second mash, the water for which should be about 5 degrees hotter than for the first. The water being poured on, he has only to rouse it about with the malt, as before, and cover it over for one hour and a half. The underback with the hops being also covered over to preserve the odour of the hop. The second mash may be suffered to run on to the first. The liquor drawn off, together with the hops, is then to be placed in the copper and boiled gently for one hour and a half, keeping the lid off. Now pass it through a sieve, to keep the hops back, into coolers, and let it get cool

as quickly as possible. During this time we will suppose that the mash tub has been emptied of the grains and washed clean with hot water. Pour the contents of the coolers all together into the mash tub, and when it is of that degree of heat, indicated as 70° of the thermometer, or of a heat rather less than that of new milk, or until a moderately-warm finger neither finds it hot nor cold, it will be ready for the yeast. This should have been prepared an hour or so before, by putting half a pint into a pail with a little of the wort, cooled directly and more quickly than the rest, so that by the time the whole quantity is sufficiently cold, a pailfull will be ready in progress of fermentation. Pour this in and rouse about well. The ale is now set to work, and may be covered over with sacks. The mash tub should stand in a place neither too hot nor too cold; any cool place in the summer, and any warm place in winter will do; and if the weather be very cold, sacks may be twisted round the tub, as well as placed upon it, whereas in summer it may be uncovered.

In about six or eight hours a frothy head will rise upon the liquor; and it will keep rising, more or less slowly, for forty-eight hours. The best way is to take off the froth, at the end of about twenty-four hours, with a common skimmer, and in twelve hours take it off again, and so on, till the liquor has done working, and sends up no more yeast. Then it is beer, and is to be put into a cask by means of a funnel. It must be cold before this is done, or it will be foxed; that is, have a rank and disagreeable taste. The cask should lean a little on one side when filling it, because the beer will work again, and send more yeast out of the bung-hole. Something will go off in this, working, which may continue for two or three days, so that when the beer is putting in the cask, a gallon or two should be left to keep filling up with, as the working produces emptiness. At last, when the working is completely over, block the cask up to its level. Put in a handful of fresh hops; fill the cask quite full and bung it tight, with a piece of coarse linen round the bung. When the cask is empty, great care must be taken to cork it tightly up, so that no air gets in; for, if so, the cask becomes mouldy.

The quantity of water advised may excite surprise, it being 52 gallons to make 36 of ale, but let it be remembered, that the grains will hold back at least 6 or 7 gallons, and the boiling evaporate 6 or 7 other gallons, besides which, the cask will need filling up 2 or 3 times. For very strong ale, the first mash only must be used; for table ale, both together. The third mash makes table beer, exactly by the same process. Two pounds of hops are sufficient for the first mash only; 1 pound additional to these for the second; and 1 pound additional for the table beer, with 1 pound more in each case, if the ale is to keep long.

Almost every county in England has its variety of ale; but the difference consists chiefly (the same

quantity of malt and hops being used) in the preparation of the malt and the quality of the water. This last varies very considerably in its action on the malt, and still more on the fermentation; thus it is, that various places have acquired a celebrity which cannot be disputed by other districts, owing to this circumstance alone. Other differences arise from the different heat of the worts, peculiar management of the fermentation, sorts and age of hops, &c. Ale is generally made from malt, although it may be made as some of the following receipts show, from sugar and other materials: the produce from these, however, are always inferior to the real pure malt liquor. For different county, &c. Ales, and their management, See *Barnstaple, Bass's Pale Ale, Bavarian, Burton, Dorchester, Edinburgh, Essex, Kennet, London, Nottingham, Ringwood, Scotch, Welsh, Windsor, Yorkshire*; also *Beer, Brewing, Casks, Porter, &c.*

II. For 36 gallons, take of malt (usually pale,) 2½ bushels, sugar 3 pounds, just boiled to a color, hops 3 pounds, coriander seeds 1 oz., capsicum ½ a dram. Work it two or three days, beating it well up once or twice a day; when it begins to fall, cleanse it by adding a handful of salt, and some wheat-flour.

This is a very pleasant mild-flavored ale, very similar to the amber ale, but of rather a lighter color, according however as the sugar is boiled; with more hops, and therefore keeping better, and with a dash of coriander, which gives it a more heady or intoxicating quality, as well as a greater fullness in the mouth.

ALE, AMBER.

I. The proportion of malt is 3 bushels of amber malt and ¾ of a bushel of pale ditto, with 2 pounds of hops to the above quantity. It is made in three mashes, all boiled together for two hours. The water for the first mash is turned on at 170 degrees, the second 185°, and the third at 170°. Boil, with it a table spoonful of salt. Let it be set to work at 64°, and after twenty-four hours roused every two hours, till the heat increases to 74°. Then skim every hour for six hours, and fine with isinglass.

II. Malt and hops, and process of working, as before; but boil with the worts of the above quantity, 2 oz. of Spanish liquorice and 2 pounds of treacle; and when setting to work, add ¼ of a pound of ground ginger; this will make 36 gallons.

III. For 36 gallons, take of amber malt 1½ bushels, hops 1 pound, liquorice root 1½ pound, treacle 5 pounds, Spanish liquorice 2 oz., capsicums ½ oz.

These amber ales will not keep well, they must therefore be drank as soon as they are done working in the barrels. That made by the last receipt was, from the price per pint at which it was always sold, called "two-penny," and for immediate use is a sweet pleasant beverage. All these kinds were preferred in the last century to other kinds of ale, for making egg-hot and purliquors, then much in vogue.

ALE FROM SUGAR.

In 20 gallons water, boil for fifteen minutes 3 pounds of hops; strain the liquor and dissolve in it 28 pounds of sugar. Let it cool quickly, and when about equal to new milk in temperature add a quart of good fresh yeast. Fill an 18-gallon cask, saving

the remaining 2 gallons of ale ready to top up with from time to time, as the fermentation proceeds. It will continue to work for three weeks or a month. In the early part of this time the hole at the top should be left open for the yeast to flow out, afterwards it may be corked, but drawing it out each day or two for some time to give it vent. In a week after the fermentation has ceased, it may be tapped for use.

If hops are not to be procured any other bitter may be used, such as wormwood, chamomile, cardamon, gentian, &c. The color desired may also be given to it by burnt sugar, burnt treacle, or burnt bread, which should be added in the first boiling with the hops. If made of brown sugar it will have sufficient color.

ALE FROM VEGETABLES.

Potatoes, parsnips, beet-root, and mangel-wurzel make tolerably good ale by the following process. Take about 12 pounds of either of the above roots to each gallon of water; pare them, cut them in slices, boil them to a pulp, rub this pulp through a sieve; put it into a flannel bag and squeeze the juice through; put this in the copper, and add about half a pound of hops to 9 gallons. Set it to work in the usual way.

The above is much better with about one-third part malt, adding then 1 pound in addition of hops to every bushel of malt. The very small quantity of hops in the sugar and vegetable ales will be observed. On account of this they will not usually keep long, and have much the character of new wines.

ALE BITTERS.

i. Take 1 gallon of ale, 4 oz. of fresh lemon peel, and 4 oz. of gentian root; let these be steeped in the ale for ten days, then filter and bottle.

This is a fine tonic, and families keeping it could make bitter ale at any time, by adding a little of this mixture to that which they usually consume.

ii. Pour a pint of hot water upon the yolks of 3 eggs, 2 oz. of Virginia snake root, and $\frac{1}{4}$ of an oz. of Seville orange. Strain and bottle for use.

ALKALINE LOTION.

Bicarbonate of soda 4 dr., distilled water 8 oz., eau de cologne 2 dr., aromatic spirit of ammonia 1 dr.

This Lotion is used for preventing injury to the teeth from acid medicines. The mouth must be rinsed out immediately after swallowing the medicine.

ALKALINE MEDICINES.

As acids and alkalies neutralize each other, alkaline medicines act in a direct manner to destroy acidity of the stomach. Antacid medicines act to the same effect; but these last are of a neutral character, and become useful when taken, by the decomposition which they undergo; whereas, alkaline medicines have a more direct action; they are more violent than the antacid. (See *Antacid*).

i. *Draught*.—Liquid ammonia 16 drops, almond mixture $\frac{1}{4}$ oz. laudanum 10 drops. To be given two or three times a day.

ii. *Drops*.—Liquor of potass 3 drams, liquid ammonia 1 oz., myrrh 1 oz. Rub

altogether and strain. Twenty or thirty drops may be taken two or three times a day on a lump of sugar.

iii. *Lotion*.—Mix together, solution of carbonate of potass 2 f $\frac{3}{4}$, olive oil 4 f $\frac{3}{4}$, yolks of 2 eggs. Carbonate of potass 2 oz. dissolved in 1 quart of rose-water.

iv. *Lozenges*.—Take 5 parts of bicarbonate of soda, (this is the common soda,) 95 parts of loaf sugar, mucilage of gum tragacanth enough to unite these into a paste; add 3 parts of the essential oil of mint. Form this into lozenges of 18 grains each. The dose is 2 to 4 after each meal.

These are good to assist digestion, hence called digestive lozenges.

v. *Mixture*.—Tincture of opium 2 drams, liquor of potass 2 $\frac{1}{2}$ drams, tincture of nutmegs $\frac{1}{2}$ oz., pure water $\frac{3}{4}$ of a pint. One or two table spoonsful may be taken two or three times a day in heartburn, indigestion, &c.

vi. *Ointment*.—Sub-carbonate of potass 1 part, lard 8 parts. Used in skin diseases.

vii. *Drench for calves*.—Thin gruel 4 oz. Epsom salts $\frac{1}{2}$ oz. White's solution of potass 1 or 2 tea spoonsful.

ALKALINE SOLUTION, BRANDISH'S.

American pearlashes 6 lbs., quick lime, 2 lbs., woodashes (from the ash tree) 2 lbs., boiling water 5 imperial gallons; slack the lime with a portion of the water, then add the remainder of the ingredients; shake it occasionally in a covered vessel for one hour, let it stand twenty-four hours, then decant the clear. To each pint add one drop of true oil of juniper berries. Keep it in stoppered bottles of green glass. *Dose*—Two tea spoonsful in $\frac{1}{2}$ a pint of water, or milk and water, 3 times a day.

This tonic and antacid medicine is much recommended for indigestion and other disorders of the stomach, by Dr. Graham. It is rendered more efficacious by having a small quantity of powdered rhubarb added to it. All acids or acid fruits must be avoided while taking it.

ALKANET, EXTRACT OF.

Put the root, broken into pieces, into a glass vessel, and pour upon it either olive oil or spirits of wine, according as you desire an oily or spirituous extract, let it soak for some hours, covering it if spirit be used, stirring it up occasionally with a glass rod; then filter through blotting paper.

The solution should be of a very dark color, and when diluted, of a fine pink. It is used much by perfumers in coloring oils, pomatums, &c. The finest color resides in the bark of the root, the more threadlike the roots are the better. Also in preparing it, touch it as little with the fingers as can be, to prevent the fine pink obtaining a purplish hue.

ALKERMES CORDIAL.

Soak for some days in 3 gallons of brandy, 1 pound of bay leaves, 1 pound of mace, 1 oz. of cloves, and 2 oz. each of nutmegs and cinnamon, all bruised. Distil off 4 gallons, and add clarified syrup of kermes 18 pounds, orange-flower water 1 pint.

ALLSPICE, ESSENCE OF.

Add to a wine glass full of strong spirits of wine, 1 dram of the oil of allspice. Two or three drops to be used for puddings, soups, &c.

ALLOY.

A combination of metals, intended to produce a compound metallic substance, different in its character, and superior or cheaper for some particular purpose than the metals separately. Alloys are always produced by melting the compound parts together, observing to melt first the more infusible metal, and then to add to it at as low a heat as possible the others, lest the fusible one should be evaporated before the other be in a fluid and consequently a fit state to unite with it. Also, if they are to remain long in contact, or if one of them is apt to be oxidated, the metal in the pot is covered with a handful of charcoal, lime, carbonate of potass, or other body, to keep it from contact with the air. For the various alloys, see their different names or purposes, as *Albata*, *Bronze*, *Brass*, *Type Metal*, *Solders*, &c., also, *Flute-Key Valves*, *Fusible*, &c.

ALMONDS, TO BLANCH.

Throw them into boiling water, keep them there till the skin peels off readily with the fingers or a penknife; strain away the hot water and pour cold upon them, that they may be handled conveniently, and not turn yellow and oily. Peel and dry them.

They may be kept in this state for a long time. The hot water takes off their brittleness, but this is restored by drying.

ALMOND BLOOM.

Dust of Brazil wood 1 oz., water 3 pints, oil, strain, add isinglass 6 drams, cochineal 2 drams, alum 1 oz., borax 3 drams; boil again and strain through a fine cloth.

This is a fine pink color used by the perfumer.

ALMONDS, BURNT.

Take some fine clean Valentia or Jordan almonds; to every lb. of them put a pint of clarified syrup, in a pan over the fire, boil; then taking it off the fire, stir the mixture well till the sugar becomes rather powdery, each almond being covered with it. Sift the loose sugar away from them and also separate those that stick together; boil a fresh supply of sugar, immerse the almonds after they have got cold a second time, but do not leave them in the syrup so long as to disturb the former coat. Sift and strain them as before. Red burnt almonds have their syrup tinged with cochineal.

ALMOND CAKES.

Blanch half a pound of sweet almonds, pound them with twice their weight of loaf sugar, together with the whites of 5 or 6 eggs; the whole being beaten well together, drop a spoonful on a piece of wafer paper placed on an iron plate, see if it bakes well without

either puffing up or swelling out too much; the last fault is to be corrected by adding more sugar and almonds, and the first by a very little more egg, for instance, the quarter of a yolk will make a great deal of difference; drop them of the proper size on wafer paper, placed on smooth clean iron plates, so as not to touch each other, put three or four small pieces of almond at top, and bake to a fine brown.

ALMONDS, CANDIED.

Blanch any quantity of almonds, then fry or bake them in butter, until they acquire a light brown color, wipe them with a napkin, pour over them some syrup (boiled to a thread), and stir until cold.

ALMONDS, CONFECTION OF.

Take of sweet almonds, blanched, 8 oz., powdered gum arabic 1 oz., loaf sugar 4 oz. Pound all together.

This is only used to make almond mixture, it is of itself apt to spoil; hence the London Pharmacopœia recommends that the ingredients should be kept ready pounded, and be mixed only when wanted.

ALMOND CREAM.

A French manufacture, which differs from almond soap chiefly in the details of its manufacture, which are as follows:—weigh out 20 lbs. of purified hog's lard on the one hand, and 10 lbs. of potass on the other; put the lard into a glazed china or earthenware vessel, gently heated upon a sand-bath, stirring it constantly with a wooden spatula, and when it is half melted, and has a milky appearance, pour into it one half of the lye, (the potass it is supposed has been already dissolved in water and passed through quick lime,) still stirring and keeping up the temperature as equally as possible; after an hour or so we shall perceive some fat floating on the surface like a film of oil, and at the same time the soapy granulation falling to the bottom; we must then add a second portion of the lye, whereon the granulations disappear, and the paste is formed. It must, however, be boiled three hours more, when it will become quite stiff; after cooling gradually it is to be pounded strongly in a marble mortar, along with the essence of bitter almonds, when it will be fit for sale. This is the same as *Pearl Soft Soap*.

ALMOND CUSTARD ICE.

Add to almond ice cream, before it is frozen, the yolks of 4 eggs, and a few drops of the oil of lemon, or a tea spoonful of the essence of lemon as this mixes better, boil it for two or three minutes, and then cool and put to freeze.

ALMOND JELLY.

Sweet almonds blanched 1 oz., white sugar $\frac{3}{4}$ oz., water 4 oz.; rub into an emulsion, strain and add melted hartshorn jelly 8 oz. orange-flower water 1 dram, essence of lemon 3 drops.

ALMOND EMULSION, MILK OF ALMONDS.

Take of sweet almonds 3 oz., of bitter almonds 3 or 4 in number, white sugar 2 pounds, distilled water 2 pints, orange-flower water $\frac{1}{4}$ of a pint. Blanch the almonds and pound them with the sugar, adding the water by degrees.

ALMONDS, ESSENCE OF BITTER.

Dissolve 1 oz. of the essential oil of bitter almonds in a pint of spirits of wine.

This is a very powerful poison, should never be sold without a caution, and ought always to be kept out of the reach of children. In flavoring pastry, cordials, perfumery, &c., only a few drops should be used at a time. It is the same as what is commonly called Essence of Peach Kernels.

ALMOND FLAVOR.

Distillers, in making noyau and other liquors flavored with almonds, and also confectioners and pastry-cooks, procure the flavor of almonds by boiling in water the almond cake sold by the druggists.

This is the cake left after almonds have been pressed for oil; it consists of husks and the farinaceous part of the nut, and contains the whole of the flavoring principle. Its price is about 1s. per lb., and goes as far for flavoring as six times the weight of whole almonds.

ALMOND HARD-BAKE, TO MAKE.

Blanch and split some sweet almonds, put them flat side downwards on an oiled tin or greased plate. Pour upon them, so as just to cover them, some raw sugar boiled till it has become brittle.

Cocoa nut is prepared in the same way

ALMOND HONEY PASTE.

Warm and strain 1 lb. of honey, beat up with it the same weight of dry almond paste made of blanched bitter almonds, when well mixed add by degrees 1 quart of the oil of bitter almonds, and the yolks of 4 or 5 eggs.

ALMOND ICE CREAM

Add 3 oz. of confection of almonds, or as much syrup of almonds, to a pint of cream, with a few drops of essence of peach kernels, or essence of bitter almonds, with 1 oz. of orange-flower water; sweeten it to taste; if made with the syrup no more sweetening will be required.

ALMOND ICING FOR CAKES.

Mix up the ingredients as for almond cakes but with a little more egg; lay it on the cake when about three quarters done.

ALMOND LINCTUS, OR WHITE LINCTUS.

Mix with 5 oz. of almond emulsion 16 grains of gum tragacanth, $\frac{1}{2}$ an oz. of fresh oil of almonds, $\frac{1}{4}$ oz. of sugar, and when well mixed, $\frac{1}{4}$ oz. of orange flower water.

This is a very pleasant soothing medicine in cough and sore throat.

ALMOND MIXTURE.

I. To $2\frac{1}{2}$ oz. of confection of almonds gradually add a pint of distilled water, till they be well incorporated, then filter through linen.

II. Blanched sweet almonds 5 dr., loaf sugar 2 dr., gum arabic in powder 1 dr.

Pound them well in a mortar, with $\frac{1}{2}$ a pint of water, added gradually; strain through muslin.

Used as a drink in inflammatory affections, and as a vehicle for other, as liquor potassæ, nitre, &c.

ALMONDS, OIL OF.

Grind the kernels in a mill, put them in bags, and submit them to a strong pressure between iron plates, the plates being at first cold, to produce the best oil; and afterwards replaced by hot ones, to obtain a larger quantity; it should be filtered through blotting paper. It is immaterial whether sweet or bitter almonds are used, both kinds by this means produce a fine, bland, sweet oil, valuable for the toilet, for the table, and for making various of the finer kinds of soap; if bitter almonds be used, and these be previously to pressure boiled in water, the oil obtained will be strongly scented with the odour peculiar to this nut.

ALMOND OIL SOAP.

Made by macerating oil of almonds with nearly twice its quantity of caustic potass or soda, till when cold, it forms a jelly; add a little common salt, and resume the boiling till sufficiently hard; pour it into moulds to dry. Seven pints of oil of almonds and 13 of soap ley will make 11 lb. of soap.

SOAP OF BITTER ALMONDS.

This is made by beating up, assisted by heat, 50 lbs. of best white soap, with 10 oz. of the essence of bitter almonds.

ALMOND PASTE.

I. Take 4 lbs. of bitter almonds, blanched and well dried, and beat them in a mortar to a very fine and smooth paste with lavender, or the best sort of Hungary (caraway) water; add to the paste 1 lb. of the best drained honey, 2 oz. of the best oil of jasmine, $\frac{1}{2}$ lb. of the best almond powder, and 4 oz. of fine orrice powder; beat and mix the whole repeatedly together.

If made in this way the paste will keep for twelve months.

II. Sweet and bitter almonds, of each 2 oz., spermaceti 2 dr., oil of almonds $\frac{1}{2}$ an oz. Windsor soap $\frac{1}{2}$ an oz., rose water 1 oz., otto of roses, and oil of bergamot of each 12 drops.

Almond paste is used to beautify the skin, and to prevent chapped hands.

ALMOND POWDER.

I. Blanch any quantity of sweet almonds, pound them, and then put them in a cloth under a press to squeeze from them $\frac{1}{4}$ part of their weight of oil; if this be not done they will be greasy; now take the cake and pound it well in an iron mortar till it will all pass through a wire sieve and has become fine as oatmeal. It must be well dried before it is put away in bottles.

II. *Inferior Almond Powder.*—Take the cake from which the oil has been expressed, cut out carefully any dirty or mouldy parts.

and pound it in a mortar, afterwards add a little olive oil and pass it through a sieve.

Almond powders are sometimes perfumed and mixed with other ingredients. They are used for cleaning the skin, and are less irritating than soap.

ALMOND POWDER, FRENCH.

I. Bitter almonds blanched 48 oz., rice flour 26 oz., pulverized orrice root 2 oz., chalk 2 oz., bean flour 12 oz., salt of tartar, benzoin, and spermaceti, of each 1 oz., oils of lavender and cloves of each 30 drops. Infusion of jasmine $\frac{1}{2}$ pint, mix all together.

II. Bitter almonds blanched 12 oz., benzoin, orrice root, and rice flour, of each 1 oz., salt of tartar 2 drams, oil of lavender and rhodium, each 20 drops.

Used for cleaning the hands, and removing any unpleasant smell. To render it more detergent, 4 oz. of fine sand, or powdered pumice stone may be added.

ALMOND ROCK CAKES.

Make them in the same manner as almond cakes, using 2 lbs. of loaf sugar to one of sweet almonds, beat to a pulp, and $1\frac{1}{2}$ lb. of the same cut in slices; mix them up with white of eggs into a stiff paste, form them with the fingers into small rough pieces and bake in a very slow oven.

ALMOND ROUT CAKES.

Beat together $\frac{1}{2}$ lb. of blanched sweet almonds with $\frac{1}{2}$ lb. of loaf sugar, with yolks of eggs sufficient to make a stiff paste; cut them into any form you please, dust them and also the tins upon which they are placed with loaf sugar. Place them aside in a warm place for some hours, and then bake to a light brown in a brisk oven.

ALMOND SAVOY CAKES.

Pound in a marble mortar $\frac{3}{4}$ lb. of sweet almonds with $\frac{1}{4}$ lb. of bitter almonds and 2 lbs. of sugar, mix with this $\frac{1}{2}$ pint of eggs, separating the whites from the yolks, adding the yolk first, when these are well beat up, add by degrees 1 lb. of flour together with the whites of the eggs; if too stiff a little water or milk must be added to make the whole of the consistence of batter. Prepare some moulds without bottoms by greasing them, put these moulds in order on a tin, covered with paper, dust them over with powdered sugar, and fill them about 3 parts with the paste, dust a little sugar on the top and bake to a light brown in a moderate oven.

ALMONDS, SYRUP OF—SIROP D'ORGEAT.

One pound of sweet, 4 oz. of bitter almonds, $1\frac{1}{2}$ pint of water, sugar 3 lbs., orange flower water 2 oz. Blanch the almonds, pound them in a mortar with the orange-flower water; thus reduce them to a paste, and then add $\frac{1}{2}$ a pint of the water. Strain through a cloth, twisted tight by two persons; receive the milk in a basin, pound the residue again with more of the water, and thus continue till all has passed through the cloth

and all the water has been used; add the sugar and boil for some minutes, then strain and cool; stir the whole well together two or three times a day for a week, then bottle, and if inclined to settle or separate in flocks shake it up occasionally.

ALOES MEDICINES.

I. *Compound decoction of.*—Take of extract of liquorice 7 drachms, carbonate of potass 1 drachm, aloes powdered, myrrh powdered, and saffron, each $1\frac{1}{2}$ drachm, compound tincture of cardamom 7 fluid oz., distilled water $1\frac{1}{2}$ pint; boil the ingredients together and strain before adding the compound tincture of cardamom.

II. *Enema.*—Take of aloes 2 scruples, carbonate of potass 15 grains, barley water $\frac{1}{2}$ pint.

Used to dislodge the thread-worm from the lower intestines, &c.

III. *Extract of.*—Take of aloes powdered 15 oz., boiling water 1 gallon; macerate for three days at a gentle heat, afterwards strain and set by that the dregs may subside; pour off the clear liquor and evaporate to the proper consistence.

IV. *Tincture of.*—Take of aloes powdered 1 oz., Spanish liquorice 3 oz., water $1\frac{1}{2}$ pint, spirits of wine $\frac{1}{2}$ pint, soak for fourteen days; and then strain for use.

V. *Ditto, Compound.*—Aloes powdered 2 oz., saffron 1 oz., tincture of myrrh 1 pint; soak for fourteen days, and strain for use.

VI. *Pills.*—(a) Take equal parts of aloes in powder and of soap, and make up into pills of 5 grains each with syrup; 3 to 5 pills is a dose.—(b) Aloes in powder $\frac{1}{2}$ oz., almond soap $\frac{3}{4}$ oz., oil of anise 8 drops; mix into a mass with syrup of buckthorn; 3 or 4 is a dose.

VII. *Ditto, Compound.*—Take of powdered aloes 1 oz., extract of gentian $\frac{1}{2}$ oz., oil of carraway 40 drops, syrup enough to make into pills; the dose is from 10 to 20 grains.

This pill is an old and favorite remedy by those of sedentary habits against indigestion and habitual costiveness. The dose is two or more 5-grain pills, taken two hours before dinner.

VIII. *Ditto, with Assafœtida.*—Equal parts of aloes, assafœtida, and soap, made into a mass with gum water; make into 5-grain pills.

The dose is one or two at bed-time, useful as a purgative stomachic against spasm, flatulence, and indigestion.

IX. *Ditto, with Gamboge.*—Take equal parts of aloes, gamboge, and gum ammoniac, triturate to powder, dissolve in vinegar, strain, press the residuum, then evaporate the liquor in a water bath almost to the consistency of a solid extract; divide into 4-grain pills, to be given in doses of 3 or more for dropsy.

X. *Ditto, with Myrrh.*—Aloes 2 oz., saffron 1 oz., myrrh 1 oz., make them up with syrup.

An old remedy under the name of Pill Rufi; dose from 10 to 20 grains. It is stimulant and cathartic.

XI. Powder, Compound.—Rub to powder $1\frac{1}{2}$ oz. of aloes, and then separate by 1 oz. of gum guaiacum; mix these powders together, and add to them $\frac{1}{2}$ oz. of cinnamon powder.

XII. Tincture of.—Socotrine aloes $\frac{1}{2}$ oz., extract of liquorice root $1\frac{1}{2}$ oz., proof spirit and water each $\frac{1}{2}$ lb.

XIII. Wine.—(a) Take 2 oz. of aloes in powder, 4 drams of canella in powder, and 2 pints of sherry wine; digest for fourteen days, stirring occasionally, and filter.—(b) Digest in 9 pints of white wine 8 oz. of aloes and 2 oz. of canella alba; mix white sand with it to separate the aloes and prevent its clogging.

The aloes preparations are very numerous, and are useful in all cases, except where congestion or irritation exist in or around the lower bowels. Thus they should not be given in pregnancy or piles; but are valuable against indigestion and disturbance of bile. Aloes form the basis of most purgative patent medicines. See *Hiera Picra*.

ALTERATIVE MEDICINES.

Alteratives are such medicines as gradually restore the languid or diseased body to a healthy state, without occasioning any sudden or violent effect of purging, vomiting, or sweating. The doses are, therefore, necessarily small, and the use of such medicines must be continued for some length of time. For human restoration small doses of blue pill, and various tonics are used, such as gentian, rhubarb, preparations of iron, &c.; for cattle the following are recommended:

I. Balls for horses.—Emetic tartar 5 oz., powdered ginger 3 oz., opium 1 oz., syrup enough to make into 16 balls.

II. Laxative.—Barbadoes aloes 1 oz., Castile soap, $1\frac{1}{2}$ oz., powdered ginger $\frac{1}{2}$ oz., syrup enough to make 6 balls.

III. For grease.—Barbadoes aloes $1\frac{1}{2}$ drachm, emetic tartar and Castile soap of each 2 drachms, enough for 1 ball.

IV. For strangles.—Barbadoes aloes 10 drachms, calomel 3 drachms, 1 oz. of carraway seeds pounded, 3 drachms of ginger, 50 drops of oil of cloves, and enough of treacle and flour to form a mass, of which a fourth part is to be taken each day. See *Fever-ball*.

ALUM BASKETS AND ORNAMENTS.

First prepare the object desired, such as a wire basket, or the sprig of a plant, by twisting over it some cotton, or, still better, some worsted thread, so that it is covered in every part. If an irregular mass of crystals be desired a large cinder or piece of coke, wrapped over in the same way, may be employed; you must observe that whatever object be selected it must be of such a weight as to sink readily in the solution to be afterwards made, or it must be loaded to give it that effect. Then dissolve 1 lb. of alum in a quart of water, (observing the same proportion for a greater or less quantity), by boiling it gently in a tin vessel, over a moderate fire,

keeping it stirred with a piece of wood until the solution is complete. When the liquor is *almost* cold, suspend the subject to be crystallized by means of a small thread or twine from a lath or small stick laid horizontally across the aperture of a deep glazed earthen jar, as being best adapted for the purpose, into which the solution must be poured. The respective articles should remain in the solution twenty-four hours, when they are taken out they are to be carefully suspended in the shade until perfectly dry.

The whole process of crystallization is best conducted in a cool situation. When the subjects to be crystallized are put into the solution while it is quite hot, the crystals are apt to be formed too large; on the other hand, should it be too cold the crystals will be small in proportion. Experiments convince us that the best temperature is about 95° of Fahrenheit's thermometer, that is about the warmth of new milk.

ALUM, BASKETS, TO COLOR.

There are numerous colored crystals, but none of them are used to make ornamental works, except blue stone, on account of their expense. This, however, is cheap, and gives a most brilliant blue. For other colors it is only necessary to tint the solution of alum with some dyeing material, and then set it aside to crystallize as in the last receipt. The addition of turmeric produces transparent *yellow* crystals; powdered litmus, or solution of litmus, produces *red* crystals; logwood makes them *purple*; and common writing ink *black*.

The more troubled the solution looks, the finer are the crystals it affords, so that filtration is not necessary. These colored crystals are more easily destroyed than those of common alum; they may, however, be re-dissolved and re-crystallized at pleasure.

ALUM, BURNT.

All that is necessary is to put some powdered alum in a ladle or fire shovel over the fire. It will soon melt, boil, and swell up. It is to be kept on the fire till all the water has evaporated, and until it becomes so brittle as to break easily into a fine powder.

This is sometimes valuable being sprinkled over a wound to stop bleeding, or to eat away proud flesh, also as a tooth-powder. Bird stuffers also, in preparing and skinning a bird or other animal ready for preserving, use burnt alum to rub over any wet or bloody part, that it may not soil the rest. In this case its peculiar astringency assists in tanning or rather hardening the skin, so that it is not so liable to contract mouldiness, nor to become the prey of the moth and other destructive insects.

ALUM, CUBIC.

This is an alum that has a larger proportion of base than the common or octohedral alum. It is, therefore, preferable for dyeing, because the alumina only is wanted, and this extra portion in the cubic alum is easily parted with. The alum stone of Italy when treated with sulphuric acid, and made moderately hot, yields cubic alum, if a boiling heat be used common alum is the result, the subsulphate, or extra base falling down in an insoluble white powder. The acetate of alumina is generally preferred as a mordant.

LUM MEDICINES.

I. *Bolus*.—Equal parts of powdered alum and conserve of roses mixed together, and made up into a bolus of about 20 grains with syrup of orange peel.

II. *Curd*.—Beat the whites of 2 eggs with a bit of alum till a curd forms.

It is used as an application in ophthalmia.

III. *Eye Water*.—Mix $\frac{1}{2}$ drachm of purified alum with 6 oz. of rose-water.

It is applied to tender and watery eyes.

IV. *Ointment*.—Take 1 lb. each of common turpentine and lard, $\frac{1}{2}$ lb. of alum in powder, melt the lard and turpentine, then add the alum and strain till cold.

This is used in farriery.

V. *Plaster*.—Take $1\frac{1}{2}$ lb. of diachylon plaster, 6 drams of prepared amber, 1 oz. of burnt alum, $\frac{1}{2}$ oz. of camphor, mix altogether, and form a plaster.

It is stimulating in cases of rheumatism.

VI. *Poultice*.—Beat up $\frac{1}{4}$ oz. of powdered alum with the white of 2 eggs.

It is applied to the eyes in ophthalmia.

VII. *Solution of*.—Dissolve in 3 pints of boiling water 1 oz. of alum and the same quantity of sulphate of zinc, filter.

It is used as a powerful astringent wash for medical purposes.

VIII. *Sugared*.—Common alum made up into small sugar loaves with white of egg and rose-water.

Used by females as an astringent wash in disarrangements peculiar to themselves.

IX. *Wash*.—Take $\frac{1}{2}$ lb. of alum and dissolve it in 7 pints of boiling water.

Used both in human medicine and farriery.

X. *Whey*.—Boil 1 pint of milk with $\frac{1}{4}$ oz. of alum, strain away the curd which will be separated, and add to each pint 2 oz. of the essence of nutmegs and 1 oz. of the syrup of cloves. What is more simple is to boil a quarter of a nutmeg grated, and 5 or 6 cloves with the milk, and afterwards sweeten to taste. A wine glassful to be taken two or three times a day in diarrhæa.

ALUM IN BREAD, TO DETECT.

Boil some of the bread in water, and add to the liquid, when filtered, a little muriate of barytes or lime-water, or spirits of hartshorn, in either case a white cloudiness will appear if alum be present.

Boiling the bread dissolves the alum out of it. The water then holds it. Alum is decomposed by each of the above materials. If the muriate of barytes be added the barytes adheres to the sulphuric acid of the alum, and forms sulphate of barytes. The lime-water absorbs also the sulphuric acid, and lets the alumina fall. The spirits of hartshorn does the same. Now as the sulphate of barytes and alumina are both insoluble white powders, they fall down and occasion the cloudiness.

ALUM IN WINE, TO DETECT.

Wine merchants add alum to red wine, to communicate to it a rough flavor and deeper color. It may be detected as follows:—add to it a strong solution of chlorine, boil the

mixture till reduced to nearly one-fourth of its original volume, and filter the liquor; if it contain alum it will have the following properties:—1st, It will have a sweetish astringent taste; 2nd, It will furnish a white precipitate with nitrate of barytes, insoluble in water and in nitric acid; 3rd, When caustic potass is added, it gives rise to a yellowish white precipitate of alumina, soluble in an excess of potass; 4th, The carbonate of soda produces a yellowish white precipitate, which is decomposed by fire into carbonic acid gas, leaving alumina, which is easily distinguishable by its peculiar chemical tests.

ALUM MORDANT.

I. Alum alone crystallizes, and thus its action is impeded. The dyers, to prevent this, use as follows:—40 lbs common alum, 10 lbs. crude tartar, 20 gallons of water, hot; the tartar is diffused in the water before the alum is added. Instead of tartar, one-eighth part of potash is sometimes added, but potash is only used in common articles dyed of sad colors; it answers no good purpose except to prevent crystallization of the alum, whereas the tartar much assists in brightening the colors.

II. Boil together for an hour 100 gallons of water, 200 lbs. of potash, and 80 lbs. of quicklime, let this settle; decant the clear liquor, and boil it half away; it will now be about 30 gallons; to this quantity add 100 lbs. of ground alum. On cooling, crystals of sulphate of potash separate, the clear liquor is to be decanted off. It will amount to about 33 gallons.

These two mordants are used generally in wool dyeing.

III. Take 50 gallons of boiling water, 100 lbs. of alum, 10 lbs. of soda in crystals, and 75 lbs. of acetate of lead. First dissolve the alum, then slowly add the soda, and when the frothing that this occasions is finished, add the pulverized sugar of lead; stirring the whole well about till the various salts are dissolved; stir it up a few times while cooling, then let it settle. The clear liquor that floats is the mordant.

Used for fixing red and pink dyes, and partly puce and purple.

IV. Fifty gallons of water, 100 lbs. of alum, 6 lbs. of soda crystals, and 50 lbs. of sugar of lead. Prepare as above directed.

V. Fifty gallons of water, 100 lbs. of alum, 10 lbs. of soda, and 100 lbs. of acetate or sugar of lead.

This is for yellow grounds. Alum mordants do not keep well, they should, therefore, be made as wanted.

ALUM WHITE, BAUME'S.

Roman alum 1 lb., honey $\frac{1}{2}$ lb., dry, powder, and calcine in a shallow dish to whiteness; wash and dry. A beautiful white even with oil.

ALUMINA, OR ALUM EARTH.

Dissolve common alum in water, and add to it by degrees the carbonate of soda or liquid ammonia, while any powder continues to fall down. Let it stand for some time to settle, pour off the liquor, wash the powder left with a second water, pour this off in like manner when the powder has again settled. The powder which is left is pure earth, and is known by the name of argil, alumina, alum earth, base of alum, hydrate of alum, alum white, &c.

This material may be dried or not at the pleasure of the preparer; it is usually kept in a wet state by the potter and porcelain painter as a material wherewith to dilute and mix with the oxyde of cobalt and other metallic preparations used in coloring of crockery, china, &c. In its wet state it is often called gelatinous alum.

ALUMINA, ACETATE OF.

A mordant used by the dyer. It is made by boiling alum-stone in vinegar, or experimentally by adding alumina to acetic acid. It is preferred to alum, because heat alone readily decomposes it. The acetic acid flying off, and allowing the alumina to combine with the cloth, &c.

It is commonly called dyer's red liquor, being used by them in dyeing red colors.

AMADOU, OR GERMAN TINDER.

This is made of two species of fungus,—the *Boletus ignarius*, which grows in large yellow lumps upon the trunks of old decaying trees, and the *Lycoperdon giganteus*, or giant puff ball, which is found on pasture ground. The first requires much beating to soften it, the last is ready in its natural state. The boletus is covered with a hard woody coat, which is first removed, as well as all other hard parts, then cut into slices with a knife, and beat till soft with a mallet. In this state it is very useful to stop bleeding when applied to a cut. For tinder it is soaked in a solution of saltpetre for the light colored, or, as it is called, the *white amadou*, and in gunpowder for the *black amadou*.

Both the fungi here alluded to grow in this country and many others that might be used for the same purpose, as for example, all the species of puff balls, one of which is extremely common in woods and meadows.

AMALGAM FOR INJECTIONS.

I. Melt in a ladle or crucible 5 parts of lead, when melted add 8 parts of bismuth, then 3 parts of tin, and 2 parts of quicksilver.

II. Melt together, 1 oz. each of zinc, bismuth and lead, and when melted, add 2 oz. of quicksilver.

III. One part bismuth, 1 part lead, and 2 parts mercury, is also a good composition.

These amalgams are used for injecting the blood-vessels of anatomical preparations; a kidney thus injected is a most beautiful object.

AMALGAM, ELECTRICAL.

Melt in a pipe-bowl or iron ladle 1 part of zinc, 1 part of tin, and 6 parts of quicksilver. First melt the zinc and tin, and when melted

pour in the quicksilver, stir it about with a piece of stick, and pour it out directly on the hearth to harden. It should break very easily and crumble between the fingers. It is used for the rubbers of electrical machines; thus, first clean and scrape the leather flap of the rubber, then, very slightly grease it with tallow,—take a small piece of the amalgam on the blade of a dinner knife, and spread it equally over the greased part, so that it may have a bright metallic appearance all along it of about an inch in width.

Should this amalgam be too hard at first, or become so afterwards, it must be re-melted and more quicksilver added to it. If too hard, or not well mixed, it will be gritty, if too soft the quicksilver will separate in globules. The tin may be omitted without disadvantage, its only use being that it spreads rather more readily.

AMALGAM FOR WATER GILDERS.

Put 8 drams of mercury into a crucible, and heat it until vapor is seen to issue from it; now throw into the crucible 1 dram of gold or silver, and stir them with an iron rod. When the gold or silver is found to be fused, or incorporated with the mercury, the amalgam is to be poured into cold water; when cold, pour off the water, and collect the amalgam, which will be about the consistence of soft butter. This, after having been bruised in a mortar, or shaken in a strong phial, with repeated portions of salt and water, till the water ceases to be fouled by it, is fit for use, and may be kept for any length of time without injury in a stopped phial. It is essential in this manufacture, that the mercury should be extremely pure, as the least admixture of lead, tin, or metal, would materially injure the gilding for which it is used.

AMALGAM VARNISH.

Melt together equal parts of tin, bismuth, and quicksilver, when melted and cooled, make it into a varnish with white of egg.

It is used for the varnishing of plaster of Paris figures, and other things of the like kind. Some receipts recommend lead, but this is a great error, because the lead soon becomes tarnished, whereas the tin and bismuth remain bright for a long time.

AMBER, TO WORK.

Amber is often made into trinkets, the knobs for canes, small boxes, mouth-pieces for pipes, and other ornamental small wares. Amber in the rough is first split and cut rudely into the shape required by a leaden wheel worked with emery powder, or by a bow saw having a wire for the blade, Tripoli or emery powder being used with it. The roughly formed pieces are then smoothed with a piece of Swedish whetstone and water. The polishing is conducted by friction with whitening and water, and finally with a little olive oil laid on and well rubbed with a piece of flannel, until the polish is complete.

In this process the amber becomes hot and highly electrical; as soon as this happens it must be laid aside to recover itself before the polishing is continued, otherwise the article will be apt to fly into pieces.

AMBER, TO JOIN AND MEND.

Smear the parts which are to be united with linseed oil, hold the oiled part carefully over a small charcoal fire, a hot cinder, or a gas-light, being careful to cover up all the rest of the object loosely with paper, when the oiled parts have begun to feel the heat, so as to be sticky, pinch or press them together, and hold them so till nearly cold.

Amber melting by the application of heat shows the necessity of care in joining a finished article, as only that part where the edges are to be united must be warmed, and even that with care, lest the form or polish of the other parts should be disturbed; the part joined generally requires a little re-polishing.

AMBER, BALSAM OF.

The thick oil which is left in the retort after amber has been distilled. It possesses nearly the same properties as before distillation, although deprived of its oil and acid.

It is useful in medicine, and still more so in varnish making.

AMBER, VARNISH BLACK.

Melt in an iron pot 1 lb. of amber, add to it $\frac{1}{2}$ gallon of hot linseed oil, when well mixed, stir into the mixture 3 oz. each of black rosin, powdered, and asphaltum; when all are well incorporated together, and have become somewhat cooled, add by degrees 2 quarts or more of turpentine, till of a proper consistence.

Some receipts allow only $\frac{1}{4}$ pint of oil and 1 pint of turpentine to the above quantity of amber, resin, and asphaltum; but this is preposterous, as must be evident upon considering that here would be nearly 1 $\frac{1}{2}$ of resins to 1 $\frac{1}{2}$ pint of liquid. Whereas in all varnishes about 1 $\frac{1}{2}$ lb. of resins is considered adequate for a gallon of oil, turpentine in about an equal quantity being added in addition. The same remark applies to Dr. Ure's receipt for amber gold size. The above black composition is used by coach-makers and patent leather makers.

AMBER GOLD SIZE.

Mix together 1 lb. of amber, 4 oz. of mastic in tears, 1 oz. of asphaltum, 1 pint of drying linseed oil; first melt the amber in a pipkin, then add the mastic and asphaltum, lastly, the oil, a little at a time, stirring it and keeping it on the fire till the whole is well incorporated.

This size is stated by Dr. Ure to be the best material to attach gold or silver leaf to wood, and also that it is used for the same purpose by paper-stainers and painters in distemper.

AMBER VARNISH, PALE.

Melt in a pipkin or cauldron 3 lbs of transparent amber, and when melted, add to it, by degrees, 1 gallon of hot and clear oil, stirring it up until the amber and oil are well incorporated. Boil it until it is very thick, and draws out in strong threads, then taking it away from the fire and letting it cool, add gradually 2 gallons of spirits of turpentine.

This is a beautiful pale, and very hard and durable varnish, much more so than even copal. It works freely, and is applicable to all purposes to which its expense is not an objection. It dries rather slowly however, and requires much drying before it can be polished, as the surface is for a time very tender, and at all times when rubbed very electrical, and, therefore attracts dust, &c.

AMBER AND LAC VARNISH.

Melt 2 oz. of shell lac, and add to it 8 oz. of amber previously pounded; stir up with these while melting $\frac{1}{2}$ pint of boiled linseed oil; when all are well mixed together, let them get nearly cold, and then add and stir up a pint of turpentine.

It is usually colored by a little of the extract of annatto, or of dragon's blood, or saffron, according to the tint desired. White wood or metals varnished with this should have a golden color. Hence it is often called golden amber varnish.

AMBER LINIMENT.

Rectified oil of amber and laudanum of each 2 parts, of lead 1 part, rub them together.

This is both anodyne and stimulating, and is applied for chronic rheumatism, indolent tumours, &c.

AMBER, OIL AND RESIN OF.

Amber broken up into small pieces, placed in a retort, and fire being put beneath, soon becomes semi-fluid, puffs up, and gives over a strong scented liquid, used in perfumery and medicine, called oil of amber; when this is boiled with 4 times its weight of nitric acid it becomes a pitchy mass, having an odour much resembling musk, hence it has obtained the name of *artificial musk*, for which dearer scent it is often substituted. After making it should be well washed.

AMBER, SOLUBLE.

I. Melt any quantity of amber, and when melted, incorporate gently a like weight of drying linseed oil. It will now form a very thick pale-colored semi-fluid, somewhat resembling Canada balsam.

It is sometimes used as a cement for glass and earthenware, by rubbing it on the edges of the broken piece, which is previously heated.

II. Melt 1 lb. of amber with $\frac{1}{2}$ lb. of Scio turpentine, and 2 oz. of yellow resin; mix together with 1 pint of hot linseed oil.

Amber is generally kept in the above soluble condition both for medicinal purposes and for the making of varnish, requiring afterwards only reducing to a proper consistence with boiled oil and turpentine.

AMBER, TO IMPROVE.

Boil the pieces of amber in rape oil for twenty-four hours.

AMBERGRIS, QUALITIES OF.

A substance of a delicate scent, much used in perfumery, is found floating in the Indian and other seas. The best is grey, easy to break, and light in weight; the worst is dark colored, tough, heavy, and with little odour. The better kind melts readily, and is frequently adulterated with wax, storax, and labdanum. To detect this it is usual with the trade to thrust into the mass, in several places, a hot needle, those acquainted with the real article detecting the adulteration by the odour; wax also takes away its brittleness. Sometimes white sand is added, a powerful magnifying glass will render this apparent. It ought to float in water and dissolve totally in hot spirits of wine.

AMBERGRIS, ARTIFICIAL.

A perfume very similar to real ambergris, and generally substituted for it by the perfumers, is made as follows; but it wants the transparency of the true, neither is the scent so excellent; it is also but partly soluble in spirits of wine. The materials must be rubbed together in a mortar till of a uniform mass. Spermaceti 8 oz., grain musk 1 oz., gum benzoin 20 oz., ben nuts 6 oz., orris powder 20 oz., liquid ammonia 2 oz., yellow resin 3 oz., white wax 3 oz.

Real ambergris to the amount of 8 oz. to the above quantity is sometimes added, making evidently a nearer approach to the real article.

AMBERGRIS, ESSENCE OF.

I. Mix 1 oz. of ambergris, $\frac{1}{2}$ oz. of bladder musk, with 2 quarts of spirit of ambrette; put them into a large bottle, and let them digest for a month or two, being exposed to a very gentle warmth, such as that of a warm room or the heat of the sun.

II. Digest in half a pint of spirits of wine or brandy 1 dram of ambergris, and 8 grains of musk.

AMBERGRIS PERFUME.

Take 2 pennyweights of fine ambergris, melt it gently over the fire; now stir in very quickly a mixture ready prepared of 4 oz. of loaf-sugar pounded, and well incorporated with 12 grains of musk, 12 grains of civet, 12 grains of gum benzoin, and 2 or 3 drops of the oil of lemon. When this is well mixed with the melted ambergris and 1 oz. of spirits of wine, add 16 lbs. of the best starch powder, passing the whole two or three times through the finest hair sieve.

This is a sort of stock material for making ambergris hair powder, and although the quantity seems large, yet in stopped bottles it will not only keep, but even become much better by time. For three or four days after making it may with advantage be exposed to the air, that the spirit may evaporate.

AMBERGRIS HAIR POWDER.

Add to the ambergris stock perfume four times the quantity of ground starch; rub them well together, and run the whole through a sieve; put in papers or boxes.

AMBERGRIS SOAP.

To 7 lbs. of curd soap, melted in a copper or pan, add $\frac{1}{4}$ oz. of oil of carraway, $\frac{1}{2}$ oz. of essence of bergamot, and $\frac{1}{4}$ oz. of spirit or essence of ambergris; mould into cakes.

AMBERGRIS, SPIRIT OF.

I. *Compound*—Take of ambergris $1\frac{1}{2}$ oz., of musk 30 grains, and of civet 20 grains; reduce the whole to fine powder with loaf sugar; add to this powder the juice of the fourth part of a green lemon; immerse the whole in a bottle containing 3 pints of clean spirits of wine; stir it up frequently for some days, and also keep it in a warm place. You may either use the liquor as above, or it may be filtered through white blotting-paper.

II. *Simple*.—Dissolve $\frac{1}{4}$ oz. of ambergris in a pint of spirits of wine, placing the bottle which contains it in a basin of hot water; when the water in the basin has become cold, the solution is finished. There should be no insoluble residue.

For making solutions where heat is recommended the round Florence flasks, properly cleaned from oil, are very serviceable, as they do not break by the sudden application of heat.

AMBERGRIS WASH BALLS.

These differ in no respect from the best kind of common wash balls except in the perfume. The present are scented with a few grains of ambergris and of musk ground up together with a little sugar, and by some perfumers with a little mastic previously to mixing with the soap.

Most preposterous receipts are given in Rennie's Supplement to the Pharmacopœia, and in other works upon this article.

AMBOYNA WOOD, TO IMITATE BY PAINTING.

Amboyne wood is particularly used for veneered pianoforte cases. Its peculiarity is that it consists of a close intermixture of minute knots, small veins, and interlacing fibres, exactly as in the root of the olive, or the root of the maple tree; its color is precisely that of mahogany. To paint in imitation of this wood,—first, paint the article over with a coat of yellow ochre, then with a coat of red orange, made of 2 parts pale chrome yellow and 1 part red ochre, mixed in the usual manner of oil paint with linseed oil and turpentine with a little dryer. When dry rub it down well with pumice stone and water, till the surface is quite smooth. Prepare an over color by mixing together in a plate, with a little beer, burnt sienna, and Vandyke brown (both ground in water); the quantity of each may be according to judgment and taste, about two thirds of the sienna to one of the Vandyke will do well. Rub a lump of soap over the article to be grained, then paint it with the water color, laid on with a rather hard painting brush, rubbing it about till every part is well covered, and see that there are no specks of the ground visible through the over color. Then take a piece of rough sponge, or a handful of pieces of coarse rags, after rubbing off a little for the lights, roll them over and over on every part, so as to break up the water color into knots, specks, and irregularities. Put a few light specks as in maple wood, and soften off well with a badger brush. Put no over grain. Varnish with two coats, slightly rubbing down the first with pumice stone and water, before applying the second coat.

This wood is not of a sufficiently decided and distinct character for large articles, such as counters, doors, &c. but it is well adapted for picture frames, and cabinet work, besides which, it is one that any amateur can readily execute for himself.

AMBRETTE PERFUME.

I. Pound well together 6 oz. of starch powder, 2 oz. of yellow sanders wood, 2 oz. of gum benzoin, $1\frac{1}{2}$ oz. of storax, $\frac{1}{2}$ oz. of calamus aromaticus, and as much labdanum, beat the whole into a fine powder and sift it through a lawn sieve, continue to pound and sift till the principal part is passed through; then add 4 grains of ambergris and the same of musk; mix with the rest of the powder, and keep in a well closed bottle for use. A small quantity may be added at any time to powdered starch, to prepare a fragrant hair-powder.

II. Powder of jasmine 1 lb., powder of musk-rose leaves 1 lb., pound them together, and add $\frac{1}{2}$ dram of essence of ambergris. Sift the whole several times, pounding the part left in the sieve until the whole passes through and is quite fine and smooth.

AMBRETTE, SPIRIT OF.

The flowers of the ambrette, or purple sweet sultan, are dried, and soaked in an equal weight of spirits of wine. After a few hours soaking put them in a still, with half as much water as there was spirit: then distil, until you have drawn off as much as the spirit, leaving the water in the still.

AMERICAN BISCUITS.

Take $3\frac{1}{2}$ lbs. of fine flour, 8 oz. of fresh butter, 1 pint of milk; cut the dough into pieces of about $1\frac{1}{2}$ oz. each, mould them about 2 inches across, and press them with the stamp or docker. Or roll them into round balls, about the size of small wallnuts and stamp them; bake in a moderate oven.

Almost all the small wine biscuits take their names not from any peculiarity in composition or manufacture, but from the particular shape given to them, or from the stamp impressed upon them; for example the American docker is round, about $1\frac{1}{2}$ in. diameter, with five projecting wires, and a carving of a wheat-sheaf. They are often moulded in a two-sided mould, in this case they are very thin in the middle, and with a very high, round, and thick rim.

AMERICAN BLIGHT, CURE FOR

An insect attacks the apple tree which goes by the name of the white blight, or the American blight; as a cure the following composition is recommended:—To a strong decoction of the digitalis or fox-glove, add a sufficiency of fresh cow-dung to give it such a consistence as to apply it well with a painter's brush to those parts of the bark which appear infected, or which would afford a shelter for this destructive insect. The insect is generally destroyed by the first application, though in some instances it may be necessary to repeat it in certain parts.

It has been remarked that the insect never returns in future years to those parts of the tree which has been anointed with the composition.

AMERICAN MEAD.

Put a quantity of the comb from which honey has been drained in a tub, add to it a barrel of apple juice immediately the apples

are pressed, stir this mixture and leave it for 12 or 14 hours, then stir it and add honey until the liquor is so thick as to bear an egg. Then put it into a barrel and let fermentation go on for three or four days, filling up the barrel each night and morning, so that the froth may work well out of the bung-hole. When the fermentation moderates, put the bung in loosely. Thus it may remain for five or six weeks, then let the clear liquor be drawn off into a tub, add to it the yolks of eight or ten eggs, previously well beaten up; with a pint of fine white sand, the last being merely to separate the particles of yolk, and a gallon of spirit, mix the whole well together, let it settle, and having cleaned out the cask, merely to remove from it any sediment, filter the wine into the cask again and bung it tight. Some persons do not filter it into the cask, but return it in its thick state and rack it off when fine. The year following the making of it will be of considerable strength and delicious flavor.

AMETHYST PASTE.

Take of either of the colorless pastes or strasses (described under the word paste for gems,) 9216 grains, oxide of manganese from 15 to 24 grains, and oxide of cobalt 1 grain only; melt these together.

AMMONIACAL PREPARATIONS.

I. *Acetate of*.—Add $4\frac{1}{2}$ oz. of smelling salts to 4 pints of vinegar, or 1 part of the salts to 30 of vinegar. As both the salt and the acid vary much in strength, one or other must be added, until by immersing in it both litmus paper and turmeric paper neither of them is in any way changed in color, showing that the solution is neither acid nor alkaline. If acid, the litmus paper will turn red. and more smelling salts must be added; if alkaline the turmeric paper will become brown, which shows that more vinegar is requisite.

This is a valuable solution, particularly in disorders of the eyes, and as a sudorific and mild purgative.

II. *Embrocation*.—Soap liniment and liquor of acetate of ammonia equal parts, mix, and use as an embrocation for bruises, sprains, &c.

This is properly the camphorated embrocation, the soap liniment containing the camphor.

III. *Liniment*.—Carbonate of ammonia dissolved in water $\frac{1}{2}$ oz., oil of almonds or olives $1\frac{1}{2}$ oz.

A good external application in toothache, rheumatism, stiffness of the muscles, &c. commonly called hartshorn and oil. (See also *Fit Drops*, p. 131. *Sal Volatile Drops*, p. 301. *Tincture of Guaiacum*, p. 164. *Tincture of Valerian*, p. 335. *Ward's Essence for Head-ache*, p. 340, &c.)

IV. *Plaister*.—Take $\frac{1}{2}$ lb. of hydrochlorate of ammonia, 1 oz. of hard soap, and 2 lbs. of diachylon.

V. *Spirit of*.—Take 10 oz. of sal ammoniac, 1 lb. of carbonate of potass, 3 pints of rectified spirit and of water; mix, and with a slow fire distil off 3 pints into a cooled receiver.

VI. Aromatic Spirit of.—Take 2 drams each of cinnamon and cloves bruised, 4 oz. of lemon peel, 8 oz. of carbonate of potass, 5 oz. of sal ammoniac, 4 pints each of spirits of wine and water; distil off 6 pints.

VII. Compound Spirit of.—Spirits of ammonia 2 lbs., essence of lemon and nutmeg of each 2 drachms. If $\frac{1}{2}$ a drachm of oil of cloves be added, it forms the aromatic spirit of ammonia.

VIII. Fœtid Spirit of.—(a) Spirits of ammonia 2 lbs., assafoetida 2 oz.; digest and distil $1\frac{1}{2}$ lb.; called also volatile fœtid tincture.—(b) Take 10 oz. of sal ammoniac, 1 lb. of carbonate of potass, 3 pints each of rectified spirit and of water, and 5 oz. of assafoetida; distil off 3 pints.

IX. Succinated Spirit of.—Take 3 oz. of mastic, 9 drams of spirits of wine, 14 drops of oil of lavender, 4 drops of oil of amber, and 10 oz. of solution of ammonia; digest the mastic in the spirit till it dissolve, pour off the clear tincture, add the other ingredients and shake all together; it should be milky when finished. Give in doses from 10 to 30 drops in hysterics, gout, &c.

X. Lavender Water.—English oil of lavender 2 oz., essence of ambergris 1 oz., eau de luce 1 pint, spirits of wine 2 pints.

This perfume is most excellent for smelling bottles, and otherwise, to cure head-aches, recover from fainting, &c. See *Eau de luce*, p. 118.

AMMONIACUM, ESSENCE OF.

Mix up 1 lb. of gum ammoniacum with the same weight of powdered glass, pound it in a cold mortar; add by degrees spirits of wine until the gum is dissolved; make up the quantity of spirit to 1 quart for every pound of gum; filter through linen.

The object of the powdered glass is to prevent the broken gum adhering together when the spirit is applied. This is a common effect in preparing resinous and gummy solutions.

AMMONIACUM, FOMENTATION OF.

Dissolve 3 oz. of gum ammoniacum in $\frac{1}{2}$ pint of squill vinegar, and add 2 drachms of extract of hemlock, and 1 dram of sugar of lead.

Applied to indolent tumours and swellings.

AMMONIACUM, MIXTURE OF.

Dissolve in a pint of hot water 5 drachms of gum ammoniacum, gradually adding the water, and stirring up till the gum resin be dissolved.

ANATOMICAL PREPARATIONS.

The parts and organs of the body to be preserved are first cleaned and properly laid bare: with the extraneous parts, such as sometimes the skin, and at others the flesh removed so as to show clearly the structure of that object, whether in a state of health or disease. The after treatment depends upon the intention of the preparer; whether the preparation shall be wholly immersed in a liquid, or whether it shall be dried and injected.

Skeletons also require particular attention. If to be preserved in a liquid, spirits of wine is generally employed; sometimes previously distilled with pepper, allspice, or some other strong aromatic. Washing the object previously with vinegar, or muriatic acid, is also sometimes pursued; this is intended to harden the softer parts; it very frequently, however, renders them white. A better effect is produced by soaking them for some days in alum, previously to putting them up in spirits. If, however, they are to be injected also, no plan of hardening must be adopted previous to injection or the more minute vessels will be obliterated. Larger and coarser preparations are tanned after injection by soaking them in strong alum water till well imbued with it, and then dried by a strong draught of air, or a gentle heat, such as that of the sun. According to the nature of the subject, one or other of the following injections, or the amalgam injection may be used, the process being conducted as follows: Soak the preparation for an hour in warm water, until the vessels are quite pliant. Tie, air-tight, to the open end of one of the larger vessels, a condensing syringe; fill this with the prepared injection, and force it gradually into the vessels. For the arteries it must be red, for the veins blue, and for the lymphatics white; the colors being vermilion, Prussian blue, and white arsenic or constant white (barytes). As air will sometimes have penetrated into some of the vessels, if care be not taken this will impede the progress of the injection; in this case the vessels may be pricked to get rid more freely of the inclosed air.

ANATOMICAL INJECTIONS.

I.—Take of tallow, resin, and bees' wax, equal parts, melt them over a slow fire, and add as much red lead or vermilion as sufficient.

II. Take of strong size 1 pint, glue 1 oz., color $1\frac{1}{2}$ oz.

III. Solution of isinglass colored.

IV. Liquid amalgam. See *Amalgam*, p. 15.

The first of these preparations is for coarse objects and such as are to be dried. The second for ordinary objects, and all such as are to be immersed in spirits. The third and fourth are best adapted for the most delicate preparations, as those of the eye, the capillary vessels in various tissues, &c.

ANCHOVIES, BRITISH.

To a peck of sprats put 2 lbs. of salt, 3 oz. of bay salt, 1 lb. of saltpetre, 2 oz. of sal prunella, and a little bole armoniac, pound all the salts together in a mortar, then having a barrel ready, put in first a layer of the salt, then one of the sprats, again a layer of salt, and so on alternately; press all down, and keep them well covered up. After thus seasoning for some time they may be put into bottles, or pounded up and boiled for anchovy sauce; indeed most of the sauce sold as that of anchovy is of this description.

ANCHOVY, ESSENCE OF

Boil 7 lbs. of anchovies for twelve minutes in 5 quarts of water, rub the whole fish through a sieve, keeping the water back to boil again any part that will not at first pass through. When the bones and all are dissolved, strain, add the water to the pulpy fish, together with salt and flour, each 1 lb., cayenne pepper $\frac{1}{4}$ oz., mushroom catsup $\frac{1}{2}$ pint, and armenian bole sufficient to color. The above will make nearly 20 lbs. of the essence.

ANCHOVIES, TRANSPARENT ESSENCE OF.

Place in a kettle any given quantity of anchovies in the state of which they are imported, along with their own weight of water. Expose the kettle to a simmering heat for two or three hours. Remove the kettle, suffer its contents to get cold, then strain them with suitable pressure through a strong canvas bag, and lastly filter through a flannel or paper till a clear liquor is obtained. If it be desired to render the essence thicker the material used for this purpose should be transparent

Dr. Ure, from whose Dictionary the above is taken, states that he inserted it to show upon what slight pretence of invention a patent may be obtained; the preparation being a patent right of Mr. John Master, of Leicester.

ANCHOVY POWDER.

Pound the fish, rub through a sieve, make into a paste with flour, add a little bole armoniac. Roll out thin, dry, reduce to a fine powder and sift.

ANDERSON'S SCOTCH PILLS.

I. Mix Barbadoes aloes 1 lb., black hellebore root, jalap root, and subcarbonate of potass, 1 oz. each, $\frac{1}{2}$ oz. of the oil of aniseed and sufficient syrup to make a paste. Make up into 5-grain pills.

II. Aloes 4 oz., jalap $\frac{1}{2}$ oz., scammony 2 drachms, oil of anise 30 drops.

ANGELICA GREEN, TO CANDY.

Cut some tender stalks of the angelica plant, into pieces from 4 to 6 inches long, splitting the stalk, which is hollow, into 3 or 4 strips. Simmer them till soft, throw them into cold water and take off the skin and strings with a knife. Put them into cold water again upon the fire and keep them there till they are of a whitish color. Drain them, and putting them into a suitable vessel, pour boiling syrup over them, till they float; let them rest a day for the sugar to penetrate into the stalks, then boil all up together; when cold pour the syrup off, and dry the pieces of stalk.

ANGELIQUE, CREAM OF ANGELICA, OR RATAFIA D'ANGELIQUE.

Once ounce of bitter almonds are to be blanched and pounded with a little water; rub in 1 lb. of loaf sugar, add $\frac{1}{4}$ oz. of angelica root, 1 oz. of the stalk, 3 or 4 cloves,

and a slip of cinnamon, all previously bruised. Put the whole into a large bottle, and add 3 pints of strong spirits of wine. In a few days the clear liquor which floats at top will be fit for use as a cordial. It may be diluted as wanted.

ANGELICA, SPIRIT OF

Take 1 lb. of the leaves, or 2 lbs. of the dried root, and soak them for some days in a gallon of proof spirits of wine.

ANGEL WATER—EAU D'ANGE.

I. Gum benzoin 4 oz., storax 2 oz., cinnamon $\frac{1}{2}$ oz., cloves and calamus aromaticus each $\frac{1}{4}$ oz., 2 fresh-emptied musk bags, water 3 pints, distil, and draw over 1 quart; add $\frac{1}{2}$ oz. of white sugar.

II. Gum benzoin 4 oz., storax 2 oz., cloves $\frac{1}{2}$ oz., calamus aromaticus and cinnamon of each $\frac{1}{4}$ oz., coriander seeds 1 dram; bruise and digest for two hours in 2 quarts of hot water, strain and filter. This will be pale yellow; if wanted colorless, it must be distilled, in which case add another pint of water, drawing off from the whole 2 quarts.

III. Take 1 pint of orange flower water, 1 pint of rose water, $\frac{1}{2}$ pint of myrtle water; to these put $\frac{1}{4}$ oz. of essence of musk, and 1 oz. of essence of ambergris; shake the whole well together.

This should be made in small quantities as wanted, for it is soon spoiled both by heat and cold.

IV. To 1 pint of spirits of wine put 1 oz. of gum benzoin, $\frac{1}{2}$ oz. of storax, $\frac{1}{2}$ oz. of yellow sanders wood, and a dram of cloves, a small piece of orrice root, 3 or 4 drops each of the oils of lemon, nutmeg, and cinnamon.

ANIMAL CHARCOAL.

This substance is produced in large quantities, by burning bones and other animal matter, and is greatly employed in the manufactures as a decolorising agent. It is much the more efficacious as its preparation is recent. It is used in immense quantities in sugar refining. To prepare it, take some compact beef or mutton bones, place them in a crucible, with the cover luted on, leaving a little hole for the escape of the inflammable gas. When flame ceases to escape from the aperture, close it, and keep the crucible in the fire for half an hour longer, take it out, and suffer it to cool, and immediately transfer its contents into a perfectly dry bottle; if it be provided with a good stopper, the charcoal will remain unaltered for any period. The effects of animal charcoal, prepared as in the preceding experiment, are truly astonishing. Take $1\frac{1}{2}$ oz. of it, and mix it with a quart of any kind of wine; a thick scum will form on the surface; the liquor, after being suffered to repose for twenty-four hours, will begin to lose its color; and, in three or four days, will become colorless, after being filtered.

The most putrid and muddy water will, treated after the same fashion, become limpid and sweet.

ANISE, OR RATAFIA D'ANIS.

Star aniseed 1 oz. to each quart of spirits of wine; infuse for a few days, and add $\frac{1}{2}$ lb. of sugar to the above quantity, and also a little essence of vanilla.

ANISE, CREME D'.

Sweeten the spirit of anise or aniseed cordial with sugar, so as to make it of the thickness of cream.

ANISE POWDER.

Pulverize and sift the seeds of anise, add a few drops of anise oil, to improve the flavor, and apply that portion of the volatile principle which is lost in the trituration and sifting.

Anise has so powerful a scent that it is next to impossible to detect adulteration, linseed meal is often mixed with it.

ANISEED, BALSAM OF.

Mix together $\frac{1}{4}$ oz. of syrup of tolu, 1 oz. of paregoric elixir, and 2 oz. of liquorice root.

If the paregoric elixir has been made according to the formula of the old London Pharmacopœia, and consequently, without oil of anise, a dram of this oil must be added, or the name would be a misnomer.

ANISEED CORDIAL.

Put 6 drams of the oil of aniseed in $\frac{1}{2}$ pint of spirits of wine, shake them well together, till the oil is killed. Pour this upon 4 gallons of clear spirits; shake them together, add 3 quarts of syrup; dilute it afterwards with liquor, according to the strength of the spirit and the price at which it is to be sold. If it turn milky by admixture with water afterwards, as it will frequently do, especially if the oil be not well killed by the spirit, or if it be too much diluted, it must be fined by filtration through a bag containing a little magnesia, 2 oz. of which will be required for the above quantity of cordial. This is a favorite liquor among the Jews.

ANISETTE DE BORDEAUX.

Sugar 9 oz., oil of aniseed 12 drops; rub them together, and add by degrees 1 pint of spirits of wine, afterwards dilute and sweeten to taste.

ANNATTO, ENGLISH.

Take 12 lbs. of common annatto, 5 lbs. of gum tragacanth, 3 lbs. of starch, $\frac{3}{4}$ lb. of soap, $\frac{1}{2}$ lb. of Venetian red; mix them together with water; form them into rolls as the true annatto.

ANNATTO, TO DYE WOOL WITH.

Take the annatto in pieces, and boil it for a few minutes in a copper with its own weight of crude pearlsh; immerse the woollen goods in this dye at about the temperature of 120° , and let them remain there till of sufficient color, stirring them about continually.

This gives a reddish orange color; if a lighter and more yellow color be desired use less pearlsh. This color is seldom used for wool, as it is not permanent.

ANNATTO PURIFIED.

Take common annatto, break it in small pieces, and boil it in a solution of carbonate of potass until it will dissolve no more, then pour in sulphuric acid, rendered very weak with water, until no more coloring matter is deposited, collect the precipitate, wash it with cold water, and then filter; that which is left upon the filter is the pure coloring matter of annatto.

Annatto does not dissolve in water, but it does very readily in spirits of wine, ether, oils of all kinds, and still more in alkaline liquors. Hence the liquor of the carbonate of potass or pearlsh is used as a solvent. The acid is next employed to abstract this solvent, the annatto consequently falls down, it not being soluble in water alone. If too much acid is used it will turn it blue.

ANNATTO, TO DYE SILK WITH.

First scour and cleanse the goods with one-fifth their weight of soap; then, when well cleansed, immerse them in a bath, prepared with water and alkaline solution of annatto, in quantity according to the shade required; they should be immersed at a temperature between that of tepid and boiling water. When the silks are of a uniform color take out one piece, wash it and examine if you have sufficient depth of color; if not add more annatto.

This gives an aurora color, if more red be wanted, the alkali which the goods have imbibed, and which has given a yellow tinge, must be destroyed by soaking the goods in lemon-juice, vinegar or alum-water. Alum produces the darkest color. All these colors are fugitive.

ANNATTO, TO DYE COTTON WITH.

Dissolve or mix with water 1 part of quick lime, 1 of potash, 2 of soda, and 1 of solution of annatto, in alkali; mix water and boil for an hour and half, immerse the cotton goods till of the proper tinge.

ANNATTO, TO COLOR CHEESE WITH.

Use 1 oz. of annatto dye for wool, to the proportion of 1 cwt. of cheese. It is added to the milk before it is turned into curd.

ANODYNE MEDICINES.

Anodyne medicines are such as mitigate pain and procure rest; of these the principal are opium and its preparations, syrup of poppies, hyosciamus, and other narcotics.

1.—*Bolus*.—Take 4 grains of James's powder, 3 grains of pulverised camphor, 10 grains of nitrate of potass in powder, 7 grains of extract of hyosciamus, and enough of conserve of roses to make a bolus. To be taken as a dose at night, in certain affections of the brain.

In making a bolus it should be softer than a pill, and rolled into the form of a cylinder, that it may be more easily swallowed.

11. *Drops*.—Acetate of morphia 16 grains, acetate acid 8 drops, strong spirits of wine 1 dram, water 1 oz.; the dose is from 6 to 25 drops.

III. *Enema*.—Mix together 8 oz. of decoction of chamomile and 12 oz. of decoction of poppies.

Useful in irritation of the lower bowels.

IV. *Essence*.—Extract of opium 1 oz., spirits of cinnamon 9 oz.

V. *Fomentation*.—Poppy heads 1 oz., elder flowers $\frac{1}{2}$ oz., water $2\frac{1}{2}$ pints, boil to $1\frac{1}{2}$ pint.

Useful as applied to painful swellings, cancer, &c.

VI. *Julep*.—Lettuce water 4 oz., syrup of opium 2 drams, orange-flower water 6 drams.

VII. *Mixture*.—Prepared chalk 2 drams, syrup of poppies 1 oz., foetid spirit of ammonia $1\frac{1}{2}$ drachm, oils of dill and aniseed each 3 drops, water $4\frac{1}{2}$ oz.; a tea-spoonful twice a day for the diarrhoea of children, when accompanied with pain.

VIII. *Liniment*.—(a) Soap liniment 4 fluid oz., mixed with 3 fluid oz. of laudanum. (b) Take 4 oz. of hard soap, 1 oz. of opium, 2 oz. of camphor, $\frac{1}{2}$ oz. of oil of rosemary, 2 pints spirits of wine.

Good for rheumatic pains.

IX. *Poultice*.—Take 1 oz. of white poppy heads bruised, 2 oz. of hyoscyamus leaves, boil them in 1 quart of water, till reduced to $1\frac{1}{2}$ pint, strain, and add 4 oz. of linseed meal.

X. *Necklaces*.—Little round pellets cut from different dried roots, sometimes from the roots of the henbane, but mostly from orris root.

These pellets are strung into necklaces, and hung round the necks of children cutting their teeth, under the impression that they lighten the pain of the gums, but they are of no use whatever.

ANODYNE BALL FOR HORSES.

Opium $\frac{1}{2}$ a drachm to a drachm, Castile soap 2 to 4 drachms, ginger powder 1 to 2 drachms, aniseed powder $\frac{1}{2}$ oz. to 1 oz., oil of caraway seeds $\frac{1}{2}$ oz., syrup to form a ball. Given in colic.

ANODYNE DRENCH FOR HORSES.

(a) Dissolve 1 dram of opium in $\frac{1}{2}$ a pint of warm water and add 1 quart of boiled starch. (b) Tincture of opium from $\frac{1}{4}$ oz. to 1 oz., sweet spirit of nitre from 1 to 2 oz., essence of peppermint 1 to 2 drams, water 1 pint, mix. Or, anodyne ball dissolved in strong ale. Or, gum arabic 2 oz., dissolve in 1 pint of warm water, and add oil of peppermint 20 drops, tincture of opium $\frac{1}{2}$ oz.

Useful when horses have been purged too much.

ANTACID MEDICINES.

Such medicines are called antacid as tend to correct acidity in the stomach, such, of course, are the alkaline medicines, but there are many others which are not alkaline, yet they become decomposed in the stomach and absorb the acid there contained. They generally contain a carbonate, such as chalk, which is the carbonate of lime; the carbonate of soda, or some other. The following are of this class, and are all useful in heart-burn, and indigestion.

I. *Draughts*.—(a) Solution of bicarbonate of magnesia 1 oz., compound tincture of cardamoms 1 fluid drachm.—(b) Subcarbonate of magnesia 1 drachm, peppermint-water $1\frac{1}{2}$ oz., tincture of orange peel 1 drachm.—(c) Carbonate of soda 20 grains, compound infusion of gentian and water of each $\frac{3}{4}$ oz. tincture of hops 1 drachm; twice a day.

II. *Mixture*.—(a) Solution of carbonate of potass $\frac{1}{4}$ oz., lime-water 8 oz., calcined magnesia 1 drachm, oil of peppermint 5 drops, tincture of opium 1 drachm.—(b) Prepared chalk $\frac{1}{4}$ oz., compound tincture of cardamoms $1\frac{1}{2}$ oz., tincture of ginger $\frac{1}{4}$ oz., pimento water 6 oz.—(c) Chalk mixture 5 oz., tinctures of catechu and cinnamon each $\frac{1}{2}$ oz.

III. *Powder*.—Compound powder of chalk and opium 1 scruple, catechu 15 grains; mix them together. This contains a fifty-fifth part of opium, and may be taken in a dose of from 10 to 40 grains. It powerfully corrects acuity and diarrhoea, particularly of children in their dentition.

ANTI-ASTHMATIC POWDER.

Take 3 parts of white sugar, 2 parts of washed flowers of sulphur, and 1 part of dried squills.

Used as a remedy or a relief for the cough in asthma.

ANTI-ATTRITION PASTES.

According to the specification of the patent, this mixture consists of 1 cwt. of plumbago to 4 cwt. of hog's lard, or other grease, the two to be well incorporated. The application is to prevent the effects of friction in all descriptions of engines or machines; and a sufficient quantity must be rubbed over the surface of the axle, spindle, or other part where the bearing is.

ANTI-BILIOUS MEDICINES.

Medicines to correct an overflow of bile. The Abernethy and aloes medicines are of this kind besides many well-known nostrums. (See Barclay, p. 35. Dixon, p. 115.)

ANTICARDIUM.

A name given by Mr. Paris, the inventor, to a black dye, or black reviver, adapted to renovate articles of black clothing. Nutgalls bruised 4 oz., logwood, copperas, iron filings, and sumach, each 1 oz., vinegar 1 quart; soak in a close vessel for a week, then strain, and keep in a corked bottle. This is also a very good ink when diluted with water or beer.

ANTI-EMETIC MEDICINES.

Such as prevent or allay nausea or vomiting, all effervescing medicines are of this character. The following is one of the best.

I. *Draught*.—Bicarbonate of potass $\frac{1}{4}$ dr., water 3 oz., lemon syrup 1 oz., lemon juice $\frac{1}{2}$ oz.; mix, and cork securely in a strong phial or soda-water bottle. In making put in the potass last and cork directly afterwards.

ANTIMONIAL POWDER.

Common antimony in coarse powder, and hartshorn shavings, 2 lbs. each; roast in an iron pot until they form a grey powder, put this into a crucible with a hole in the cover, keep it in a red heat for two hours and grind it to a fine powder.

(See *Chenevix's Antimonial Powder*, p. 82.)

ANTIMONY, REGULUS OF.

Pound together equal parts of common metallic antimony, saltpetre, and tartar; throw this powder, a very small quantity at a time, into a red hot crucible; the regulus settles at the bottom of the crucible.

ANTIMONIAL WINE.

I. Glass of antimony 1 oz., sherry wine $\frac{1}{2}$ pint, or, melt together equal parts of common antimony and saltpetre; of this when pounded take 1 oz., and dissolve it in $\frac{1}{2}$ pint of mountain wine.

II. Dissolve in 1 pint of sherry wine 2 scruples of tartar emetic. One oz. of the wine contains 2 grains. For infants give a tea-spoonful every ten minutes, till sickness ensues.

ANTI-SCORBUTIC MEDICINES.

Anti-scorbutic medicines are recommended as purifiers to those of scorbutic habits, or as applications to scrofulous sores, &c.

I. *Infusion*.—Two oz. of the dried leaves or root of bogbean or water trefoil, peel of Seville orange $\frac{1}{2}$ oz., boiling water 4 pints; infuse for a night, strain, and add $\frac{1}{2}$ pint of the compound spirits of horseradish.

II. *Mixture*.—Tincture of bichloride of gold 30 drops, tincture of iodine 40 drops, tincture of gentian 1 dram, syrup 1 oz., rose-water 5 oz.

III. *Juices*.—Take equal parts of the leaves of water cress, scurvy grass, and bogbean; bruise, express the juice and filter through paper. Dose from 2 to 4 drams.

IV. *Wine*.—Horseradish 4 parts, scurvy grass, water cress, mustard, and bogbean, each 2 parts, muriate of ammonia 1 part, white wine 125, spirit of scurvy grass 12. Dose from $\frac{1}{4}$ to $\frac{1}{2}$ oz.

ANTI-SEPTIC MEDICINES.

Those which tend to keep of putrefaction, mortification, contagion from pestilential disorders, &c.; therefore given in cases of putrid fever, gangrene, &c. The following are recommended.

I. *Draught*.—Decoction of yellow cinchona bark, 1 fluid oz., laudanum 5 drops, tincture of allspice $\frac{1}{4}$ of a fluid oz.

II. *Fomentation*.—Decoction of bark 2 lbs. infusion of chamomile 1 lb., spirits of camphor 2 oz., muriatic acid 1 dram.

III. *Gargle*.—Decoction of bark 6 oz., camphor 20 grains, sal ammoniac from 5 to 15 grains; for putrid sore throat.

IV. *Mixture*.—Take 2 drachms of Virginian snake root; infuse during a quarter of an hour in $\frac{1}{4}$ pint of boiling water, then take 1 oz. of syrup of bark, 2 drams of tincture of bark, 12 grains of camphor; mix by long rubbing in a glass mortar, then add 1 oz. of liquor of acetate of ammonia; when cold mix the two solutions together.

ANTI-SPASMODIC MEDICINES.

The medicines which allay spasms are thus called, among which ether, ammonia, castor, ginger, peppermint, &c. held the chief rank; beneath are sufficient examples.

I. *Draught*.—(a) Tincture of castor 1 drachm, sulphuric ether 10 drops, peppermint water $1\frac{1}{2}$ oz.—(b) Oil of aniseed 10 drops, magnesia 20 grains, tincture of senna 2 drachms, peppermint water $1\frac{1}{2}$ oz.—(c) Musk mixture 14 drachms, liquid ammonia 6 drops, tincture of castor $1\frac{1}{2}$ drachm, syrup poppies $\frac{1}{2}$ drachm; given three or four times daily, in hysterics, &c.

II. *Enema or clyster*.—Tincture of assafoetida $\frac{1}{2}$ oz. laudanum 40 drops, thin gruel $\frac{1}{2}$ pint; administered in spasms of the bowels.

III. *Mixtures*.—Assafoetida and camphor mixtures of each $2\frac{1}{2}$ oz., tincture of valerian 1 oz.—(b) Tincture of castor 1 dram, sulphuric ether and laudanum each 10 drops, cinnamon-water $1\frac{1}{2}$ oz.

IV. *Pills*.—Opium 1 grain, castor 13 grains powdered digitalis 2 grains, mixed together with simple syrup; divide into 4 pills, 2 or 3 may be taken a day.

ANTS, TO DESTROY.

Drop some quick-lime on the mouth of their nest, and wash it in with boiling water. Should the ants have built their nest in the root of a plant, pour upon them a quart or so of water in which a small piece of camphor has been steeped, or else a little tobacco water, which effectually poisons them. Camphor in a cupboard will prevent their coming.

Ants and other vermin are very averse to strong scents of any kind; thus, in Brazil and other places, where the termites or white ants abound they are only to be deterred from devouring things by placing them with powerful scented oils or gums. Chests of camphor wood, sanders wood, &c., are used in India with a like object.

To prevent their climbing up furniture, &c.—Ants are in many places very troublesome in climbing up the legs of tables, &c., to procure something which is upon the top. In many places it is absolutely necessary to place the legs of the bedsteads, tables, &c., in basins or pans of water to prevent this pest. In this country the inconvenience is generally not so great.

To prevent their climbing up trees.—The following remedies are recommended:—Bind a horse-hair rope three or four times round the tree; make a ring of tar round the tree; others recommend a ring of chalk.

APERIENT MEDICINES.

Such as produce evacuations from the bowels. The following are esteemed:—

I. *Draught*.—Infusion of senna 1 oz., tincture of senna and jalap each 1 drachm, tartrate of potass 1 drachm, syrup of senna 1 drachm. This is the *black draught* so well known.

II. *Effervescing ditto*.—Crystals of carbonate of soda $2\frac{1}{2}$ drachms, water $\frac{1}{2}$ pint, cream of tartar 3 drachms; drink quickly.

III. *Powder*.—Powdered jalap $\frac{1}{2}$ a scruple, calomel 5 grains, powdered ginger 5 grains. This makes 3 doses for a child, 2 for an adult.

IV. *Enema*.—Take 1 oz. each of castor oil and honey, and $\frac{1}{2}$ pint of linseed tea.

V. *Pills*.—Take 2 grains each of scammony, extract of colocynth, and rhubarb, with 1 grain of ginger, make it into two pills for a dose.

APIARY, TO ESTABLISH.

The best time to establish an apiary is about February, as the stocks have passed through the winter in safety—the combs are then empty of brood, light of honey, and the removal safe and easy. Stocks should be selected by a competent judge, as the weight alone cannot always be relied on; but such as weigh 12 lbs. and upwards—the number of bees must also be observed, and that they are well combed to near the bottom—these may be safely chosen. When they are brought home, set them in the bee-house, being particularly careful to keep them dry. The next day, plaster the hive to the board, leaving an entrance the size of the little finger. If this season has passed, purchase the first and early swarms; for late ones or casts are not worth keeping, unless two or three have been united.

To remove stocks, the evening is the best time; the hive should be raised by wedges some hours previous, unless the floor be also moveable with the hive—otherwise, many bees will remain on the floor at the time, and prove very troublesome. But when the floor is moveable, plaster the hive with mortar to the board; pin a card pierced with holes before the entrance, securing the hive to the board firmly; in this way it would travel any distance. Swarms purchased should be brought home the same evening; for if delayed for a day or two, combs will be worked and subject to be broken in removing.

APOPLEXY.

Apoplexy is a disorder arising from a pressure on the brain, occasioned by the overcharging of the blood-vessels, or by the effusion of blood upon that organ, and shows itself by the patient falling suddenly into a state of insensibility, with the face red and bloated, the eyes starting, the skin hot, the lips purple, and the breathing laborious and like snoring. Occasionally, though rarely, the face is pale and the skin cold. When

blood has really escaped upon the brain, the patient will die, either directly, or after two or three days; when it arises from congestion only, he will most probably recover.

When a person falls down in a fit of apoplexy, the first thing to be done is to expose the head and neck to the open air, the head and shoulders being considerably raised. Wash the head with the coldest water possible, or apply ice, or keep it constantly wet with vinegar and water, or cold gin and water made weak. Keep the patient quite quiet, and give him nothing but whey, barley-water, or something similar. A medical man being at hand would take from 20 to 30 ounces of blood from the arm, instead of this 10 or 12 leeches may be applied with advantage to the temples, letting the bites bleed freely afterwards. After a little time when the congestion of the head has been relieved, purgative medicines may be administered, the common black draught being as good as any thing. In case of apoplexy medicines are generally a longer time than usual before they operate. When there is a difficulty in swallowing, 2 or 3 drops of croton oil applied to the tongue is a serviceable remedy.

Be careful not to cause nor promote vomiting, not yet give any spirits, nor any other general or local stimulant, at any time, then or afterwards, as they all draw blood to the head, and therefore may occasion another attack.

Those who disposed to apoplexy ought to be very careful in observing a mild spare diet, and regular habits. The pure air of the country, with very early rising and retiring to bed are most beneficial. The clothes must be kept loose, particularly about the neck, wrists, and knees. Spirits, butter, cheese, and coffee must be avoided. The shower bath may be used occasionally with advantage.

The only things with which apoplexy can be mistaken are common fainting, the insensibility of complete drunkenness, and epilepsy. In ordinary fainting the face and lips are pale, the breathing very quiet, and the fit lasts only a few minutes. The insensibility of intoxication is known by the smell of liquor, and the weakness of the pulse; and epilepsy is always attended by rigidity of the limbs and convulsions.

APOPLECTIC BALSAM.

Grind together with a little sugar 2 dwts. of civet, and 2 dwts. of musk, to a fine powder, then add 60 drops of oil of lavender, 60 drops of oil of rhodium, 40 drops of oil of marjoram, 20 drops of oil of cloves, 40 drops of oil of bergamot, and 30 drops of oil of cinnamon; then melt gently down with 1 oz. of bees' wax, 4 oz. of new oil of mace, and when it is half cold, add the former ingredients, and 2 oz. of balsam of tolu, stirring it with a wooden spatula till it be well mixed and cold.

It may be kept good for years in a wide-mouthed glass bottle. It is to be used to the nose and head of the apoplectic. We cannot help thinking that cold water applied to the head, and an ordinary smelling-bottle applied to the nose, will be as efficacious as the above complex receipt.

APPLES, TO PRESERVE.

Let them be gathered on a dry day, being careful not to bruise them in gathering. Place them on shelves, or on the floor of a dry cool room. After lying there for about a fortnight, rub each apple singly with a dry cloth, to remove a sticky exudation which always comes from them, and which is technically called the sweat; lay them so as not to touch each other on the shelves, &c. whence they were taken; cover the first layer with a thin coating of straw, and place a second layer over, and so on layer upon layer, and straw between each till they are a foot or eighteen inches in height, but not so high as that the weight of the upper rows should be too great upon the lower ones. They should be looked over and wiped once a month, and the specked ones picked out. When frost comes they must be quite covered with straw and if a whole room can be used for the purpose, the door must be kept closed, and the window be padded with matting, unless it has shutters sufficient to keep out the frost.

Mr. Cobbett says that the above is the best way of keeping fruit. Also he tells us that the Americans do nothing with their apples but cover them with a linen cloth. They say that the fruit does not become frosted when these simple means are adopted; but this is not the case. The effect of frost upon this fruit is to rot it, if the frost be intense, and, if slight, to take away its flavor; hence the tasteless mealy character of such American apples as are imported in the spring. Even the fruit exposed on stalls in the street, and in shops and markets, soon becomes sensibly affected.

II. Gather them on a dry day, wipe and roll them singly in dry, soft paper. Then pack them in jars, each containing a gallon. Put a cover on the jar, and cement it closely so as to keep out the air, and place the jar in a dry cellar. When a jar is opened, the apples will eat better for being taken out of the paper and exposed to the air of a dry room for two or three days.—*Cobbett*.

Brown paper must not be used, as it conveys its peculiar odour to the fruit. Thick white brown paper is the cheapest and best.

III. Place them carefully in jars or boxes, and fill up the interstices between the fruit with dry sawdust (not of resinous wood, as deal). The husks of buckwheat, of rice, and of oats is excellent for the above purpose; also they may be buried in any kind of corn or in sand.

APPLES, TO DRY.

The fruit is boiled till moderately soft, then taken out and sometimes peeled. It is put into an oven, heated as for bread, and left twenty-four hours, or until the oven is very nearly cold. The fruit must, however, before this be examined, lest it become charred. When of a light brown equable color, and the moisture is dried out, they are pressed with the hand, until they resemble flat cakes; they will keep any length of time in this state, and are to be restored, when wanted for use, by immersion for some hours in hot water.

APPLE AND FIG BEVERAGE.

Have 2 quarts of water boiling, into which throw 6 fresh dry figs, previously opened, and 2 apples, previously cut into 6 or 8 pieces each; let the whole boil together 20 minutes, then pour them together into a basin to cool, and pass through a sieve, drain the figs, which will also be good to eat.—*Soyer*.

APPLE BISCUITS.

Boil apples in water until soft, then take them out and rub through a wire sieve, flavor with a drop or two of essence or oil of lemon, and if you like the taste, a drop of the oil of cloves. Add lump sugar equal in weight to the pulp, and grind it with it; roll the sugared pulp into flat cakes about a quarter of an inch thick, and cut them into shapes. Finally, dry them in a very slow oven, the heat not being strong enough to bake them or melt the sugar, they may be dried also by the summer's sun. They often require to be partially dried before they can be rolled out. They may instead of rolling be dropped on to paper, or put in a ring of paper upon a slightly-greased iron plate.

APPLE BREAD.

A very light pleasant bread is made in France of a mixture of apples with flour, in the proportion of one of the former to two of the latter. The usual quantity of yeast is to be employed, and being beat up in the flour with the warm pulp of the apples, after they have been boiled, the sponge may be considered set; place it in a vessel, and let it rise to its utmost, for eight or twelve hours, then bake well in long low loaves; little or no water is necessary.

APPLE JELLY

Pare, core, cut up, and boil till soft, in a quantity of water, just sufficient to cover the apple. Mash the pulp and filter it through flannel. To every pint of the filtered juice put 1 lb. of loaf sugar, and boil half an hour, or until it jellies upon a drop being put upon a cold plate.

This jelly in general, does not keep well, and is of less value than many others, as fresh apples may always be procured.

APPLE MARMALADE.

This is prepared exactly as apple jelly, except that the juice is not filtered from the pulp—marmalade or jam containing the whole fruit. A little lemon and a clove or two may be added with advantage.

APPLE PASTE.

Take apple marmalade, spread on sheets of tin with a rim round them, about $\frac{1}{4}$ of an inch thick, dry very gradually in a slow oven. When nearly dry, but not hard, cut it into long strips about $\frac{1}{4}$ of an inch wide, or cut it into small squares, leaves, &c.

This is the yellow jelly used to ornament the tops of twelfth cakes, &c. Apple Cheese is the same as apple paste, poured into moulds and dried.

APPLE SUGAR.

Press out the juice from ripe, sweet apples, then add chalk until all the acid is separated or while the chalk is dissolved, pour off the clear liquor, clarify it by the white of egg; skim it, and boil down to a proper consistence.

This sugar is very sweet, but, like other fruit sugar does not crystallize. One cwt. of apples will yield about 12 lbs. weight of sugar.

APPLE WATER ICE.—APPLE ICE CREAM.

Add to apple jelly any quantity of water or milk, warm the whole until well incorporated, and then freeze.

APPLE WINE.

I. To every gallon of apple juice, immediately it comes from the press, add 2 lbs. of common loaf sugar, boil it as long as any scum arises, then strain it through a sieve and let it cool, add some good yeast, and stir it well; let it work in the tub for two or three weeks, or till the head begins to flatten, then skim off the head, draw the liquor clear off and tun it; when made a year rack, it off and fine it with isinglass, then add $\frac{1}{2}$ a pint of best rectified spirit of wine or a pint of French brandy to every 8 gallons.

II. *White*.—Take of soft cold water 2 gallons, apples well bruised 3 bushels, honey 10 lbs., white tartar 2 oz., 1 nutmeg in powder, and rum 2 quarts. Boil the whole and make it up to 18 gallons; when strained set to work as before.

III. *Red*.—Take of soft cold water 2 gallons, apples well bruised 3 bushels, raw sugar 15 lbs., beet root sliced 4 lbs., red tartar in fine powder 3 oz., ginger in powder 3 oz., rosemary and lavender leaves of each 2 handfuls; boil all these together; strain and ferment; when ready to be tunned add 2 quarts of British spirits of wine or 3 quarts of French brandy; this will make 18 gallons of a well-flavored wine, very different from cider.

APPLE TREE CANKER, TO CURE.

I. Brush off the white down, clear off the red stain underneath it, and anoint the places with train oil and Scotch snuff.

II. Rub the parts affected with goose-grease into which a small portion of corrosive sublimate has been mixed.

III. Anoint the parts with coal tar.

(See *American Blight*, p. 10.)

APRICOTS, GREEN. TO PRESERVE.

Get the apricots before the stone is formed in them, when they can be pierced through with a needle, shake them up in a bag with plenty of salt to get off the velvety down; now soak them for some hours to remove any salt that may have adhered; or this may be done by adding 2 or 3 oz. of pearl-ash to a quart of hot water. Into this, when boiling hot, throw the apricots, let them remain about a minute, take them out, wash them in cold water, and rub off the velvety

coat with a coarse cloth or your hand; place them in a pan of cold water over a slow fire to heat gradually and scald. When they are soft enough to be crushed between the finger and thumb, take them off the fire and throw each into cold water, drain them quite dry in sieves, put them into boiling loaf sugar, give them a few boils and take off any scum that arises, have sufficient syrup in the pan that the fruit may float, pour them with the syrup into an earthen pan, and keep them covered till the next day, then drain off the syrup, add more to it, or more sugar, and boil again; put in the fruit, and after a little boiling, take it out again. Set it aside for use in jars, with syrup enough at all times to cover whatever quantity of fruit the jars contain.

In preserving the fruit that are to appear at table in a candied or prepared state, it is absolutely necessary that in the parts of the process recommended they be thrown into cold water in order to enable them to keep their shape, although soft. Without cold water scalded fruit of a soft kind crushes down as it softens, and changing its character it thus loses its beauty and becomes a marmalade or jam. Without the trouble of separating the skin as recommended above it may be pared off with a knife. (See the word *Fruits*, p. 139.)

APRICOTS, RIPE, TO PRESERVE.

Have the fruit not too ripe, peel them and cut them in half to take out the stone, throw them into a saucepan of boiling water on the fire, and as they rise to the surface, take them out and throw them into cold water, drain them and put them into a thin syrup, boiling on the fire, putting in the hardest fruit first, boil them two or three minutes, take them out carefully, place them in a convenient vessel, and pour the syrup over them; repeat this the next and one or two following days. Put them away covered with syrup.

When fruit is to be boiled several times, the reason is the syrup at first must be weak in order to penetrate the fruit well; if too strong it would merely form a coating to it and the fruit would ferment. The after boiling is no less necessary, because the first syrup, containing as it does so much of the juice of the fruit, and being thereby weak and loaded with fermentable matter, would not keep the fruit but rather have a tendency to spoil it. Thus it being set aside and boiled again in a stronger syrup it absorbs a greater quantity of sugar. It is always a rule with confectioners that the syrup must be stronger each time a fruit is boiled. Apricots are so tender, that if very ripe they are sure to break in the process unless the very greatest care be taken, so also the boiling they require is a very short time, sometimes not a minute.

APRICOT BISCUIT.

Peel and boil as many ripe apricots as will produce 1 lb. of pulp, stir in a pound of fine loaf sugar sifted, and boil both sugar and pulp together for about a quarter of an hour, then pour the jam in paper cases, or drop it on paper in the form of small cakes and dry them in a slow oven, or before the fire for several hours, turning them occasionally. Keep them in tin cases dry.

APRICOT ICE.

Allow 24 ripe apricots, or 12 oz. of apricot jam, to a quart of cream, 12 oz. of sugar, the juice of a lemon, and 6 of the apricot kernels; mash the fruit and kernels, strain through a sieve, add the cream and lemon juice, and freeze.

APRICOTS, MARMALADE OF.

Stone about 8 lbs. of ripe fleshy apricots, break the stones, and blanch and skin the kernels, which, with the apricots, put into a preserving-pan, add 6 pounds of sugar and place it over a sharp fire, stirring occasionally until boiling, when keep stirring until becoming rather thick, take it off, put it in jars, and when cold tie paper over, and put by until ready for use.—*Soyer*.

APRICOT PASTE.

Green apricot paste, prepared in exactly the same manner as apple paste, which see.

APRICOT WINE.

Take apricots, wipe them, cut them in pieces, and boil them in water, allowing 2 quarts of water to 3 pints of apricots. Boil till the fruit becomes rather soft, but not so as to break, then strain the liquor through a hair sieve, add to every 2 quarts of the liquor $\frac{3}{4}$ lb. of sugar; when the sugar is dissolved boil it again for half an hour, or while any scum arises, skimming it all the time, set it aside to cool, the next day it may be bottled, putting into each bottle half a wine glass of spirit of wine and a lump of sugar of the size of a walnut.

AQUAFORTIS.

The liquor known under the above name by manufacturers is sometimes what chemists call nitrous, and at other times the nitric acid, and also any combination of the two. According to the purpose to which it is applied, whether in medicines or the arts, it is called by the different names of single, double, strong proof, or compound, as described beneath.

(See *Assayer's Acid*, p. 30.—*Dyer's Aquafortis*, p. 117.—*Steinacher's Nitric Acid*, p. 321, &c.)

I. *Simple or Single*.—Distil 2 lbs. of saltpetre and 1 lb. of copperas.

II. *Double*.—Saltpetre 6 lbs., copperas 6 lbs. in its usual crystalized state, together with 3 lbs. calcined to redness.

III. *Strong*.—Copperas calcined to whiteness, and white saltpetre of each 30 lbs., mix, and distil in an iron pot with an earthenware head.

This is very strong and red, it is nitrous acid, and imported occasionally from Holland.

IV. *Spirit of Nitre*.—White saltpetre 6 lbs, oil of vitriol $1\frac{1}{2}$ lb., distil it into $1\frac{1}{2}$ pint of water.

V. *Dilute*.—Strong aquafortis 1 oz. by measure, and water 9 oz. by measure.

This is used to clean brass work previously to lustering or polishing, or covering with another metal, and is called by workmen "pickle."

VI. *Proof*.—The same as Assayers' Acid.

VII. *Compound*.—Double aquafortis 16oz. common salt 1 dram, distil to dryness.

The mode of action of the 1, 2, 3 receipt is by chemical decomposition. The saltpetre is a nitrate of potass—that is, is composed of nitric acid and potass. Copperas is a sulphate of iron, or is composed of sulphuric acid and iron. When these are mixed together and assisted by heat, the sulphuric acid leaves the iron and unites to the potass, forming sulphate of potass. The nitric acid in like manner leaves the potass and unites to the iron, forming nitrate of iron, but as nitrate of iron is decomposed by heat, its acid, which is the aquafortis we are in search of, flies off and is caught in a proper receiver, water being placed there to absorb it. When sulphuric acid is used instead of the sulphate of iron as in the fourth receipt, it merely seizes upon the potass of the saltpetre and suffers the nitric acid to escape.

AQUA POTENS.

I. A mixture of equal parts of nitric acid and sulphuric acid.

II. Mix 1 part of nitric acid and 2 sulphuric.

The first of these mixtures, both of the acids being very strong, is used to give an inflammable character to various vegetable substances, as for example, what is called gun cotton. The last proportion is used very extensively in making of sugar from rags, sawdust, &c.

AQUA REGIA.

I. Distil together 16 oz. of spirit of nitre with 4 oz. of common salt.

II. Equal parts of nitric acid and muriatic acid.

III. Nitric acid 2 parts, and muriatic acid 1 part.

These compound acids are used to dissolve gold and platinum, which no single acid will do.

ARABIC GUM, OR GUM ACACIA, TO CHOOSE AND TEST.

Fine gum Arabic is brought from Barbary in small white drops. That from the East Indies is in larger masses and of a darker colour. They are both quite brittle. Gum senegal is very similar, but tough and not brittle. Cherry tree and plum tree gum do not wholly dissolve in pure cold water. Gum water is made by putting 5 oz. of gum to half a pint of boiling water, rubbing the two together till dissolved. It will keep for any length of time if corked up. No spirit must ever be used or mixed with it.

ARCHIL, OR ORCHIL.

Archil exists in three states in commerce, in a liquid called archil, a powder called cudbear, and in square lumps called turnsole and litmus. They are all prepared from different species of lichen, particularly from roccella tinctoria, and which is brought from the Canary Islands in large quantities for dyeing wool and staining marble, wood, &c. Its colour is very penetrating and of a beautifully reddish purple, but by itself not permanent, it is therefore generally united in the dye vat with other drugs, unless the goods have been previously dyed with different colouring ingredients. It is prepared

by first pounding the plant, then moistening it with ammoniacal liquor or stale urine, mixed with a little quicklime; when the weed has obtained a dark red colour it is taken out and soaked in some of the similar liquor without the quicklime. This liquid is the common archil of the shops, with which common beech bedsteads are stained. Lump archil is the above extract dried by a gentle heat. Cudbear is the lichen, bruised, moistened with urine, dried and pounded.

(See *Litmus*, p. 119.)

ARCHIL, TO DYE WOOL WITH.

The archil is put into a copper with water and boiled with the goods until they have acquired the desired colour; the temperature being nearly that of boiling. Alum, pearlash, and lime, deepen the colour to a purple. Boiling the goods first in a bath of muriate of tin and tartar, produces fine crimson, though not permanent; $\frac{1}{2}$ lb. of archil will dye from 1 to 2 lbs. of wool, according to the shade required.

ARCHIL, TO DYE SILKS WITH.

Apportion the quantity of archil to the shade desired. Boil it in a copper with water; when boiling, draw off the clear liquor, leaving the sediment in the copper. put the silk into the clear dye and keep stirring it about till of the desired colour. Silk stockings and gloves may thus be dyed very readily. When taken out of the dye bath, they must be well washed with cold water.

ARGENTUM MUSIVUM.

Bismuth and tin of each 2 lbs., melt together and add 1 lb. of quicksilver. Pound all together into a powder.

This soft fusible amalgam is used as an imitation of silver bronze for plaster figures and other common purposes, in the same way as the aurum musivum is for gold-colored articles. It may be used as spangles in sealing-wax: it must then be mixed when the resinous part of the wax is getting cold.

ARMENIAN CEMENT, OR TURKISH GLUE.

The jewellers of Turkey, who are mostly Armenians, we are informed by Mr. Eton formerly a consul in that country, have a method of ornamenting watch-cases, &c., with diamonds and other precious stones, by simply cementing them on. The stone is set in silver or gold, and the lower part of the metal made flat, or to correspond with the part to which it is to be fixed; it is then warmed gently, and has the glue applied; which is so very strong, that the parts thus cemented never separate; this glue, which will strongly unite bits of glass, and even polished steel, and may of course be applied to a vast variety of useful purposes, is thus made:—Dissolve 5 or 6 bits of gum mastic, each the size of a large pea, in as much spirits of wine as will suffice to render it liquid, and, in another vessel, dissolve as much isinglass (previously a little softened

in water, though none of the water must be used,) in French brandy or good rum, as will make a two-ounce phial of very strong glue, adding two small bits of gum albdanum or ammoniacum, which must be rubbed or ground till they are dissolved. Then mix the whole with a sufficient heat. Keep the glue in a phial closely stopped, and when it is to be used set the phial in boiling water.

Mr. Eton observes, that some persons have sold a composition under the name of Armenian cement in England; but this composition is badly made, it being much too thin, and the quantity of mastic too small. Good cement made in the manner described is as thick as strong carpenter's glue.

AROMATIC MEDICINES.

These medicines are used chiefly to comfort and allay the irritation of the stomach, when affected by diarrhoea, flatulency, &c. without acting as direct astringents, indeed most of them are slightly laxative. They may be taken in the following forms:—

I. *Confection*.—Nutmegs, cinnamon, and saffron, each 2 oz., cloves 1 oz., cardamoms $\frac{1}{2}$ oz., prepared chalk 1 lb., white sugar 2 lbs. Rub the dry ingredients together into a very fine powder, and keep them in a well stopped bottle. When the confection is to be used, to each ounce of the powder add 2 fluid drachms of water, and mix all the ingredients together until they are thoroughly incorporated.—*Lond. Phar. new edit.* 1851.

II. Saffron, cassia, and turmeric, of each 4 oz., cardamoms 1 oz., starch 8 oz., chalk 2 lbs., white sugar 4 lbs., oil of nutmegs $\frac{1}{2}$ oz., oil of cloves 3 drachms. Powder the dry ingredients, sift them, then add the oils and sift again.

III. *Draught*.—Aromatic confection 1 drachm, infusion of rhubarb and cinnamon water, of each 6 drachms.

IV. *Electuary*.—Aromatic powder 1 part, syrup of orange peel 2 parts.

V. *Fomentation*.—Wormwood and chamomile flowers, each 2 oz., laurel leaves $\frac{1}{2}$ oz., water 5 pints. Boil to 2 quarts.

VI. *Mixture*.—Aromatic confection 2 $\frac{1}{2}$ drachms, pure water 5 oz., allspice water 3 oz.

VII. *Plaster*.—Frankinsense 3 oz., bees' wax $\frac{1}{2}$ oz. Melt and when nearly cold, add powdered cinnamon 6 drachms, oils of allspice and lemons, of each 3 drops, and camphor 1 drachm.

This is commonly called *Stomach Plaster*; it is stimulant, and applied to the stomach for flatulency, pain, nausea, &c.

VIII. *Pills*.—Aloes 1 $\frac{1}{2}$ oz., gum guaiacum 1 oz., aromatic confection and Peruvian balsam, each $\frac{1}{2}$ oz. Dose 4 grains or 1 pill; 2 pills are purgative.

IX. *Powder*.—Cinnamon, cardamon seed and ginger, equal parts. A tea spoonful, taken in half a tumbler of hot water, is excellent to alleviate flatulence, spasm, &c.

x. *Tincture*.—(a) Cinnamon 6 drachms, smaller cardamom seed 3 drachms, long pepper and ginger, of each 2 drachms, proof spirit 2 lbs.—(b) Cinnamon, canella alba, and galanga root $\frac{1}{2}$ oz. each, smaller cardamom seed $\frac{1}{4}$ oz., spirits of wine 1 pint. Stimulant and astringent, in doses from 1 to 4 drachms.

AROMATIC SPIRIT OF ETHER.

Take 3 drams of cinnamon bark, bruised, $1\frac{1}{2}$ dram of cardamom seed in powder, 1 dram each of long pepper in powder and ginger root sliced, 1 pint of spirit of sulphuric ether. Soak for fourteen days in a well-stopped glass vessel and distil.

AROMATIC VINEGAR.

I. Strong vinegar 6 oz., camphor $\frac{1}{2}$ dram, with spirits of wine enough to dissolve the camphor.

II. Strong acetous $2\frac{1}{2}$ lbs., camphor 2 oz., oil of cloves $\frac{1}{2}$ oz., spirits of wine 8 oz.

III. Acetate of potass 1 drachm, essence of lemon 3 drops, oil of vitriol 20 drops.

IV. Mix 6 oz. of strong acetic acid with 2 oz. of compound camphor liniment.

Aromatic vinegars are made in France by infusing various flowers, &c. in distilled or finest wine vinegars, with or without the addition of spirit. Others are made by distillation. The two following examples will suffice:—

AROMATIC ROSE VINEGAR.

Red roses, picked and dried $\frac{1}{2}$ lb., best vinegar 4 pints; macerate for fourteen days, stirring occasionally, then strain, and afterwards filter.

AROMATIC LAVENDER VINEGAR.

Fresh lavender flowers $\frac{1}{2}$ lb., vinegar 3 pints. Macerate, &c. as before.

ARQUEBUSADE WATER.

Dried leaves of sage, wormwood, fennel, hyssop, marjoram, savory, thyme, rosemary, calamint, balm, peppermint, angelica, basil, lavender flowers, 4 oz. each, proof spirit 2 gallons. Digest for fourteen days, and distil over $1\frac{1}{2}$ gallon.

This was once a celebrated cosmetic and also a lotion for wounds, under the name of Vulnerary Water.

ARRACK, MOCK—OR VAUXHALL NECTAR.

Add 10 grains of the flowers of benzoin to a pint of rum.

This is used as other spirit, but chiefly with hot water, which brings out the odour of the benzoin.

ARROW ROOT, TO TEST.

Most of the arrow root sold in England is adulterated, more or less, with potatoe starch, or British arrow root, as it is called. To test the purity of this article, observe that true arrow root soon crackles between the fingers, and is shining and sparkling; treated with muriatic acid, it yields no scent, and with nitric acid diluted does not become gelatinous and adhesive for some time; also, the particles under the microscope are differently shaped than the particles of potatoe starch. This last is soft between the fingers, has no sparkling points, gives out a peculiar

scent when muriatic acid is poured upon it, and with diluted nitric acid becomes instantly a stiff tenacious jelly.

ARROW ROOT, BRITISH.

The same as potatoe starch, made by first washing potatoes, then rasping them, rubbing them through a fine sieve into a tub of water. The starch will subside, and the clear liquor being drawn off, the starch remains, and will need only drying.

ARSENICAL PASTE.

Take 2 parts of white arsenic in powder, 32 parts of cinnabar also in powder, 16 parts of dragon's blood. Mix them at the time at which they are to be used with gum water.

This paste is applied to cancerous ulcers, but is a highly dangerous character.

ARSENICAL SOAP.

Arsenic in powder 2 oz., camphor 5 drams, white soap 2 oz., salt of tartar $\frac{3}{4}$ oz., powdered lime $\frac{1}{4}$ oz. The soap must be cut in small and very thin slices, put into a crucible with a small quantity of water, held over a gentle fire, and frequently stirred with a wooden spatula, or a piece of wood of any kind. When it is properly melted, the powdered lime and salt of tartar must then be added, and thoroughly mixed. It must now be taken off the fire, the arsenic added gently and stirred. The camphor must be reduced into a powder, by beating it in a mortar, with the addition of a little spirits of wine. The camphor must then be added, and the composition well mixed with a spatula, while off the fire. It may again be placed on the fire, to assist in making the ingredients incorporate properly, but not much heated, as the camphor will very rapidly escape. It may now be poured into glazed earthen pots, and allowed to cool, after which a piece of paper should be placed over the top, and afterwards some sheep leather; and then set aside for use. The composition is about the thickness of ordinary flour paste. When it is necessary to use the soap, put as much as will answer the purpose into a preserve pot, and add to it about an equal proportion of water. This is applied to the skin or feathers with a bristle brush.

It should be kept as close as possible, and used with caution, as it is a deadly poison. The above is the recipe made use of at the Jardin des Plantes, Paris, and generally by the curators of museums and bird stuffers, to preserve animal's skins from moth, &c.

ASSARABACCA SNUFF.

Take 3 parts of asarabacca leaves, 1 part each of the leaves of marjoram and lavender flowers. Grind all together to a powder.

Taken as a snuff for the relief of head-ache, &c. It is commonly called *Cephalic Snuff*.

ASIATIC DENTIFRICE.

Powdered red coral 8 oz., Venetian red 6 drams, red ochre and pumice stone, each 1 oz., musk $\frac{1}{2}$ dram.

ASPHALTIC MASTIC.

The asphaltic mastic is obtained from Pyrmont, near Geyssel, and brought down the Rhone. It is a compound of carbonate of lime and mineral pitch. After being roasted on an iron plate, it falls to powder, or may be readily pounded. By roasting it loses about one-fortieth of its weight. It is composed of nearly pure carbonate of lime, with about nine or ten per cent. of bitumen. When in a state of powder, it is mixed with about seven per cent. of bitumen, or mineral pitch, found near the same spot. This bitumen appears to give ductility to the mastic. The addition of only one per cent. of sulphur makes it exceedingly brittle. The powdered asphaltic is added to the bitumen when in a melting state; also a quantity of clean gravel to give it a proper consistency for pouring into moulds. When laid down for pavement, small stones are sifted on, and this sifting is not observed to wear off. The mass is partially elastic, and M. Simons has seen a case in which a wall having fallen away, the asphaltic stretched, and did not crack. It may be considered as a species of *mineral leather*. The sun and rain do not appear to have any effect on it; it answers exceedingly well for the floors of the abattoirs of the barracks in France, and keeps the vermin down; and is uninjured by the kicking of horses.

ASSAFOETIDA ENEMA.

Take of prepared assafoetida, 1 drachm, barley water or gruel $\frac{1}{2}$ a pint. Rub the assafoetida with barley water or gruel until they are exceedingly well mixed.—*Lond. Phar. new edit.* 1851.

Used for flatulency, particularly in the lower bowels, for which it is very beneficially employed. To be thrown up luke warm.

ASSAFOETIDA, EMULSION OF

Assafoetida 8 oz., powdered gum arabic 1 lb., oil of almonds $1\frac{1}{2}$ pint, water 1 quart, strain through linen.

This is applied in hysteria, &c. It is a good antispasmodic.

ASSAFOETIDA MIXTURE.

Take 5 drachms of assafoetida and 1 pint of water, rub the assafoetida gradually with the water till well mixed.

ASSAFOETIDA PILLS.

Assafoetida, galbanum, and myrrh, each 1 oz., rectified oil of amber 1 drachm. Simple syrup to make into pills.

Taken with advantage in hysterics, low spirits, flatulent colic, and in the coughs of the aged and the nervous.—*Dr. Graham.*

ASSAFOETIDA PLAISTER.

Take 2 parts each of diachylon and assafoetida, one part each of yellow wax and galbanum, and make into a plaister.

Applied to the abdomen in cases of hysteria, flatulence, &c.

ASSAFOETIDA, TINCTURE OF.

Dissolve 5 drachms of assafoetida in 2 pints of spirits of wine. Digest for fourteen days and filter.

ASSAYERS' ACID.

To pale nitric acid add a solution of nitrate of silver as long as any cloudiness is produced, let it settle for a few days, pour off the clear liquid, and distil to dryness.

The object of this process is to deprive common aquafortis or nitric acid of any muriatic acid it may contain, because these two acids mixed together would dissolve gold, and the object of the assayer is to prevent this, and to procure an acid which will dissolve only the other metals. The nitrate of silver is decomposed, the metal unites with any muriatic acid which may be present, forming a chloride of silver, this being an insoluble and heavy white powder, falls down, and in falling produces the cloudiness; if there is no cloudiness of course there is no muriatic acid, and the whole is sufficiently pure.

ASSAYERS' MURIATIC ACID.

Muriatic acid diluted to the specific gravity of 1.074, so that a measure of it will saturate an equal measure of sub-carbonate of potass water, or of pure ammonia water, or 2 measures of pure potass water, or of pure soda water, or of subcarbonate of ammonia water.

ASSAYERS' FLUXES.

To assist the fusion of the ores, and to convert the extraneous matters connected with them into scoria, assayers use different kinds of fluxes. The most usual and efficacious materials for the composition of these are borax, tartar, nitre, sal-ammoniac, glass, salt, fluor-spar, charcoal powder, pitch, lime, litharge, &c., in different proportions.

Crude or White Flux.—This consists of 1 part of nitre, and 2 of tartar; mix well.

Black Flux.—The above crude flux detonates by means of kindled charcoal, and if the detonation be effected in a mortar slightly covered, the smoke that rises unites with the alkaliized nitre and the tartar, and renders it black.

Cornish Reducing Flux.—10 oz. of tartar, 3 oz. and 6 drachms of nitre, and 3 oz. and 1 drachm of borax. Mixed well together.

Cornish Refining Flux.—Deflagrate, and afterwards pulverize, 2 parts of nitre and 1 part of tartar.

The above fluxes answer the purpose very well provided the ores be deprived of all their sulphur; or, if they contain much earthy matters, because, in the latter case, they unite with them, and convert them into a thin glass; but if any quantity of sulphur remain, these fluxes unite with it, and form a liver of sulphur, which has the power of destroying a portion of all the metals; consequently, the assay under such circumstances must be very inaccurate. The principal difficulty in assaying appears to be in the appropriation of the proper fluxes to each particular ore, and it likewise appears, that such a discriminating knowledge can only be acquired from an extensive practice, or from a knowledge of the chemical affinities and actions of different bodies upon each other.

ASSES' MILK, ARTIFICIAL.

1. Boil in 3 pints of water till half wasted, 1 oz. each of eringo root, pearl barley, sago, and rice. Strain and put a tea-spoonful of the mixture into a coffee-cupful of boiling milk, so as to make it of the consistence of cream, sweeten it with sugar or honey.

11. Take 2 large spoonsfull of hartshorn shavings, 2 oz. of pearl barley, 1 oz. of eringo root, the same quantity of China root, and preserved ginger, and 18 snails bruised with the shells. Boil the whole in 3 quarts of water till reduced to 3 pints; then boil a pint of new milk, mix it with the rest, and put into it 2 oz. of balsam of Tolu.

ASTHMA.

This is a disorder of the lungs, which comes on by fits, most generally in the early part of the night, of coughing, tightness of the chest, sense of suffocation, and short and difficult breathing. It attacks chiefly old persons, and is worst in the heat of summer, or in the foggy or windy weather of winter. For an evening or two previous to the fit, the patient generally feels drowsy, indolent, and low-spirited, and is affected by head-ache and indigestion. He should now, before the attack comes on, take opening medicines and live sparingly, taking care to avoid sudden changes of air, either from hot to cold, or cold to hot, irritating fumes, smoking, &c. Medicines, during the attack, should be chiefly directed to allay irritation, and to produce expectoration or the removal of mucus from the tubes which lead to the lungs. It is the nervous contraction of these tubes which is supposed to be the cause of the disease. To allay irritation, or in other words to cure the spasmodic contraction of the air passages, you may take 30 to 40 drops of laudanum, the same of ether, and a wine glass half full of peppermint water; or if this is not to be had, a glass of hot brandy and water is often found beneficial. Then to remove the collected mucus, 30 drops of spirits of hartshorn in water is beneficial taken half an hour after the other. We have also often known, used with great success, the *acid linctus*, (see p. 3,) a quarter of a tea spoonful being taken occasionally when the cough is troublesome. The fumes of a vinegar yard, or of any other volatile acid manufactory is generally advantageous to those asthmatic persons who inhale them.

Asthma is known from other diseases, by the fits occurring suddenly after the first sleep, by the patient feeling a sense of lightness of the chest and difficulty of breathing, a desire to sit upright and to inhale cold and fresh air, the head and chest generally being covered with a great degree of perspiration, although exposed to cold.

ASTHMA, TONIC MIXTURE FOR.

Infusion of cascarrilla 3/oz., infusion of gentian 2 oz., simple syrup 1 oz., mix. *Dose*, two table spoonsfull three times a day.

ASTHMATIC ELIXIR.

Opium 1 oz., camphor 5 drachms, oil of anise 1 oz., proof spirit 1 gallon.

ASTHMA, EXPECTORANT DRAUGHT FOR.

Vinegar of squills 1/2 drachm, ipecacuanha wine 15 drops, cinnamon water 1 1/2 oz. mix. To be taken three times a day.

ASTRINGENT MEDICINES.

The contrary to aperient, therefore administered in cases of cholera, dysentery, &c., in most cases to succeed an aperient, it being necessary first to evacuate the offending matter from the intestines.

1. *Draught*.—(a) Chalk mixture 1 1/2 oz., laudanum 15 drops, tincture of catechu 1 oz. To be taken three or four times a day.—(b) Extract of logwood 12 grains, cinnamon water 2 oz. tincture of catechu 1 drachm.

11. *Drops*.—Tincture of rhubarb 2 drams, tincture of opium 1 drachm, mix. Thirty-six drops to be taken four times a day in a little water.

111. *Collyrium*.—Compound liquor of alum 1/2 oz., rose water 5 1/2 oz., laudanum 60 drops. A useful application for weak and watery eyes.

IV. *Enema or Clyster*.—Electuary of catechu 2 drachms, lime water 5 oz., common water 5 or 6 oz. Electuary of gum kino may be substituted for the catechu.

V. *Fomentation*.—Bistort and pomegranate peel of each 2 oz., sal ammonia 1/4 oz., red wine 1 pint; keep them for some time in a gentle heat before using.

VI. *Gargle*.—(a) Tincture of galls 2 drachms, honey 1/2 oz., water 6 oz.—(b) Tincture of myrrh 3 drachms, powdered alum, 2 scruples, honey 4 drachms, infusion of roses 5 1/2 oz.—(c) Infusion of roses 7 oz., dilute sulphuric acid 1 drachm, tincture of catechu 6 drachms, laudanum 1 1/2 drachm. Used for relaxation of the uvula.—(d) Alum 2 scruples, decoction of bark 12 oz., honey of roses 1 1/2 oz.

VII. *Infusion*.—Oak bark 1/2 oz., boiling water 1/2 pint; infuse one hour, and to each 1 1/2 oz. of the filtered water, add powdered galls 10 grains, tincture of catechu, compound tincture of cardamoms, and syrup of orange peel, of each 1/2 a drachm, for a dose.

VIII. *Lotion*.—Muriate of iron or blue vitriol 1 oz., water 1/2 pint. Used for cattle.

IX. *Mixture*.—(a) Extract of catechu 1/4 oz., dissolved in 1/2 pint of cinnamon water.—(b) Tannin 12 grains, tincture of rhatany 1 drachm, simple syrup 7 drachms, gum water 1 oz., camphor mixture 4 oz.

X. *Ointment*.—(a) Lard 6 oz., Venice turpentine 4 oz. Melt and add sugar of lead 2 oz.—(b) Lard 4 oz., oil of rosemary 2 drachms, flake white powder 1 1/2 drachm, mix.—(c) Lard 4 oz., oil of turpentine 2 drachms, extract of lead 1/2 oz. mix.—(d) Honey 8 oz., sugar of lead 1 1/2 oz., blue vitriol 1 oz.—(e) Treacle 4 oz., powdered alum 1 oz., mix.—(f) Lard 5 oz., alum powdered 1 oz.—(g) Lard 5 oz., galls in fine powder 1 oz.

XI. *Pills*.—(a) Nitrate of silver 3 grains, extract of opium 1/2 drachm, musk 1 scruple, camphor 2 scruples. Make into 48 pills. Take one or two a day, as a tonic or stimulant.—(b) Pure tannin 6 grains, powdered

gum 12 grains, sugar 1 drachm, divide into four-grain pills. Dose one to three in diarrhoea.—(c) Acetate of lead 3 grains, opium 1 grain. Divide into three pills. To be taken at intervals of twelve hours in internal hæmorrhage. Wash it down with vinegar and water.

ASTRINGENT CATTLE MEDICINES.

I. *Ball for Horses*.—Powdered opium $\frac{1}{2}$ a drachm, soda 1 drachm, powdered cassia or ginger $1\frac{1}{2}$ drachm. Wheat flour and syrup to form a ball.

II. *Drench for Horses*.—(a) Prepared chalk and gum arabic, of each 1 oz., mint water 12 oz., tincture of opium $\frac{1}{2}$ an oz., mix for a dose.—(b) Powdered opium $\frac{1}{2}$ a drachm, ginger powdered 2 drams, oak bark powdered 1 oz., strong chamomile tea 1 pint.

III. *Enema or Clyster for Horses*.—1 oz. of powdered galls, 3 pints of distilled water, boil to 1 pint and strain.

This is a good application in piles and prolapsus ani.

IV. *Ointment for Horses*.—(a) Take 4 oz. of Venice turpentine, 6 oz. of hog's lard; melt over a slow fire; when it is nearly cold, but still soft, add 2 oz. of sugar of lead, finely powdered, and stir till it is quite cold.—(b) Take 4 oz., of lard, 2 drams of oil of rosemary, $1\frac{1}{2}$ dram of white lead.

X. (a) *Powder for Horses*, (strong).—Take 1 lb. each of sulphate of copper and Armenian bole, mix.—(b) Ditto (mild).—Instead of the sulphate of copper of the last receipt, substitute the same quantity of burnt alum.

AUGSBURGH BEER.

This is the same as the Bavarian beer, except that the store vats in which it is kept are pitched on the inside, by which means the beer acquires a slight spruce-like flavor and odour.

AULD MAN'S MILK.

Beat the yolks and whites of 6 eggs separately, put to the beat yolks sugar and a quart of new milk, add to this rum, whiskey, or brandy about half a pint. Put in the whites of the eggs whipped up, and stir the whole well but gently. It may be flavored with nutmeg or rind of lemon. The milk may be either hot or cold at the pleasure of the preparer.

A common liquor in Scotland, and also in America, called in the latter place, egg nog.

AURUM MUSIVUM.

I. Melt together, in a crucible over a clear fire, equal parts of sulphur and the white oxyde of tin. Keep them continually stirred with the stem of an earthenware pipe or glass rod, till they assume the appearance of a yellow flaky powder.

An iron rod must not be used in stirring up any mixture of sulphur when melted, or the sulphur and iron will unite. *Aurum Musivum* or *Mosaic Gold* is used as a cheap bronze powder. It is rubbed on with the finger.

II. Quicksilver, tin, sulphur, and sal-ammoniac, equal parts. First melt the tin, then pour the quicksilver into it, afterwards grind up with the amalgam thus made the sulphur and sal-ammoniac. Place the mixture in a crucible, and heat until the powder in the crucible becomes gold-colored, and also until no fumes of quicksilver arise.

This material, which is used as a gold color or bronze by the Italians in coloring plaster of Paris figures; also as a gold varnish on toys, and for the sparkles or spangles in that which is called gold sealing wax. It is a true sulphuret of tin, and composed of $7\frac{1}{2}$ tin to every 4 parts of sulphur. If in its manufacture the fire be not very gentle, a grey sulphuret only will be obtained from the subliming of part of the sulphur, leaving the tin in too great a proportion. It should be melted in a crucible with a cover luted upon it, and having a small hole through the cover for the fumes to escape. The top of the crucible must not be covered with the fire. For corresponding preparations, see *Argentum Musivum*, p. 28, and the following.

AURUM SOPHISTICUM.

Verdigris 8 oz., tutty powder (white oxyde of zinc) 4 oz. borax and nitre, each 2 oz., corrosive sublimate 2 drams. Made into a paste with oil and melted together.

Used like the last, especially for japanned-work, such as tea boards, &c.

AUSTRIAN WINE.

Pick red or purple grapes from their stalks into a pail, then put them into a vat strewed over with white mustard seed, in the proportion of about half a pint of seed to 5 pailsful or 10 gallons of fruit. After bruising the grapes with a wooden smasher, the vat must be closely covered, and the mash thoroughly stirred every day. In eight or ten days it is to be pressed, and have the expressed mash, or must, passed with the liquor into the barrel, the height of a hand being left unfilled. It must now be very often stirred both day and night with a stick, to prevent its further fermentation; when it becomes quiet and settled, the barrel is to be filled up with must, but not with old wine. The barrel is then to be closed and the liquor fined and drawn off, and bottled as other wines. When a large quantity is to be made there should be several vats, in none of which the mash ought ever to be more than two feet deep.

AZURE BLUE.

Mix and heat together for two hours 15 oz. of the carbonate of soda, calcined flints 20 oz., copper filings 3 oz., all in fine powder. Mix and fuse them together in a crucible for two hours. When cold, reduce it to an impalpable powder.

This is sometimes called Egyptian blue, and is a most beautiful and permanent sky-blue color. It is used in painting, and as a substitute for smalts.

II. Take 2 oz. of quicksilver, sulphur and sal ammoniac of each $\frac{1}{2}$ an oz., grind all together, and put the contents to digest in a matrass over a slow heat, increase the fire a little, and when a blue fume arises, take the matrass off the fire. Then cool and powder.

BACON, TO CURE.

The hog is butchered in the usual way, the hair being taken off the hide by singeing and not by scalding. The head is cut off, the back-bone taken out, and the ribs cut across. Thus the two sides or flitches lie flat. They are wiped dry with cloths, sprinkled with salt, and put upon a sloping board, the skin side uppermost. In twenty-four hours some blood will have drained from them, and they will be wet. They must now be wiped dry, and also the boards or trough. Both sides of the flitch are now to be rubbed with common salt, made hot in an oven or over the fire, and the flitches placed over each other on the boards, the skin side lowermost. The next day they are salted again, and thus they remain for a month, being salted afresh each six or seven days; they are then wiped very dry and hung up to harden, or sent to be smoked.

For private use instead of common salt, it is better to use hampickle; this is a mixture of 4 lbs. of common salt, 1 lb. of coarse brown sugar, and $\frac{1}{2}$ lb. of saltpetre. (See *Hams, to Cure*, p. 167.)

BADIGEON, TO MAKE.

This is a material for coloring houses, prepared with sawdust, slaked lime, powdered freestone, and the proportion of 1 lb. of powdered alum to 10 gallons of water, the whole being made up to the consistence of whitewash. A little ochre may be added to give it a deeper color. It must be laid on in dry weather.

BADOLIER'S VINEGAR.

Calcine green vitriol to whiteness: of this take 1 lb., and of sugar of lead 10 oz., rub these together and distil. A very small quantity will pass over. It must be caught in a little water.

BAILEY'S ITCH OINTMENT.

Take equal parts of alum, vermillion, nitre, and sulphate of zinc; form this into an ointment with lard, color it with a little fusion of alkanet root in oil, and give a perfume with anise, rosemary, or other essential oil.

The common sulphur ointment is to be preferred.

BALDNESS, TO CURE.

This may arise from several causes, such as age, fever, various skin diseases, &c. If baldness be caused by age no art will restore the hair, yet it may come off in middle life, partially and even to some extent without apparent cause, and yet be renewed. The best remedies are slight stimulants used in conjunction with greasy substances. Thus the frequent friction of a hair brush, anointing the head with oil or bear's grease, and shaving it will often prove effective. Most of the nostrums for this purpose, as the balm of Columbia, &c., contains a small quantity of cantharides, which acts as a powerful stimulant; such must from their very nature not be applied too often and be disused for a time if the skin becomes red or irritated. The following remedies are among the best known:—

Oil for.—Salad oil 1 oz., oil of marjoram and of rosemary of each 12 drops, oil of lavender 6 drops, and of cloves 2 drops, mix well together and rub on a little night and morning with a piece of flannel wrapped round the finger.

Pomatum for.—Beef suet, lard, or bear's grease, a piece as large as a small hen's egg, tincture of cantharides 1 teaspoonful, with 12 drops each of oil of marjoram and bergamot, or lavender, or rosemary, melt the fat, and when half cold add the rest.

Wash for.—Gin $\frac{1}{2}$ pint, tincture of bark 2 oz., oil of rosemary 60 drops, tincture of cantharides 1 drachm, water $\frac{1}{2}$ pint, spirits of lavender to color.

Erasmus Wilson says, "A useful practice is to immerse the head in cold water, morning and night, dry the hair thoroughly, and then brush the scalp until a warm glow is produced. In women with long hair this plan is objectionable; and a better one is to brush the scalp until redness and a warm glow are produced, and then rub among the roots of the hair some stimulating oil or pomatum."

BALDWIN'S PHOSPHORUS.

Melt in a crucible or ladle some of the nitrate of lime, keep it in a state of fusion for ten minutes, then pour it into an iron pot previously heated. This is Baldwin's phosphorus, and may be considered the nitrate of lime. If broken into pieces, and kept in a phial closely stopped, it will emit a beautiful white light in the dark, after having been exposed for some time to the rays of the sun.

BALLOONS FROM TURKEYS' CROPS

Free the crop from a thick coat of fat; turn the inside out, and wash the food away; soak it in water for a day or two, then lay it on a cloth and with a bone or knife scrape off the internal coat of the stomach, wash it well, and dry it with a clean cloth; then turn the crop, and make an incision through the external coats, taking particular care not to cut through the membrane; draw the coats at once over the neck, which must be cut long for greater convenience in using the balloon when finished. Proceed with the other neck in the same way; tie it firm with silk, and cut it close to the body of the balloon; it must be then distended with wind and hung up to dry. It may then be painted and varnished, but will not require it if properly prepared. It may be made large enough to contain a gallon of gas, and so light as to weigh only 30 grains.

BALLOONS, VARNISHES FOR.

I. India rubber varnish, made by dissolving India rubber in the naphtha of coal tar, is now employed.

II. Take 1 lb. of the best bird lime, put it into a new earthen pot that will resist the fire, and let it gently boil for about one hour: viz. till it ceases to crackle; then pour upon it

a pound of spirits of turpentine; stirring it at the same time with a wooden spatula, and keeping the pot from any flame, lest the vapour should take fire. After this let it boil for about six minutes longer; then pour upon the whole 3 lbs. of boiling linseed oil, rendered drying by means of litharge—stir it well, let it boil for a quarter of an hour longer, and the varnish is made. After it has rested for twenty-four hours, and the sediment has gone to the bottom, decant it into another pot, and when you want to use it, warm, and apply it with a flat brush.

BAILEY'S DIGESTIVE DRAUGHT.

Dissolve nearly 3 drams or $\frac{1}{2}$ oz. of Epsom salts in $\frac{1}{2}$ a pint of rosewater, then add $\frac{1}{2}$ oz. of the tincture of cascarilla. Three table spoonsful to be taken twice a day, once between breakfast and dinner and again at night.

BALSAMIC VINEGAR.

Take rue, sage, mint, rosemary, and lavender, of each a handful, cut them small and put them into a stone jar, pour upon the herbs a pint of the best white wine vinegar, cover the jar close and let it stand seven or eight days in the sun or a warm room, then strain it off and dissolve in it as much camphor as it will take up.

The liquid sprinkled about a sick chamber or burnt will much revive a patient, remove bad smells, purify and refresh the air, and tend to prevent contagion.

BALM WATER.

Take of the fresh leaves of balm $\frac{1}{2}$ lb., peel of 4 lemons, nutmegs and coriander seeds of each 1 oz., cloves, cinnamon, and angelica root of each $\frac{1}{2}$ oz. Having pounded the spices and seeds, and bruised the leaves and roots, put them with a quart of brandy into a glass covered vessel, where they are to remain in a warm place for two or three days. Then add a pint of simple balm water, and shake the whole well together, after which add 1 quart of water and distil in a vapour bath till half has passed over.

This water was once much celebrated under the name of *Carmel Water*.

BALM WINE.

Make an infusion of the herb, by pouring boiling water on any quantity, sufficient to cover it. Let it stand fifteen minutes; then strain, and add 3 lbs. of white sugar to each gallon of the infusion; then place it over a slow fire, until the sugar is dissolved; add a little yeast and ferment. In two days it will be fit to bottle. Cork it up loosely.

It is useful in nervous and hysteric cases.

BALSAMIC INJECTION.

Dissolve $\frac{1}{2}$ oz. of copaiba in the yoke of 1 egg and add 6 oz. of lime water, and 1 oz. each of rose water and the watery infusion of myrrh.

BALSAMIC POWDER.

Take equal parts of mastic, myrrh, and sarcocolla, pound them together very finely.

It is sometimes used to dust over the rubbed surfaces of bones, ligaments &c. as a mild astringent.

BANBURY CAKES.

Roll out the paste about half an inch thick and cut it into pieces, then roll again till each piece becomes twice the size, put some Banbury meat in the middle of one side, fold the other over it, and pinch it up into a somewhat oval shape, flatten it with your hand at the top, letting the seam be quite at the bottom, rub the tops over with the white of an egg laid on with a brush, and dust loaf sugar over them. Bake in a moderate oven. The meat for this cake is made thus:—beat up $\frac{1}{2}$ lb. of butter until it becomes in the state of cream, then mix with it $\frac{1}{2}$ lb. of candied orange and lemon peel cut fine, 1 lb. of currants, $\frac{1}{4}$ oz. of ground cinnamon, and $\frac{1}{4}$ oz. of allspice; mix all well together and keep in a jar till wanted for use.

BANDOLINE FOR THE HAIR.

I. Boil a table-spoonful of linseed in $\frac{1}{2}$ pint of water for five minutes.

II. Put 1 oz. of quince seed to a quart of water; let it simmer on the fire for forty minutes; strain it through a fine sieve, and when cold, add a few drops of any scent you please. If the bottles are well corked, and tied down, it will keep for many months.

III. Put 1 table-spoonfull of linseed, half a tea-spoonful of quince seed, and a pinch of white mustard seed, into a pint of soft water; simmer it to half a pint, according to the goodness of the seeds; add essence the most agreeable. The quince seed may be previously bruised.

IV. Take $\frac{1}{4}$ oz. of carrageen, or Irish moss: cleanse it thoroughly from all impurities. This being done, pour $\frac{1}{2}$ pint of boiling water on it, let it stand for a quarter of an hour, then strain it through muslin; when nearly cold add $\frac{1}{2}$ oz. of spirits of wine, with 6 drops of the essential oil of almonds, or any other perfume.

V. Take $1\frac{1}{2}$ oz. of pure isinglass, 1 pint of water, all but 2 wine-glasses full, and 2 wine-glasses full of proof spirits; pour the water over the isinglass in a covered vessel, and let it stand all night; the next day let it be put into an oven or on the hob, till the isinglass is completely dissolved and the liquid is quite hot, then mix the proof spirit with it. If you wish to scent it, 2 or 3 drops of any essential oil (that you like the perfume of) must be mixed with the spirit previous to adding it to the isinglass. Some ladies' hair require a stronger bandoline than others; where this is the case, an extra $\frac{1}{2}$ oz. of isinglass will effect it.

BARBADOES CREAM.—CREME DE BARBADE.

Take 2 dozen middling sized lemons, 6 large citrons, 28 lbs. of loaf sugar, fresh balm leaves $\frac{1}{2}$ lb., spirits of wine $2\frac{1}{2}$ gallons, water $3\frac{1}{2}$ gallons. This will produce about

7½ gallons. Cut the lemons and citrons in thin slices and put them into a cask, pour upon them the spirits of wine, bung down close and let it stand ten days or a fortnight. Then break the sugar and boil it for half an hour in the water, skimming it frequently, then chop the balm leaves into small pieces, put them in a pan and pour upon them the boiling syrup, and let it stand till quite cold, then strain it through a fine sieve and pour it upon the spirits, &c. in the cask, bung down close, and in a fortnight draw it off, strain it through a flannel jelly bag, then bottle it.

BARBADOES WATER—EAU DE BARBADE.

Take of fresh orange peel 1 oz., of lemon peel 4 oz., cloves ½ drachm, coriander 1 drachm, proof spirit 2 quarts. Distil in a bath heat till you have drawn off about half, and add a little white sugar in powder to sweeten it.

BARBERRY CREAM.

Warm over a clear fire a pint of cream mixed with the juice of a small lemon, ½ lb. of barberry jelly and ½ oz. of fine isinglass, keep the whole well stirred up till the jelly and isinglass are well mixed with the cream, then take it off the fire, sweeten it according to palate, beat it well up till frothy, then pour it in a mould to set. If too light in color a little tincture of cochineal may be mixed with it.

BARBERRIES, TO PRESERVE.

To every quart of barberries put 1½ lb. of sugar, mix them together and put them in a jar in an oven till the sugar is melted and the barberries soft; let them remain till cold. The next day put them in a preserving pan, and boil them a quarter of an hour skimming them while boiling. Put them in a jar and tie them down close.

BARBERRY DROPS.

Mix the juice of ripe barberries, with powdered and sifted loaf sugar, till of a stiff paste; put this on the fire and make it hot, stirring it all the time, but do not let it boil. Take it off the fire, add a little more sugar, stir it up well, and put it in drops upon a tin or sheet of paper, afterwards dry the drops in a nearly cold oven, or by a current of warm, but not hot air.

BARBERRY JELLY.

Take of the juice of barberries, strained, 1 pint, white sugar 1 lb.; boil them down to a jelly.

This has a most grateful acid flavor, and is very valuable for coughs, sore throats, &c.

BARCLAY'S ANTIBILIOUS PILLS.

Take 2 drams of extract of colocynth, 1 dram of extract of jalap, 1½ dram of almond soap, 3 drams of guaiac, 8 grains of potassio-tartrate of antimony, 4 drops each of the essential oils of juniper, carraway, and rosemary. Make into a mass with syrup of buckthorn, and divide into five dozen pills.

BAREGE WATER.

The following recipe for a medicated bath has been successfully used in a variety of cutaneous disorders, from the slightest eruption on the face and skin to the most obstinate scorbutic complaints approaching to leprosy. It was the medicated bath used by Napoleon, and is prepared thus:—

To produce water similar to that of the *Source Royal* at *Barège*, take for every gallon of water which is to be impregnated, 2 grains of alum, 2 grains of carbonate of lime, 2 grains of hard Spanish soap, 4 grains of muriate of soda, 20 grains of dried carbonate of soda, and 16 grains of the sulphuret of potash; grind the materials altogether, and boil them in as much water as will dissolve them: stir them over the fire till the sulphuretted hydrogen gas be disengaged, which is known by a smell similar to rotten eggs; then mix the ingredients with the water-bath previously prepared. When this combination is formed, and the proper degree of heat added, we may expect every salutary effect by this artificial water, as certainly as if used at its natural source.

BARK (PERUVIAN) TINCTURE OF.

I. *Compound*.—Peruvian bark 3 lbs., orange peel 2 lbs. 4 oz., Virginian snake root 8 oz., saffron 2 oz., cochineal 1 oz., spirits of wine 2 gallons 2 pints, water 2 gallons.

II. Peruvian bark 2 lbs., orange peel 1 lb. Virginian snake root 4 oz., saffron 2 oz., cochineal 2 drachms, spirits of wine 12 pints, and water 2 pints.

III. Extract of Spanish bark 6 oz., orange peel 12 oz., snake root 2 oz., saffron 2 oz., proof spirit 2 gallons.

IV. *Simple*.—Yellow Peruvian bark 6 oz., proof spirit 1 quart.

V. Red Peruvian bark 7 oz., proof spirit 1 quart.

VI. Peruvian bark 4 oz., proof spirits 2 lbs.

VII. *Concentrated*.—Resinous extract of the yellow bark 2 lbs., tincture of orange peel 2 pints, spirits of wine 12 pints.

VIII. Six lbs., of yellow Peruvian bark 1½ lb. of cascarilla bark, 1 lb. Virginian snake root, 4 lbs. 2 oz. orange peel, spirits of wine 1 gallon, proof spirits 7 lbs.

(See *Huxham*, p. 178, and *Quinine*, p. 286.)

BARKER'S TOOTH TINCTURE.

Take any quantity of alcoholic infusion of pyrethrum, (feverfew) and color with tincture of red cabbage.

BARLEY BANNOCKS.

These are made of barley meal or barley flour mixed into a dough with water and a little salt, then rolled out into thick or thin cakes as may be required. Bannocks are those cakes which are made about three quarters of an inch thick and of stiff dough.

They are toasted or baked before or upon a clear coal fire, or on the hot hearth. Thin barley cakes are called *scons*, and are much used in the Highlands of Scotland.

BARLEY SUGAR.

Boil clarified loaf sugar until when you take out a little on the end of a stick it shall draw out into a thread, and when cold be quite brittle. When boiled enough, pour in for every point of liquid sugar 2 tea spoonsful of lemon juice, and 6 or 7 drops of essence of lemon. Stir it up well and boil again, till, as before, it is brittle. While this is boiling, slightly oil a marble slab; on this pour the sugar, when cool cut it up into strips with a pair of scissors, and twist the sticks a little with the hand. This must be kept from the air, or it will become soft.

BARLEY SUGAR DROPS, OR KISSES.

Boil as for barley sugar, and spread over a table or slab a quantity of loaf sugar, till it forms a bed about $\frac{1}{4}$ of an inch deep, then with a piece of wood, round at the end like half a ball, make little pits or holes in the sugar, and the ladle or saucepan holding the boiling sugar having a spout to it, put one drop of the melted sugar into each of the holes and sift a little sugar over them; when cold they are finished.

BARLEY WATER.

I. *Plain*.—Pearl barley 2 oz., water 4 $\frac{1}{2}$ pints, boil it down to 2 pints.

II. *Compound*.—Plain barley water 2 pints, figs 2 oz., Spanish liquorice $\frac{1}{2}$ oz., raisins stone 2 oz., water 1 pint. Mix altogether and boil for half an hour, and strain.

This is very soothing in inflammation of the throat, irritating cough, cold, &c.

BARNSTABLE ALE, TO BREW.

Boil the water, then throw 2 pails of cold into the mash tub, and afterwards the boiling water; then immediately put in the malt, $\frac{1}{2}$ a bushel at a time. After stirring it till all is soaked, cap it with malt or bran, and cover it close to stand three hours, then see if the mash is sunk in the middle, which it will sometimes do, and when it does, it shows the strength, and must be filled level with boiling water, to stand half an hour after, when it is to be run off in a goose-quill stream, which is to be returned upon the grains again, by a bowl or pailful at a time, as far back as possible from the cock; for then the liquor strains through the body of the grains, and at last comes very fine. Otherwise the thick parts are forced down to the cock. This is called doubling. Continue to do so for half an hour, then stop, and let stand half an hour longer in winter, but not in summer. Then rub 4 lbs. of hops very fine into the sieve for the wort to run on. Otherwise proceed as directed under *Ale*. p. 7.

BASIL WINE AND VINEGAR.

Float the green leaves, which are in perfection in the middle of August, with sherry wine or vinegar; steep for ten days, then strain. Used as a flavor for soup, &c.

BASILICON OINTMENT.

I. Take 32 parts each of black pitch, yellow resin, and yellow wax, 128 parts of olive oil; melt the pitch and the resin together, and add the oil and the wax; melt and strain through linen, stirring it with a wooden rod till quite cold.

This is a slight stimulant, and is a good application to boils and other swellings, to bring them to a head.

II. *Yellow*.—Yellow resin, yellow wax, and Burgundy pitch, of each 1 lb., turpentine 3 oz., olive oil 1 lb.

BASILICON POWDER.

Take equal parts of scammony, bitartrate of potass in powder, calomel, and antimonious acid. From 5 to 10 grains is a mild purgative dose.

BASS'S PALE ALE, INDIA ALE, ETC.

The true Bass's pale ale is the same as Burton ale, with the addition of a little extract of gentian.

It is a fine tonic, and keeps well in all climates. There are many *spurious* imitations.

BATES'S ANODYNE BALSAM.

I. White soap 3 parts, opium 1 part, camphor 2 parts, oil of rosemary half a part, spirits of wine 24 parts.

II. Castile soap and camphor, each 6 oz., opium $\frac{1}{2}$ oz., saffron 1 drachm, spirits of wine 18 oz.

BATEMAN'S PECTORAL DROPS.

I. Sweet fennel seed 2 $\frac{1}{2}$ lbs., aniseed 1 lb., proof spirit 4 gallons, water 16 gallons. Distil off one half, and add to it 7 $\frac{1}{2}$ oz. of opium, camphor 6 oz., prepared kali 1 oz., red coral 4 oz.

II. Castor 2 oz., opium and oil of anise of each 1 $\frac{1}{2}$ oz., camphor 8 oz., fennel seed 2 oz., tincture of antimony 4 oz., proof spirits 10 pints, add 4 oz. valerian root and 2 drachms of cochineal, both in powder.

III. Castor and camphor, each 1 oz., cochineal $\frac{1}{4}$ oz., spirits of wine 2 gallons.

IV. Opium and camphor, of each 1 lb., castor, oil of aniseed, and red sandal, each 4 oz., treacle 10 lbs., spirits of wine 5 gallons, water 4 gallons.

V. Liquorice root and seeds of anise, of each 2 lbs., water 5 gallons; boil to 3 gallons; strain, then add burnt sugar 1 lb., opium $\frac{1}{2}$ oz., castor and valerian root, each 1 $\frac{1}{2}$ oz., camphor 2 oz., spirits of wine 2 gallons. Strain or filter.

BATES'S STIPTIC WASH.

Alum and white vitriol, of each $\frac{1}{2}$ oz., water 3 pints; dissolve and filter.

This is powerfully astringent, and is used as a wash for ulcers, eruptions, &c., and sometimes as an injection.

BATH BRICKS.

Bath bricks (or scouring bricks) are made in the same manner as bricks used for building; but instead of using clay, as is done for common bricks, slyme is used, an inexhaustible supply of which is found on the banks of the river Parret, at Bridgewater, Somersetshire. Slyme is a mixture of sand and clay, deposited within a limited distance of the bridge, beyond which it is unfit for the purpose. Consequently Bridgewater is the only place at which scouring bricks are made. The names, therefore, of "Bath bricks" and "Flanders bricks" are both inappropriate.

BATH BUNS.

Make a pool in the middle of a lb. of flour, into which put a table-spoonful of yeast which is not bitter, and also a cupful of milk, at a warmth not greater than that at which it comes from the cow; mix these up with a little of the flour, and leave it in a warm place for an hour to rise, then rub in 6 ozs. of cold butter with the contents of 4 eggs and the rest of the flour. Again set it in a warm place to rise, and when well risen, which will be in about an hour, put it with a spoon in rough balls upon greasy tins at two inches distance from each other; the paste being rather thin, it will sink down into the proper shape, flat on the under side, and round and rough on the upper. Sprinkle some loaf sugar in small pieces upon the top and add 4 or 6 carraway comfits. Some persons add a few carraway seeds to the mixture at first. Bake in an oven moderately warm or rather brisk.

BATH CAKES.

I. Make a paste of 6 lbs. of flour, $1\frac{1}{2}$ pint of milk or water, 3 lbs. of moist sugar, 2 oz. of butter, and $1\frac{1}{2}$ oz. of sal volatile.

II. Four lbs. of moist sugar, 6 oz. of butter, $2\frac{1}{2}$ oz. of sal volatile, 8 lbs. of flour, and a quart of water; roll into a paste. Roll either paste into a thin sheet, cut it with a tin ring scalloped round the edges, wash over the top of each with a little milk to make it shine, stick 6 or 8 currants at the top, set it aside for a quarter of an hour for the milk to penetrate a little, and then bake in a brisk oven.

BATH OR LIQUORICE PIPE.

Dissolve in warm water equal quantities of Spanish liquorice and cherry-tree gum, or gum arabic, strain the solution, and boil it down to a stiff treacley mass, let it get cold, and when dry enough, roll it out into sticks about a quarter of an inch thick, adding a little powdered sugar. Dry the sticks by a very gentle heat, they will soon become hard, if not glossy enough dip them in gum water and stand them upright to dry. Gum tragacanth, commonly called gum dragon, will

answer the same purpose as the gum arabic; it is a dearer gum, but one quarter of the quantity suffices.

BATTERIES, SOLUTIONS FOR.

Galvanic batteries, according to the purposes for which they are used, and their particular form, require to be filled with certain acid or saline solutions. The following is recommended for each:—

I. *Daniell's battery*.—This consists of a rod of zinc in the centre, a porous earthenware tube to surround this and a copper case on the outside. The zinc rod being rubbed over with quicksilver, a saturated solution of sulphate of copper is placed on the outside of the porous tube, together with some crystals of the same salt; and dilute sulphuric acid, in the proportion of about 12 parts water to 1 of strong acid in the inner part along with the zinc.

This is the most useful battery for the electro-type. The battery should be well washed when laid aside, and the porous tubes soaked, to dissolve out of them the sulphate of copper which has penetrated.

II. *Grove's battery*.—This has platinum in the centre and zinc around, or on both sides of it; the platinum being surrounded with the porous vessel. Strong nitric acid is placed next the platinum, and dilute sulphuric or muriatic acid to touch the zinc.

This is a very powerful battery, but very disagreeable, as that suffocating acid, the nitrous, is constantly rising. These are not only highly injurious when breathed, but will spoil all metallic-polished articles which are near, such as fenders, fire irons, &c. Potash may be used instead of nitric acid.

III. *Leeson's battery*.—This is the same as Grove's in form and materials. It has diluted sulphuric acid on the outside next the zinc, and the bichromate of potass in the inner part.

IV. *Smee's battery*.—This is a piece of platinized silver between two pieces of zinc. These are dipped in a proper vessel; the vessel being filled with diluted sulphuric acid, 1 part strong acid to 7 of water.

This is powerful, constant, easy to manage, and costs little in working.

V. *Sturgeon's battery*.—This is a cylinder of zinc between two cylinders of copper. The latter being connected together at the bottom, and made water-tight. It is filled, when in use, with 8 or 10 parts of water to 1 of acid, either sulphuric or nitric.

This battery is powerful, but not constant, it is serviceable for electro-magnetic experiments.

IV. *Wheatstone's battery*.—This is like Daniell's, the outer part is filled with solution of the sulphate of copper. The porous cell is very small, and contains a little zinc and amalgam of mercury. Nitric acid is poured within the porous cup.

This is the battery used for the electric telegraph, and will produce a very regular action for a long time, even some days.

BATTLE'S GREEN SENNA POWDER.

A nostrum, supposed to be senna leaves heated till they become yellow, and then mixed with powdered charcoal.

BATTLE'S LIQUOR OPII SEDATIVUS.

A secret preparation, which is a powerful narcotic, of more uniform and mild effect than other preparations of opium. It is chiefly composed of acetate of morphia, and may be imitated by macerating with tartaric acid the dregs left after making tincture of opium. Mr. Battley's preparation does not keep well without the addition of spirits, which impair its superiority as a mild narcotic.

BAVARIAN ALE.

This is a fine sweet ale, produced by carrying on the fermentation at the very low temperature of from 45 to 50°, and consequently it is only made in the winter-time. Another peculiarity is, that it is fermented in very shallow vessels, in fact, in the coolers where it is placed after coming from the boiling copper. The yeast also is not skimmed off, but is suffered to subside, and the liquor is poured off at once into bottles.

On account of the subsidence of the yeast through the body of the liquor, it is often yeast-bitten, or tastes of yeast.

BAUME'S SPIRIT OF WINE.

Put any certain measured quantity of brandy into a still, and distil off $\frac{1}{4}$ of it. Set this aside, continue the distillation till you have drawn off another $\frac{1}{4}$. Rectify this last portion in the same manner, and mix the first $\frac{1}{4}$ with the former first running. Rectify the second $\frac{1}{4}$ as before, and mix the first $\frac{1}{4}$ of it with the other. Lastly, distil these first runnings, and draw off $\frac{1}{2}$. It produces $\frac{1}{3}$ the original quantity.

There appears in this method a great deal of trouble and expense for no good purpose—three stills would be wanted for the three quantities.

BAYS, OIL OF.

Take any quantity of bay berries, or of bay leaves, pound them, and boil them in water. Upon setting aside to cool, the oil, which is very odorous, thick, and greenish, will float upon the surface. The water also will smell and taste strongly of bay.

BEAR'S GREASE.

There are two sorts of this; one of the consistence of thick olive oil, which is procured by boiling from the fat about the caul and intestines of the animal; the other, much harder, and in appearance like frozen honey, obtained from about the kidneys. Both sorts have a rank, rancid, and intolerable smell. Rancid lard is often sold for bear's grease.

BEAUTY WATER.

A wash for the face, made by distilling 1 lb. each of thyme and marjoram with 5 quarts of proof spirits and 1 of water.

BEDFORD BISCUITS.

2 lbs. of flour, $\frac{1}{4}$ lb. of butter, 1 egg, and milk to make a thick paste, with a little sugar; make the biscuits round and about $\frac{1}{2}$ oz. each in weight. Bake them immediately they are formed in a quick oven. They will be done in 3 or 4 minutes to a light brown.

BEE, STING OF, TO CURE.

At all times examine if the sting remain in the wound, if so it must be extracted, which is very easy. To ease the pain, the following are the best and quickest remedies.

I. Bruise an onion and apply it to the stung part.

II. Wet a little powder blue, or a little indigo or stone blue, and put it on the part affected.

This is very efficacious in reducing the swelling, and is used in eastern countries to ease the scorpion's sting.

III. Put a drop of laudanum on the place, this will take off the pain directly, but does not kill the poison, and therefore does not prevent the swelling.

IV. Apply to the part stung a drop of turpentine, vinegar, or sweet oil, these, like the onion, act by diluting the poison and therefore dissipating it.

BEECH BLACK.

Made by burning beech wood in retorts, afterwards pounding and well washing the charcoal. It is used as a pigment.

BEER.

Beer may be considered as the general name of malt liquors, whether otherwise designated or not. Thus amber ale and amber beer are synonymous, as are also porter and beer. If there be any real difference it is that ale is light colored and strong, porter and stout dark colored and strong, and beer made without great regard to either strength or color, but considered as an unadulterated family beverage made with but ordinary care and skill from malt and hops only, the aim being to make it pleasant to the taste and refreshing, but not always in a high degree intoxicating. Beer is also the general name of various beverages made without malt, as ginger beer, spruce beer, bran beer, &c.

(See these terms in *Index*, p. 4, also those under the word *Ale*, where the process of making beer is described, and the following receipts.)

BEER FOR THE TABLE.

The first mash should be at 170°, viz. two barrels per quarter; let it stand on the grains three-quarters of an hour in hot weather, or one hour if cold. Second mash 145° at 1 $\frac{1}{2}$ barrels per quarter, stands half an hour. Third 165°, two barrels per quarter, stands half an hour. Fourth 130°, three barrels, stands two hours. The first wort to be boiled with 6 lbs. of hops per quarter, for an hour and a half, the second worts to be boiled with the same hops two hours, and the

remainder three hours. The whole to be now heated as low at 55°, if the weather permits, and put to work with about 5 pints of yeast per quarter; if the weather is too warm to get them down to 55°, a less proportion is sufficient. The eight barrels of liquor first used will be reduced to six of beer to each quarter; one barrel being left in the grains, and another evaporated in boiling, cooling, and working.

BEER FROM SUGAR OR TREACLE.

I. To 4 lbs. of coarse brown sugar add 10 gallons of water, then put in 3 oz. of hops, and let the whole boil for three-quarters of an hour, and work it as usual. It should be kept a week or ten days before it is tapped, when it will improve daily afterwards, within a moderate time of consumption.

II. Another method, and for a smaller quantity, is, to put 1 lb. of treacle to 8 quarts of boiling water; add 2 bay leaves, and a $\frac{1}{4}$ oz. of ginger in powder. Boil the whole for fifteen minutes, then let it become cool, and work it with yeast.

III. Brown sugar 1 lb., treacle 1 lb., bruised ginger 1 oz., hops $\frac{1}{4}$ oz. Boil for a few minutes in 3 quarts of water; strain and add 5 quarts of cold water; add a spoonful of fresh yeast; let it work all night, and bottle it in the morning.

IV. For ten barrels: take of malt 8 bushels, hops 8 lbs., sugar 8 lb., made into color, Spanish liquorice 8 oz., treacle 10 lbs. Proceed as above.

V. For small beer, put 9 lbs. of molasses into a barrel copper of cold water, first mixing it well and boiling it briskly, with $\frac{1}{4}$ lb. of hops or more, one hour, so that it may come out 27 gallons. We should prefer double this quantity both of hops and molasses. It is set to work, tunned, &c. in the same manner as recommended for ale.

(See *Ale*, p. 7.)

BEER FROM PEA SHELLS.

No production in this country abounds so much with vegetable saccharine matter as the shells of green peas. A strong decoction of them so much resembles in odour and taste an infusion of malt (termed wort) as to deceive a brewer. This decoction rendered slightly bitter with the wood-sage, and afterwards fermented with yeast, affords a very excellent beverage. The method employed is as follows:—

Fill a boiler with the green shells of peas, pour on water till it rises half an inch above the shells, and simmer for three hours. Strain off the liquor, and add a strong decoction of the wood-sage, or the hop, so as to render it pleasantly bitter; then ferment in the usual manner. The wood-sage is the best substitute for hops, and being free from any anodyne property is entitled to a pre-

ference. By boiling a fresh quantity of shells in the decoction before it becomes cold, it may be so thoroughly impregnated with saccharine matter, as to afford a liquor, when fermented, as strong as ale.

BEER, TO IMPROVE.

Draw off 21 gallons from a butt, add to it 1 gallon of stale beer or ale, and 15 gallons of water; then take 6 lbs. of strong moist sugar, $\frac{3}{4}$ lb. of Spanish liquorice cut small, boil it over the fire in 2 quarts of water, till it is dissolved, put this on the sugar in a pail with $\frac{3}{4}$ lb. of salt. Boil $\frac{1}{4}$ oz. of chillies in a quart of water, add this and 2 quarts of sugar coloring, making up altogether 3 gallons. Stir and rouse it well up till dissolved, then strain it into the cask. Put in 6 quarts of fining, and wash out the funnel with 2 gallons of beer drawn off, and bung tight till wanted.

BEER, TO PREVENT ACIDITY IN.

I. To a quart of French brandy put as much wheat or bean flour as will make it into a dough, and put it in, in long pieces, at the bung-hole, letting it fall gently to the bottom. This will prevent the beer growing stale, keep it in a mellow state, and increase its strength.

II. To 1 lb. of treacle or honey add 1 lb. of the powder of dried oyster shells, or of soft mellow chalk—mix these into a stiff paste, and put it into the butt. This will preserve the beer in a soft and mellow state for a long time.

III. Dry a peck of egg shells in an oven, break and mix them with 2 lbs. of soft mellow chalk, and then add some water wherein 4 lbs. of coarse sugar have been boiled and put it into the cask. This will be enough for a butt.

IV. In a cask containing 18 gallons of beer put in a pint of ground malt, suspended in a bag.

BEER, TO RENDER INTOXICATING.

It is the practice of some persons to beat in the yeast, while the beer is working, for several days together, to make it strong and heady, and to promote its sale. This is a wicked and pernicious custom. Yeast is of a very acrimonious and narcotic quality, and when beat in for several days together, the beer thoroughly imbibes its hurtful qualities. It is not discoverable by the taste, but is very intoxicating, and injures the whole nervous system, producing debility and all its consequences. Therefore, let the wort have a free, natural, and light fermentation, and one day in the working tub will be long enough during cold weather; but turn it the second day at the furthest.

BEER, WHEN FOXED, TO RESTORE.

Foxy beer is that in which is seen white specks or a coat of mould, and which has a

rank and disagreeable taste, arising from its being put into the cask when too warm, or when the fermentation has risen too high, when the place in which it is kept is subject to sudden changes of temperature, or even in the making by keeping it too long before boiling, or in the coolers, as well as from dirty utensils or bad malt. Hops are the great preventive as well as cure. Or the following may be used as cures.

I. Cut a handful of hyssop small, mix it with a handful of salt, and put it into the cask. Stir and stop close.

II. Or infuse a handful of hops and a little salt of tartar in boiling water, when cold strain the liquor off, and pour it into the cask, which stop close.

III. Mix 1 oz. of alum, with 2 oz. of mustard seed, and 1 oz. of ginger; bruise them, boil them in water, strain, and pour into the cask, or else put them in a bag and hang in the cask.

IV. In a fortnight, rack off the foxed beer, hang 2 lbs. bruised raisins in a bag within the cask, and put into the liquor 2 lbs. of treacle, 2 handfuls of bean-flour, 2 oz. of mustard seed, and 1 oz. of powdered alum. This is for a butt of beer.

V. If foxing takes place in the brewing, strew a little quicklime in the coolers, and add hops crumbled with the hands, directly any little acidity is perceived.

BEER, WHEN FROSTED, TO RESTORE.

Frost stops all fermentation in beer, so that it becomes vapid or stale. To restore it then, we must excite a second fermentation. To do this, make for each butt of beer a pailful of fresh wort, into which rub a handful of hops, and boil them for half an hour, so that it may be very bitter, and when almost cold, draw off a pailful from the butt, and refill it with the bitter wort. Fermentation will re-commence, and when this is over, bung it up for a month. If it is not then restored, rack it into another cask, and put into it $\frac{1}{2}$ a peck of parched wheat, and 1 lb. of good hops, dried and rubbed, and put into a net. Bung it down, leave the vent peg open for a day or two, and in a month it will be fine.

BEER, TO RESTORE WHEN SOUR, FLAT, ETC.

Make strong hop tea with hot water and salt of tartar, and pour it into the cask; 2 quarts will do for a barrel.

II. Rack the beer into two empty casks, and fill them up with new beer. This is called *vamping* beer.

III. Rack it through some hops that have been boiled in strong wort, and afterwards work it with double the quantity of new malt liquor. This receipt will recover beer that is musty—if the fault arise from the cask, the next receipt is recommended.

IV. Draw off the beer into a sweet cask, and having boiled $\frac{1}{2}$ lb. of brown sugar in a quart of water, add a spoonful or two of yeast before it is quite cold, and when this mixture ferments, pour it into the cask.

This is not merely good to restore musty beer but also to enliven that which is dead or flat. The above is enough for a barrel.

V. If stale or sour add to each quart full of it when drawn a small tea spoonful of carbonate of soda.

This makes it drink very mild, but care must be taken that too much be not added, or a very dead, flat, alkaline taste will be given to it.

VI. Take 4 or 5 gallons out of a hogshead, boil it with 4 or 5 lbs. of honey, skim it well when cold, and put it into the cask again, then stop it up close, and by occasioning a slight renewal of fermentation causes the liquor to drink strong and pleasant.

VII. Take for each kilderkin of beer 2 oz. of new hops and 1 lb. of chalk, broken into small pieces, put them into the cask, and bung it up close. In three days it will be fit to drink.

VIII. Take a fine net, and put in the proportion of 1 lb. of hops to a butt of beer, with a stone or something heavy in it to sink it to the bottom of the cask. Tap in six months, but if wanted sooner use hops that have been slightly boiled in wort.

IX. Mix a handful of bean-flour with a handful of salt, and stir it in at the bung-hole, or take some strong wort, in which hops have been soaked, and put it hops and all into the bung-hole. Stir it up well.

X. Powder $\frac{1}{2}$ an oz. of alum very fine, mix it with a handful of bean-flour, and put it into the bung-hole.

These two last receipts are each for a barrel of ropy beer, to restore it to brilliancy and freshness.

XI. Hang within a nine-gallon cask full of beer a small bag containing $\frac{1}{2}$ a pint of ground malt.

XII. Take for a barrel of beer $\frac{1}{2}$ a lb. of honey, and an equal quantity of calcined oyster shells, mix these into a stiff paste, and put it into the barrel.

BEER, BOTTLED, TO RIPEN.

I. The following method is employed at Paris by some vendors of bottled beer, to render it what they term *ripe*. Add to each bottle 3 or 4 drops of yeast, and a piece of loaf sugar of the size of a nutmeg. In the course of twenty-four hours, by this addition, flat or stale beer is rendered agreeably brisk. In consequence of the fermentative process which ensues a small deposit follows, and on this account the bottles should be kept in an erect position.

II. When about to fill the bottles, put into each 6 raisins, or 2 tea spoonsful of rice, or a spoonful of raw sugar.

BEER POULTICE.

Stir into $\frac{1}{2}$ a pint of ale or strong beer-grounds as much oatmeal or linseed-meal as will make a poultice of a proper thickness.

This will prove an excellent stimulant and antiseptic for foul ulcers, and should be renewed every six hours.

BEET ROOT SUGAR.

The beet roots best calculated for the extraction of sugar are those which have a soft flesh, whitish towards the edges, and not growing above the ground. After being cleaned, they are boiled, cut into pieces, and pounded in a wooden trough with wooden stampers, and afterwards pressed. The juice thus obtained is immediately put into a polished copper kettle and simmered, during which time the scum must continually be taken off. To 100 quarts of this juice, add 2 oz. or less of slackened lime, diluted so as to have the appearance of milk, and continue the boiling till the juice is thickened to the half of it. Having strained it through a woollen cloth, thicken it to the consistency of a syrup by continued boiling, afterwards it is put into glass, stone, or wooden vessels. These being placed near a moderate fire, saccharine crystals appear, which being freed by expression from the mucilaginous juice, a very good raw sugar is obtained.

BELLADONNA, TINCTURE OF.

Belladonna leaves, dried, 2 oz., weak spirit 1 pint. Soak for four days, and then filter or strain. Dose from 10 to 25 drops.

BELL METAL.

This is a fine kind of brass, or rather bronze, used for the making of bells. The ingredients must be melted under charcoal powder, to keep them from the air, and when cast, should be cooled as rapidly as possible. According to the purpose and size of the bell, so is the degree of fineness required; the smaller the bell, the greater quantity of tin is in the composition.

I. Copper 5 parts to 1 part tin.

This is very sonorous, and is the composition of Chinese and Indian gongs.

II. Copper 3 parts to 1 part tin.

This composition is proper for church bells.

III. Copper 2 parts, tin 1 part.

Ordinary house and gate bells are of this alloy.

IV. Copper 72 parts, tin 26 parts, and zinc or iron $1\frac{1}{2}$ part.

A good alloy for the bells of clocks and alarums, chamber bells, &c., it giving an exceedingly clear silvery tone.

BELLOSTE'S PILLS.

Quicksilver 1 lb., sugar 4 oz., scammony and jalep of each 1 lb., mix up into a mass with white wine.

BELL'S BOUGEES.

Mix together 4 oz. of litharge plaster, 1 oz. of yellow wax, 3 drachms of olive

oil; cut a piece of linen rag about nine inches long, two inches wide at the one end and one inch at the other, dip it in the plaister, and roll it up into a round tube on a table or slab.

BENDING GLASS TUBES.

If you desire a sudden bend you heat only a small portion of the tube to a dull red heat, and bend it with the hand held at the opposite ends. If the bend is to be gradual you must heat an inch or two of it in length, previous to bending it. If you require a gradual bend on the one side, and a sharp one on the other, as in retorts, a little management of the tube in the flame, moving it to the right and left alternately at the same time that it is turned round, will easily form it of that shape. In bending glass, the part which is to be concave is to be the part most heated. An ordinary gas flame is quite sufficient to bend glass by.

BENJAMIN, FLOWERS OF.

Melt gum benzoin, or gum benjamin, as it is generally called, with a very gentle heat in a glazed earthen pot, to which a paper cone or chamber is annexed; the benjamin will, on account of the heat, be evaporated or sublimed and settle in beautifully glittering scales on the paper head. If these scales, which are the flowers of benjamin, should be found rather oily, as they will be with strong gum, or when the heat is too great, the flowers must be pressed between sheets of blotting paper, then mix them with dry pipe clay and sublime again.

The chemical name of flowers of benjamin is benzoic acid. (See *Scheele's Benzoic Acid* p. 304.)

BENZON, TINCTURE OF.

Take of benzoin 3 oz., purified storax 2 oz., balsam of Tolu 1 oz., socotrine aloes $\frac{1}{2}$ oz., rectified spirits of wine 2 pints. Digest for seven days and filter.

The dose is a tea-spoonful in some warm water four times a day in consumption and spitting of blood. It is also useful applied on a piece of lint or rag to a recent wound. This preparation, or one very nearly similar, has been known at different times by the names of *Friar's Balsam*, *Baume de Commandeur*, *Wade's Balsam*, *Jesuit's Drops*, &c.

BERGAMOT, OIL OF

Is extracted by pressure from the rind of the ripe fruit of the *Citrus bergamium* and *aurentium*. It is a limpid, yellowish fluid, having a smell resembling that of oranges. Its specific gravity varies from 0.888 to 0.885. It becomes concrete when cooled a little below 32°.

BERGAMOT PERFUME.

Take 16 lbs. of hair powder and 40 drops of the best oil of bergamot, rub them well together, and to mix them more intimately rub the powder two or three times through a fine sieve. Keep it from the air at all times.

BERGAMOT WATER.

Take of old French brandy 2 gallons, or 1 of spirits of wine, added to 1 gallon of water. Put to the brandy or dilute spirits $\frac{1}{2}$ oz. of good oil of bergamot, the oil being first killed in a phial of strong spirits. Distil by a water heat and draw off 6 quarts only.

BERLIN GREEN.

Take 1 lb. of verditer, 1 lb. of chrome yellow, $10\frac{1}{2}$ lbs. of wet blue, and 8 lbs. of white lead.

BERLIN VINEGAR.

White wine vinegar 6 lbs., roots of angelica, valerian, and mint, of each $\frac{1}{2}$ oz., camomile flowers, juniper berries, and laurel berries, of each $\frac{1}{2}$ oz., saffron and camphor of each 1 drachm. This is recommended in cases of debility in doses of from 1 to 2 drachms.

BERRIES, WINE FROM.

I. An excellent family wine may be made from the mixed berries and soft fruits of a garden, as follows:—Take equal parts of red, black, and white currants, ripe cherries, raspberries, gooseberries, and strawberries, or such of these fruits as can be procured, bruise them well altogether, cherry stones and all, taking away, however, the stalks of the raspberries as they will soak up too much juice. To every 2 quarts of this fruit pulp add 1 gallon and 1 quart of boiling water, stir it up well and strain it through a cloth, screwing up the cloth to get out as much juice as possible; to each gallon of liquid put 3 lbs. of good moist sugar; boil it all well together for an hour, skimming it all the time; then let it cool, and remain open for three or four days, having had, when cool enough, a little yeast poured upon a slice of toasted bread put to float in the middle of it for a fortnight to work, filling up the cask each day. Add a quart of brandy to every 9 gallons, and bung up tight; in a few months it will be fit to tap.

II. Take of cold soft water 11 gallons, fruit 8 gallons, mix treacle 14 or 16 lbs., tartar in powder 1 oz., ginger in powder 4 oz., sweet herbs 2 handsfull, and 6 or 8 bay leaves. Ferment all altogether for three or four days, then proceed as before, adding 2 quarts of brandy and $\frac{1}{2}$ pint of sweet spirits of nitre to 18 gallons.

III. Water 9 gallons, fruit 7 gallons, honey 6 lbs., tartar, pounded, 2 oz., bay leaves 1 doz., bitter almonds $\frac{1}{4}$ lb. Afterwards brandy 1 gallon. To make 18 gallons.

The wines of the berries will be found under their respective names, see *Index*.

BESTUCHEFF'S NERVOUS TINCTURE.

Take any quantity of iron filings, dissolve it in spirits of salts mixed with a fourth part of nitric acid, evaporate to dryness; separate

the dried mass, and let it be exposed to the air that it may deliquesce into a brown liquor, mix the liquor with twice as much sulphuric ether, separate the ether thus impregnated with the iron, and mix with a double portion of strong spirits of wine; lastly, expose it in long bottles to the rays of the sun till colorless.

BICE.

I. *Blue*.—The native blue caroonate of copper. When obtained, it is carefully separated from earthy parts, pulverized, ground in water with a muller on a stone, then washed in water, and dried on a filter.

II. *Green*.—The native green carbonate of copper, prepared in the same manner.

BIDDERY WARE.

This is a white and somewhat hard metal or alloy, made in India, and of which we have articles frequently brought to this country, particularly large hookahs, bowls, tea-caddies, bottles, &c. It is composed of 16 oz. of copper, 4 oz. of lead, and 2 of tin. These are first melted together, and to every 3 oz. of the alloy are added 16 of zinc. It is often made of a black color, and inlaid with silver; the color is given by dipping the articles in a solution of sal-ammoniac, saltpetre, blue vitriol, and common salt. This acts upon the alloy, but not upon the silver.

BILBERRY WINE.

Take of cold soft water 6 gallons, cyder 6 gallons, bilberries 8 gallons, raw sugar 20 lbs. Ferment together, then add tartar in fine powder 4 oz., ginger, powdered, 4 oz., lavender and rosemary leaves 1 handful of each, rum or British spirits 1 gallon.

BIRCH OIL.

Obtained by distilling 20 parts of birch bark with one of the twigs of *ledum palustre*, a small myrtle-like plant, abundant on commons in northern countries. This is crammed in layers into an earthen pot, with a handful of sand between each layer; the mouth of the pot is closed by an oak plug with a hole in the middle. It is when filled and plugged turned upside down into another vessel or receiver sunk in the ground, and which has but a small neck. Fire being placed all round the pot, the tar or oil is separated by the heat from the birch bark, and like common tar it runs down into the inner vessel, ready for use. It is the material which when diluted with water is used to rub over Russia leather, and it is that which gives it the peculiar odour so disagreeable to insects.

BIRCH TREE SUGAR.

Take the sap which runs from the birch tree. Evaporate it to a proper consistence, and it will form a tolerable good sugar. It is in common use in Sweden, &c. (See next receipt.)

BIRCH WINE.

This is made from the sap of the birch tree which is obtained in the month of February or beginning of March, afterwards it will be too thick to be drawn out. It should be as thin as possible. The method of procuring the juice is by boring holes in the tree and putting little gutters of an elder stalk for the sap to run out, but care should be taken not to tap it in too many places at once for fear of injuring the tree; bottles are to be placed under the gutters for the sap to fall into. When 4 or 5 gallons have been extracted from different trees, put 4 lbs. of loaf sugar to every gallon of sap, also the peel of a lemon cut thin, boil it for an hour skimming it all the time. Pour it into a tub, ferment, tun and rack it as for wines in general. See p. 31, of *Index*.

II. To 18 gallons of birch tree sap, put 14 lbs. of Malaga raisins, pick them from the stalks and bruise them, seeds and all. Boil the liquor for an hour, skimming at the same time; then cool, and add the raisins; keep it covered over in a tub for four or five days, stirring it up two or three times a day, then put it into a cask, which fill up every day for a fortnight, when done hissing, bung it up close. In nine months it will be ripe enough to drink.

This is a very common drink among the Canadian and American Colonists.

BIRD LIME.

The best bird-lime may be made from the middle bark of the holly, boiled seven or eight hours in water, till it is soft and tender, then laid by heaps in pits under ground, covered with stones after the water is drained from it. There it must be left during two or three weeks to ferment in the summer season, and watered, if necessary, till it passes into a mucilaginous state. It is then to be pounded in a mortar to a paste, washed in running water, and kneaded till it be free from extraneous matters. It is next left for four or five days in earthen vessels to ferment and purify itself, when it is fit for use. Bird lime may be made by the same process from the mistletoe, young shoots of elder, and the barks of vegetables, as well as from most parasite plants. Good bird-lime is of a greenish color, and sour flavor, somewhat resembling that of linseed oil; gluey, stringy, and tenacious. By drying in the air it becomes brittle, and may be powdered; but its viscosity may be restored by moistening it.

BIRDS, IN GARDENS, TO DESTROY.

I. Mix some white arsenic with boiled potatoes, or moistened crumbs of bread, and strew the mixture on the top of walls or in any place where the poultry will not get at it.

II. Boil some nux vomica in water, soak some barley, wheat, rape, or canary-seed in

this solution; after soaking till the seed is soft, take it out and strew it about where the birds assemble.

The leaves of henbane or foxglove will answer the same purpose, as indeed will most of the narcotic and the acrid poisons, tobacco, opium, corrosive sublimate, antimony, &c.

BIRDS, TO SCARE FROM SEEDS, ETC.

I. Tie to the top of a stick, placed in the ground in a sloping manner a small potatoe or a bung stuck over with 8 or 10 white feathers; the potatoe being suspended by a string 2 feet or more long, the other end being tied to the stake. The feathers catching the wind will keep the suspended potatoe or bung constantly swinging and turning about, to the great terror of small birds.

II. If a bed of seeds just sown, cross it over in several directions with common sewing cotton, little pieces of stick being thrust in at various places to hold the cotton tight. This will catch the feet of the birds when they alight upon the bed.

III. In addition to the above crossed cotton, put over the beds feathers suspended to sticks by cotton, so that they shall turn about with the wind.

IV. Strew the bed over with small pieces of furze, the more prickly the better, if large pieces are used the birds will creep under it and eat the seed.

V. If the seeds are soaked in any bitter before sowing, the birds will not touch them, or if they do, it will kill the birds.

BICOTTES DE BRUXELLES.

Make a stiff dough of 1 pint of milk, 6 eggs, 6 oz. of butter, a little salt, as much yeast when added to the milk as will make it slightly bitter, 4 oz. of loaf sugar, and flour to make into a dough. Set them to prove in a mass, and when proved form into a cake like a tea cake. Bake these, and a day or two afterwards cut them in thin slices, and put the slices on tins in the oven, to toast or bake them to a fine brown color on both sides.

BISCUITS, TO MAKE.

I. To 1 lb. of flour put the yolk of 1 egg, and milk sufficient to mix it to a stiff paste, knead it smooth, then roll it out thin, cut it in round shapes, prick with a fork, or better with a docker, and bake in a slow oven.

The dough for biscuits should be as stiff as it can be conveniently worked; if too thin the biscuits will be tough and heavy, if too thick they will crack round the edges; any degree of thickness so that they do not crack will suffice. A description of the manufacture of a great number of Biscuits will be found in this work; for the names of which the reader is referred to the *Index*.

BISCUIT DROPS.

Mix well with 1 lb. of powdered loaf sugar, 6 eggs; when well mixed, add a tea-cupful of water, milk, or wine, and a few caraway seeds. Pour it into a heap of a little more

than 1 lb. of flour. When well beaten together, the mixture will be soft, then pour it on wafer paper in drops of about the size of a shilling, sift over them a little powdered sugar and bake in a warm oven.

II. One lb. of flour, $\frac{1}{2}$ lb. of butter beaten into a cream, 5 oz. loaf sugar, 5 eggs, and some carraway seeds. Use a dessert spoonful for each.

III. Beat $\frac{1}{2}$ lb. butter to a cream, add to it 8 oz. flour, 3 oz. of sifted sugar, a table spoonful of carraways, the yolk of 4 eggs, and 2 table spoonful of cream, beat all together.

BISCUITS OF FRUIT.

These are merely dried jams, and go by the names of cheese cake, and biscuit, according to their hardness and other circumstances; thus we have damson cheese, raspberry cakes, and apple biscuits. The following method will succeed with all fruits:—Boil the fruit until it becomes a pulp, mix with this pulp lump sugar equal to it in weight, or sometimes more. When well mixed, pour out the jam thus made in little paper or tin forms, and dry it till of a proper consistence.

(See *Apple*, p. 25; *Apricot*, p. 26, and *Index*.)

BISCUITS, PURGATIVE.

One drachm of jalap in powder, 1 oz. of flour, 2 eggs, and 1 oz. of sugar; make into 3 biscuits, one of which may be given to a child as a proper purgative.

BISHOP.

The day before it is wanted, grill over a slow fire, till of a fine brown color, 3 smooth skinned large bitter oranges; place them in a small punch-bowl that will about hold them, and pour over them a full $\frac{1}{2}$ pint of Bordeaux wine, in which $1\frac{1}{2}$ lb. of loaf sugar is dissolved. Cover with a plate; when wanted to be served the next day, cut and squeeze the oranges into a small sieve, placed over a jug, containing $1\frac{1}{2}$ pint of the same wine, previously made very hot, add more sugar if it is wanted. Serve it in winter time hot in large glasses. In summer it need not be heated at all; on the contrary, it may be iced.

This is a very old liquor, both in France and England. When made of old Rhine wine it was called *Cardinal*, and when of Tokay it had the name of *Pope*. When made at present in England, Madeira is generally used, and flavored with nutmegs, cloves, and mace. It is at best but a superior orange wine.

BISTRE.

An artists' water color, so called, is made by boiling 1 lb. of the root of beech wood in half a gallon of water for half an hour; after which let it settle, pour off and evaporate to dryness, a little gum being added to it forms this sediment into a cake.

BITTERS, MEDICINAL.

I. Gentian root $\frac{1}{2}$ oz., Peruvian bark 1 oz., orange peel $\frac{1}{2}$ oz., cinnamon 1 drachm; mix

this with 2 bottles of port wine, and take half a glass twice a day as a tonic.

II. Gentian and orange peel each $\frac{1}{2}$ oz., lemon peel $\frac{1}{2}$ oz. This is for a pint and a half of boiling water.

BITTERS FOR LIQUEURS, ETC.

I. In 2 pints of spirits of wine, infuse $\frac{1}{2}$ oz. of lesser cardamom seeds, 1 oz. of orange peel, and 2 oz. gentian root.

II. 1 lb. gentian, 8 oz. of orange peel, 1 lb. of grains of Paradise, 2 drams of cochineal, 4 pints of raisin wine, and 12 pints of spirits of wine.

III. Mix 8 lbs. of gentian root powder with 4 lbs. of extract of gentian and 6 lbs. of treacle.

IV. Equal quantities of extracts of quassia and sulphate of iron, 2 parts of cocculus indicus, $\frac{1}{4}$ of Spanish liquorice, and 8 of treacle. (See *Ale*, p. 9; *Brandy*, p. 56, and *Index*.)

BLACK ASH.

The waste lye of the soap maker, pumped out of the boiler, evaporated in large iron boilers, and the salt separated as it falls down. It consists of several salts of soda and potass. It is then put into a furnace and so heated as partially to decompose these salts, and bring it to a pasty kind of fusion, at which time it is let to run out of the furnace into an iron pan to grow cool and solid. It is then sold to the yellow soap maker or alum maker.

BLACK CHALK.

Chalk or charcoal is first to be sawn into three-inch lengths, free from knots; then to be sawn longitudinally into narrow strips. Procure a tin trough, about 4 inches by 3, and partly fill it with white wax; and when properly melted, the pieces of charcoal are to be saturated for forty-eight hours. After draining, they are fit for use.

BLACK COMPOSITION.

This is a black pigment, or animal charcoal, which is left in the vessel, where prussiate of potass has been made from blood and horns. It is used as bone black.

BLACK DROP.

I. Opium 8 oz., distilled vinegar 2 pints, infuse.

This is milder than laudanum, and is supposed to be the same as Battley's liquor opii sedativus.

II. Take $\frac{1}{2}$ lb. opium sliced, 3 pints of verjuice, $1\frac{1}{2}$ oz. of nutmeg, and $\frac{1}{2}$ oz. of saffron; boil them to a proper thickness, then add $\frac{1}{2}$ lb. of sugar and 2 spoonful of yeast. Set the whole in a warm place near the fire for six or eight weeks, then place it in the open air until it becomes of the consistence of a syrup; lastly, decant, filter, and bottle it up, putting a little sugar in each bottle.

The above ingredients ought to yield when properly made, about 2 pints of the strained liquor.

BLACK DYES.

The basis of all black dyes is iron precipitated by some astringent mordant, particularly by those which contain tannin; such as oak bark, sumach, catechu, galls, &c. The iron is usually in the state of a sulphate, commonly known by the names of copperas, vitriol, or green vitriol. The iron and astringent mordants have so close a chemical affinity for each other that the color produced by their mutual action is not destroyed or injured by the contact of air or light.

Logwood is usually employed as an auxiliary because it communicates lustre and adds considerably to the fulness of the black. The following dyes and processes are applicable to different goods.

I. *For Bone, Horn and Ivory.*—Take a double handful of lime, slack it by sprinkling it with water, add more water till it becomes a very thin liquid; let this settle, pour off the clear part, and steep the bone or ivory in it for twenty-four hours, after which boil it in strong alum water for one hour and dry it in the air. (See also *Bone*, p. 52, and *Ivory* p. 194.)

II. *For Cottons and Linens.*—The goods previously dyed blue are steeped for twenty-four hours in a decoction of nut-galls. A bath is prepared containing acetate of iron, formed by saturating acetic acid with brown oxide of iron: into this bath the cloth is put in small quantities at a time, wrought with the hand for a quarter of an hour; then wrung out, and aired again; wrought in a fresh quantity of the bath, and afterwards aired. These alternate processes are repeated till the color wanted is given: a decoction of alder-bark is usually mixed with the liquor containing the nut-galls.

III. *For Silks.*—Silk is dyed in the same manner as wool, except that as it imbibes a large quantity of tannin, the quantity of galls must be increased to twice as much, and the silk must remain longer in the solution.

IV. *For Silk Stockings.*—These are dyed like other silks, except that they are steeped for a day or two in the gall liquor before they are put into the iron dye. At first they will look like an iron grey; but to finish and black them they must be put on wooden legs, laid on a table, and rubbed with an oily rubber or flannel, upon which is oil of olives, the more they are rubbed the better. Each pair of stockings will require half a table spoonful of oil at least and half an hour's rubbing to finish them well.

V. *For Straw or Chip Bonnets, &c.*—Boil them first in strong logwood liquor for three or four hours, take them out to cool and dry in the air, then boil them again for several hours, a small quantity of green vitriol being added to the liquor. They may remain in the saucepan all night. When taken out, dry

them in the air, and brush them with a soft brush; lastly, dip a piece of sponge in oil, squeeze it almost to dryness, and rub it over the bonnets inside and outside. Instead of copperas you may use steel or iron filings soaked in vinegar.

VI. *For Wool, Hair, Fur, &c.*—Boil the goods for two hours in a decoction of nut-galls, and afterwards keep them for two hours more in a bath composed of logwood and sulphate of iron; kept during the whole time at a scalding heat, but not boiling. During the operation they must be frequently exposed to the air. The common proportions are 5 parts of galls, 5 of sulphate of iron, and 30 of logwood, for every 100 of cloth. Sometimes a little acetate of copper (verdigris) is added to improve the color. Woollen cloth, before it receives a black color is usually dyed blue; this renders the color much fuller and finer than it would otherwise be. If the cloth is coarse, the blue dye may be too expensive; in that case a brown color is given by means of walnut shells.

VII. *For Woods, Veneers, &c.*—Steep the wood for two or three days in water, if possible, keeping it warm all the time, the water having had a little alum dissolved in it so that it tastes rough; then put a handful of logwood, cut small, into a pint of water and boil it down to less than half a pint, if a little indigo is added the color will be more beautiful. Spread a layer of this liquor quite hot on the wood with a brush, which will give it a violet color. When dry spread on another layer, dry it again and give it a third, then boil verdigris at discretion in vinegar and spread a layer of it on the wood; when it is dry rub with a brush, and then with oiled chamois skin. This forms a good imitation of ebony wood. (See *Wood, Staining of*, p. 334.)

BLACK DRAUGHT.

I. Compound infusion of senna 5 oz., cinnamon water 1 oz., manna $\frac{1}{2}$ oz., Epsom salts, 3 oz., dissolve $1\frac{1}{4}$ oz. Epsom salts in 1 oz. of infusion of senna, to which may be added 6 or 8 drops of laudanum.

II. Infusion of senna $14\frac{1}{2}$ fluid oz., tincture of senna $1\frac{1}{2}$ fluid oz., Epsom salts, 4 oz., carbonate of ammonia 1 scruple.

III. Senna 2 oz., boiling water $1\frac{1}{2}$ pint, tincture of senna and Epsom salts of each $\frac{3}{4}$ oz.

IV. Senna 8 oz., boiling water $4\frac{1}{2}$ pints, Epsom salts 1 lb., tincture of senna $\frac{3}{4}$ pint, treacle and coloring of each 2 oz.

These are all improved by a little of the tincture of cloves, being more pleasant to take, and less likely to occasion those griping pains often produced by senna, particularly if of inferior quality. About a small wine-glassful of each mixture is a proper dose. The black draught was a favorite medicine with the late Dr. Abernethy. (See *Abernethy Medicines*, p. 1.)

BLACK ENAMEL.

I. Take of calcined iron, that is of the sparks or pieces thrown off at a blacksmith's anvil, and of cobalt 1 oz., or

II. Cobalt 2 oz., and manganese 1 oz., mix them with equal parts of flux by melting or grinding together.

III. Dissolve platina in aqua regia, to the solution add the nitrate of mercury. Collect the sediment and expose it to heat sufficient to drive off the chloride of mercury which will be formed. There will be obtained a black powder, which, applied with a flux, gives a beautiful black enamel.

BLACK FLUX.

The strong alkali produced by calcining 1 part of cream of tartar with 1 of saltpetre.

BLACKING FOR SHOES, &c.

I. *Liquid*.—Ivory black 6 lbs., sugar 6 lbs. dissolved in a quart of water, sperm oil 1 lb. gum arabic 3 oz., dissolved in a quart of vinegar. Add afterwards, vinegar or stale beer 3 gallons, oil of vitriol $1\frac{1}{2}$ lb., this quantity of vitriol will be about $\frac{3}{4}$ of a pint.

II. Bone black and common treacle each 12 oz., sperm oil and oil of vitriol each 3 oz., vinegar 2 quarts.

III. Bone black and treacle of each 2 lbs., neat's-foot oil 8 oz., oil of vitriol 1 oz., gum tragacanth 2 oz., vinegar 6 pints.

IV. Bone black 1 oz., small beer 1 pint, brown sugar and gum arabic of each $\frac{1}{2}$ oz., or if required to be very shining add the white of an egg, but this should not be used for a constancy, as it will be liable to crack the leather, on account of the quantity of gum and egg.

V. Take 4 oz. of ivory black, 3 oz. of the coarsest sugar, a table-spoonful of sweet oil, and 1 pint of small beer, mix them gradually together cold.

VI. Ivory black, ground fine, 4 oz., treacle 2 oz., vinegar $\frac{3}{4}$ pint, spermaceti oil a tea-spoonful. If the ingredients are of the best qualities, this blacking will be found exceedingly good. Mix the oil with the blacking first, then add the treacle, and lastly the vinegar.

The object of the oil of vitriol is to promote the shining and the drying. It is not injurious in small quantities, still it is unnecessary, and has the effect of producing a whiteness upon the leather, if it be not polished immediately after it is laid on. Blacking will always dry well if made with vinegar, and shine well if sugar candy be substituted for sugar.

The only difference between liquid blacking and paste blacking is in the quantity of liquid put to it. The ivory black should be as finely ground as possible. Blackings of a very different character are found under *Harness*, p. 169, and *German*, p. 144.

BLACKING CAKES.

Take gum tragacanth 1 oz., neat's-foot oil, superfine ivory black, deep blue, prepared from iron and copper, each 2 oz., brown sugar-candy, river water, each 4 oz., Having mixed well these ingredients, evaporate the water, and form your cakes.

BLACKING BALLS.

Take mutton suet 4 oz., bees' wax 1 oz., sweet oil 1 oz., sugar candy and gum arabic 1 dram in each fine powder; melt these well together over a gentle fire, and add thereto about a spoonful of turpentine, and lamp-black sufficient to give it a good black color. While hot enough to run, make it into a ball, by pouring the liquor into a tin mould, or let it stand till almost cold; or it may be moulded by the hand.

BLACKING THE EDGES OF BOOKS AND PAPER.

Mix black lead with ink, and when the paper is cut, color it thinly with black ink laid on with a piece of fine cloth or sponge, then rub on the black lead, covering every part, burnish it with agate, bloodstone, or a dog's tooth.

BLACK JAPAN.

Is made by putting into the set-pot 48 lbs. of Naples, or any other of the foreign asphaltums, (except the Egyptian.) As soon as it is melted, pour in 10 gallons of raw linseed oil; keep a moderate fire, and fuse 8 lbs. of dark gum animé in the gum-pot; mix it with 2 gallons of hot oil, and pour it into the set-pot. Afterwards fuse 10 lbs. of dark or sea amber in the ten gallon iron pot; keep stirring it while fusing; and whenever it appears to be overheated, and rising too high in the pot, lift it from the fire for a few minutes. When it is completely fused, mix in 2 gallons of hot oil, and pour the mixture into the set-pot; continue the boiling for three hours longer, and during that time introduce the same quantity of dryers as before directed: draw out the fire, and let it remain until morning; then boil it until it rolls hard, as before directed: leave it to cool, and afterwards mix with turpentine.

BLACK LOZENGES.

Make a smooth mucilage with 1 lb. of gum tragacanth in powder and water, add 8 oz. of loaf sugar powdered, and then 10 oz. of extract of liquorice. Put in a warm place and stir it till well mixed. Roll out the mass, cut into lozenges, and dry.

BLACK REVIVER.

I. Boil in 2 pints of water down to 1, 2 oz. each of Aleppo galls, in powder, and of logwood, 1 oz. of gum arabic, then add 1 of sulphate of iron. This may be evaporated to a powder.

II. Galls 8 oz., logwood, green vitriol, iron filings, sumach, of each 1 oz., vinegar 2 pints.

III. Take 2 pints of vinegar and infuse in it 1 oz. each of iron filings, or sulphate of iron, of copperas, and of ground logwood, with 3 oz. of bruised galls.

IV. Galls $\frac{1}{2}$ lb., logwood $\frac{1}{2}$ lb., copperas 2 oz.; boil for 2 hours in a quart and half

pint of water, until it is reduced to such a state that about $1\frac{1}{2}$ pint will drain from it.

BLACK VARNISH FOR METAL.

Put 48 lbs. of foreign asphaltum into an iron pot, and boil for four hours. During the first two hours introduce 7 lbs. of litharge, 3 lbs. of dried copperas, and 10 gallons of boiled oil, and 1 eight-pound run of dark gum, with 2 gallons of hot oil. After pouring in the oil and gum, continue the boiling two hours, or until it will roll into hard pills like japan. When cold, thin it off with 30 gallons of turpentine, or until it is of a proper consistence.

This varnish is intended for blacking the iron-work of coaches and other carriages, &c.

BLACKBERRY WINE.

Having procured berries that are fully ripe, put them into a tub or pan with a tap to it, and pour upon them as much boiling water, as will just cover them. As soon as the heat will permit the hand to be put into the vessel, bruise them well till all the berries are broken. Then let them stand covered till the berries begin to rise towards the top, which they usually do in three or four days. Then draw off the clear liquor into another vessel, and add to every 10 quarts of this liquor 4 lbs. of sugar; stir it well, and let it stand to work a week or ten days; then filter it through a flannel jelly bag into a cask. Take now 4 oz. of isinglass and lay it to steep for twelve hours in a pint of blackberry juice, the next morning boil it over a slow fire for half an hour with a quart or 3 pints more juice and pour it into the cask; when cool, rouse it about well and leave it to settle for a few days, then rack it off into a clean cask and bung it down.

BLACK LEAD DRAWINGS, TO FIX.

Dissolve a small quantity of isinglass, and dilute it with warm water, till so thin that when spread upon paper, and dry, it shall be free from those sparkling particles which never fail to appear, if too thick. Take a broad flat camel-hair pencil, set in tin, and fill it plentifully with the solution, and draw it slightly over the work intended to be fixed, once or twice, or as the size of the picture may require; it must be carefully done, to prevent disturbing the sharpness of the pencil work; when dry, it will be found to resist the effect of indian-rubber. It is advantageous to sponge the back of the paper or Bristol board before applying the solution, in order that the paper may dry level as it is apt to contract round the edges when only one side is wet. If there be a margin round the drawing, it is not requisite to sponge the back.

Milk and water answers the above purpose quite as well—so does alum water.

BLACK LEAD PENCILS, ARTIFICIAL.

Melt together fine Cumberland black-lead in powder and shell lac. This compound is to be repeatedly powdered and re-melted until of uniform composition; it is then sawn into slips, and mounted as usual. Pencils thus made are uniform, and of great strength, and there is no waste of materials.

BLADDERS, ETC., TO PREPARE.

Blow them up moderately, then cut off the fat and as much of the loose outside membrane as convenient; if possible turn them inside out, and soak them in water for a few days. Then in the case of those which have been turned, as also intestines, you will be able to remove much of the inner coat, sometimes the whole will come away in a piece, leaving the rest very clear and thin. Turn them again, blow them up, dry them, press out the air when dry and expose them to the fumes of burning sulphur to bleach them.

If the Eau de Javelle can be procured, and there is much difficulty in this country, though it is very common in France, it will only be necessary to soak them in a weak solution of this bleaching liquid for one night, after which they will be found both ready to be cleaned of their mucous coat and bleached.

BLAINE'S POWDER

For the distemper in dogs, is a disguised preparation of the sulphuret of tin.

BLANCHED COPPER.

Eight oz. of copper and $\frac{1}{2}$ oz. of neutral arsenical salt, fused together under a flux of calcined borax and pounded glass, to which charcoal powder is added.

BLANCMANGE.

I. Dissolve an ounce of isinglass in half a tea-cupful of water, placing it on the hob till dissolved. While this is doing, pound in a mortar 8 bitter and 20 sweet almonds previously blanched. Add these to the isinglass with $1\frac{1}{2}$ pint of milk or cream, a tea-spoonful of orange flower-water and enough loaf sugar to sweeten it. Boil the whole together, strain it through fine lawn, let it get cold, and cut from off the lump any scum which may have arisen, as well as any sediment which has fallen; retaining only the purely white part. If not thick enough to set, more isinglass may be added. Boil the pure part alone or with more isinglass as desired. Stir up with it a glass of sherry wine or pale brandy, and pour it into a mould. A glass of noyau, or a very little of the essential oil of almonds may be added if the flavor be not strong enough, of these the noyau is to be preferred.

II. From *Arrow Root*.—Make a jelly with arrow root and milk, and to every pint of the jelly, when nearly cold, add a glass of sherry wine, a spoonful each of orange flour water and brandy, and 2 oz. of loaf sugar.

III. Isinglass $\frac{1}{2}$ lb., rose water $\frac{1}{2}$ pint, milk 2 quarts, milk of almonds $\frac{1}{2}$ pint.

IV. Skim off the fat from and strain a quart of strong calves' foot jelly, add to the same the whites of 4 eggs well beaten, set it over the fire and stir it till it boils, then pour it into a jelly bag and filter it two or three times till it is clear; beat an ounce of sweet and bitter almonds to a paste, with a spoonful of rose water strained through a cloth. Then mix it with the jelly and add 3 large spoonfuls of good cream; set it again over the fire till it almost boils. Pour it into a bowl and stir it often till it is nearly cold, when it may be poured into moulds.

BLEACHING LIQUID.

What is sold under this name is a solution of the chloride of lime, which is also kept in the market under the name of Bleaching Powder, Bleaching Salts, or Tennant's Salts. It is a deliquescent salt, of a sharp, bitter taste, soluble in alcohol. It is a chloride of lime (not of calcium) mixed with hydrate of lime, and is prepared by exposing thin layers of recently slaked lime in fine powder to an atmosphere of chlorine. Chlorate of potash, prepared in a similar way, is also sold under this name. The sulphuret of lime is also used in the same way, but is not so efficacious.

BLEACHING LIQUID, EXTEMPORANEOUS.

Put a little of the chlorate of potash into twice or three times the quantity of common salt and dilute it with water.

BLEEDING AT THE NOSE.

When this occurs without violence it is generally an effort of nature to relieve the body from a superfluity of blood, but when it is long continued, or when it is the result of a blow or other violence, it ought to be put a stop to as early as possible.

I. Holding the head back and washing the forehead with water as cold as possible.

II. In addition to the above let the person take several strong sniffs of aromatic vinegar, common vinegar, or spirits of hartshorn.

III. Plug up the nostril which bleeds, or both if necessary, with a pellet of lint or rag, dipped in alum water, white vitriol water, or even with cold water.

These remedies act in different ways; the first by closing the veins of the forehead by the cold. The second by stimulating the fine capillary veins inside the nose to close; and the third by constricting them by the alum or vitriol, at the same time that the blood and lint together forms a plug. Sudden application of cold to the back or loins will often have the effect, such as a cold key put down the back.

BLIGHT ON ROSE TREES, TO DESTROY.

Take equal parts of sulphur and tobacco dust, both in the finest powder, put them in a piece of muslin, and dust the mixed powder over the infected part of the trees of a morning when they are damp with dew. In dusting them, you had better hold a plate or piece of paper beneath the tree to catch the powder that falls. (See *American Blight*, p. 18.)

BLISTERED FEET, CURE FOR.

Rub the feet, at going to bed, with spirits mixed with tallow, dropped from a lighted candle into the palm of the hand. On the following morning no blisters will exist.

BLISTER LIQUID.

Cantharides bruised 2 oz., rectified spirits of wine 8 oz., oil of thyme 2 drachms, soft water $\frac{1}{2}$ a pint. Pour the water boiling hot on the cantharides and let it stand all night. In the morning add the spirit of wine and oil of thyme, let it stand a fortnight before using.

BLISTER PLAISTER.

I. Take of Spanish flies 1 oz., wax plaister 2 oz., and prepared hog's lard $\frac{1}{2}$ oz. Having melted the plaister and lard a little before they congeal, add the flies in powder and intimately mix the whole together.

In spreading this and all other blistering materials upon leather, be careful not to use more heat than is absolutely necessary, lest the quality of the flies should be injured.

II. *Compound*.—Take of Burgundy pitch, Venice turpentine, and cantharides, each, 12 parts, yellow wax 4 parts, sub-acetate of copper 2 parts, mustard seed and black pepper each 1 part. Having first melted the pitch and wax, add the turpentine; and to these, in fusion and while still hot, add the other ingredients, reduced to a fine powder and mixed. Stir the whole carefully together and spread upon leather, leaving about an inch around the edge of the leather uncovered with the blister plaister.

This preparation is infallible and rapid in its action; it is, however, less suitable for irritable skins and for children, occasioning more pain than the last.

BLISTERS FOR HORSES.

I. Laurel ointment and elder ointment of each 1 lb., cantharides, euphorbium, oil of marjoram, each 8 oz., corrosive sublimate 1 drachm.

II. Burgundy pitch 12 oz., common turpentine 5 oz., cantharides 10 oz., euphorbium 1 oz., pork lard 8 oz., vinegar 9 oz.

III. Laurel ointment 4 oz., oil of marjoram 1 oz., cantharides and euphorbium of each 2 drachms.

IV. Green ointment 1 $\frac{1}{2}$ lb., euphorbium 2 drachms, oil of marjoram 1 oz., cantharides 2 oz., common turpentine 1 $\frac{1}{2}$ oz.

V. Cantharides $\frac{1}{2}$ oz., oil of turpentine 1 oz., hog's lard, 4 oz.

VI. Tar 4 oz., oil of vitriol 2 drachms, hog's lard 2 oz., oil of marjoram $\frac{1}{2}$ oz., cantharides 2 oz.

VII. Hog's lard 6 oz., Venice turpentine 4 oz., bees' wax 2 oz., yellow resin 1 oz.. Melt these together, and when cooling, add oil of marjoram $\frac{1}{2}$ oz., cantharides 3 oz. If it grow too hard in winter soften with oil of turpentine.

BLOND LACE, TO BLANCH.

Detach the blond from the caul, but not from the quilling of a cap. Fold it evenly in four lengths, if scalloped at the edge, and take care that the scallops lay over each other. Tack it evenly, first along the scalloped edge, next where it joins the quilling, wet it in cold soft water, soap it well with common soap, yellow or white, taking care that there is no gravelly roughness in the soap; lather it lightly, and do not rub too hard. If very dirty, use two or three waters, repeating the process of lathering. Rinse it finally in soft cold water, and when quite free from soap, dip it in water very highly blued, with about a tea-spoonful of made starch in a quart of water. Squeeze it, then lay it between the folds of a cloth, pull the packing threads out and unfold, then iron it before it is dry. The iron must not be plied lengthwise, but in short strokes from the quilling to the scallop, or edge if it is not scalloped. Next detach the blond from the quilling, and, finally, pass the iron lightly along the blond, without straining it; roll it on a card ready for use.

BLOOD, POWDERED.

Dry the blood by exposing it in thin layers to a current of air, or the heat of the sun, or a stove at a heat of not more than 125°. When dry, let it be powdered by beating, rubbing, or grinding.

This is much used in sugar refining, and for this purpose is exported to the West India islands. It is also used to adulterate several drugs, as dragon's blood, musk, &c.

BLOOD CEMENT.

A cement, often used by coppersmiths to lay over the rivets and edges of the sheets of copper in large boilers, to serve as an additional security to the joinings, and to secure cocks, &c. from leaking, is made by mixing pounded quicklime with ox's blood. It must be applied fresh made, as it soon gets hard. If the properties of this cement were duly investigated, it would probably be found useful for many purposes to which it has never yet been applied. It is extremely cheap and very durable.

BLOOD, SPITTING OF.

Infusion of red roses 5½ oz., syrup of poppies ½ oz., diluted sulphuric acid 20 drops. 1 or 2 table spoonsful four times a day.
(See *Acid Linctus*, p. 215.)

BLUE ASHES.

This is a precipitate of copper combined with water (a hydrated carbonate): it is either natural or artificial. It is only employed in decorative painting, and turns green after some time when used in distemper. The same effect will be produced on it in a few days, if ground up in oil. In preparing this color they begin by making what

are called "green ashes," by precipitating by carbonate of potass a solution of sulphate of copper. This carbonate of copper is converted into blue by mixing it with lime and sal ammoniac, thus:—Take 24 lbs. of this precipitate, well washed and filtered, 2 lbs. of good quick-lime, and about 10 oz. of sal ammoniac; the lime is then to be slacked to a milky consistency, and made very smooth; the sal-ammoniac reduced to powder is then added to it, and they must be well stirred, to unite them properly. It is allowed to cool as much as possible previous to mixing with it the carbonate of copper; for during this operation the temperature rises considerably, and should it reach to 25° the hydrate would be decomposed, and a black oxyde would be formed, instead of a bright blue. Either we should have a grey, or a bluish grey color. The mixture is allowed to settle for twenty-four hours, and is then washed in plenty of water.

BLUE BLACK.

A paste made of ivory black and indigo ground together with water, and used by plasterers in whitewashing, mixing it with whitewash, not with the intention of giving it a color, but in a very small quantity, to take off the yellowness of the whitening.

BLUE DYES.

I. For *Wool, Hair, &c.*—Dissolve 1 part of indigo in 4 parts of concentrated sulphuric acid; to the solution add 1 part of dry carbonate of potass, and then dilute with eight times its weight of water. The cloth must be boiled for an hour in a solution containing 5 parts of alum and 3 of tartar, for every 32 parts of cloth. It is then to be thrown into a water-bath, previously prepared, containing a greater or smaller proportion of diluted sulphate of indigo, according to the shade which the cloth is intended to receive. In this bath it must be boiled till it has acquired the wished-for color.

When the cloth is first taken out of the vat, it is of a green color; but it soon becomes blue. It ought to be carefully washed, to carry off the uncombined particles. This solution of indigo is liable to two inconveniences: first, it is apt sometimes to run too fast into the putrid fermentation; this may be known by the putrid vapours which it exhales, and by the disappearing of the green color. In this state it would soon destroy the indigo altogether. The inconvenience is remedied by adding more lime, which has the property of moderating the putrescent tendency. Secondly, sometimes the fermentation goes on too languidly. This defect is remedied by adding more bran or woad, in order to diminish the proportion of quick lime.

II. For *Cotton and Linen.*—Cotton and linen are dyed blue by a solution of 1 part

of indigo, 1 part of green sulphate of iron, and 2 parts of quick lime.

III. For *Silk*.—Silk is dyed light blue by a ferment of 6 parts of bran, 6 of indigo, 6 of potass, and 1 of madder. To dye it of a dark blue, it must previously receive what is called a ground-color; a red dye stuff, called archil, is used for this purpose.

IV. For *Wood*.—(a) Boil 4 oz. of turnsole in 1½ pint of water, in which lime has been slacked. This is fugitive.—(b) Soak the wood or brush it over with a solution of sulphate of indigo twice or thrice till the color is obtained. Wood is seldom dyed of this color.

V. For *Bone, Ivory and Feathers*.—First soak the articles, after they are formed, in verdigris, and afterwards in a hot and strong solution of pearlash. (See *Bone*, p. 52.)

BLUE ENAMEL.

Take of powdered cobalt, sand, red lead, and nitre, each 1 oz. flint glass, 2 oz.; melt them together in a crucible, then pound them well together and add flux according to the degree of softness or strength of color desired.

BLUE EYE WATER.

Take of lime water 1 pint, sal ammoniac 1 drachm; mix and let them stand upon a piece of clean copper till the liquor acquires a fine blue color, then filter.

BLUE FIRE.

Nitrate of barytes 77 parts by weight, sulphur 13 ditto, chlorate of potass 5 ditto, realgar 2 ditto, charcoal 3 ditto. Mix and inflame with a lighted match.

This receipt we have tried repeatedly, and know it to be excellent; the above is not the blue light used among shipping, and in terminating theatrical scenes, but the more delicate flame used in fairy and apparition scenes, &c., and which casts a peculiar soft whitish-blue light, accompanied by much white smoke. (See *Blue Signal Light*.)

BLUE MOTTLED WASH BALLS.

Cut the soap into pieces, rub the pieces in powder blue, and press them together in balls.

BLUE OINTMENT.

I. Quicksilver, 1 lb., Venice turpentine 1 oz., lard 4 lbs.

II. *Mild*. Quicksilver 1 lb., common turpentine 1 oz., pork lard 4 lb.

III. *Strong*.—Quicksilver 1 lb., balsam of sulphur ½ oz., pork lard 2 lbs.

BLUE PAINTS.

1. For *House Painting*.—(a) Use Prussian blue ground in oil, and rendered lighter where necessary by white lead. It is to be mixed with linseed oil, with a little turpentine and a little dryers; a very small quantity of Prussian blue will color a large quantity of white lead.—(b) Instead of Prussian blue, use azure, or blue verditer, or English ultramarine, with oil or varnish. These have less body than Prussian blue.

II. For *Artists*.—All the above colors, and also real ultramarine.

III. In *Water Colors*.—Smalt, cobalt blue, indigo, and most of the above.

IV. In *Distemper*.—Use damp blue, which is a paste made of indigo, mix this with whitening, water, and size.

(See *Blue*, p. 32, *Blue Cobalt*, p. 90, *Indigo Blue*, p. 184, and *Index*.)

BLUE, OR MERCURIAL PILL.

Take 2 drachms of purified mercury, 3 drachms of conserve of roses, 1 drachm of liquorice root. Rub the mercury in a mortar along with the conserve of roses till the globules disappear, then having added the liquorice root, beat the whole together till incorporated, and divide into 3 grain pills, which contain each 1 grain of the mercury.

This was a favorite remedy with Dr. Abernethy. (See *Calomet*, p. 67.)

BLUE SIGNAL LIGHTS, BENGAL LIGHTS.

Mix 28 oz. of nitre with 12 of sulphur and 2½ of realgar or orpiment; touched with a red hot wire, it burns with a vivid white light.

BLUE STONE, OR BLUE VITRIOL.

I. Made by roasting copper, boiling the oxyde in oil of vitriol, washing the residuum, evaporating, and crystallizing.

II. By moistening plates of copper, covering them with rough brimstone, calcining, washing out the salt, evaporating, and crystallizing.

It is used in medicine and in farriery as a stiptic, an escarotic, and an astringent when used externally and internally; in doses of less than 2 grains as a tonic and astringent; and in doses of from 2 to 10 grains as a sudden emetic to be used in cases of poisoning, &c. The sulphate of zinc or white vitriol answers the same purpose.

III. *Pale colored*.—By mixing a little nitric acid with the oil of vitriol and twelve times as much water, the solution of the copper is easily performed, but the crystals are of a pale blue color.

The blue stone obtained from the evaporation of the liquor of copper mines is generally of a very light bluish color, such is that called *Toorushoo*, which comes from Pegu, and is used in India. Also the Roman vitriol from Cyprus. The Swedish and the Hungarian blue stone are also light-colored.

BLUE VERDITER.

Dissolve copper in aquafortis; then add quicklime to throw down the copper, adding a little at a time while any precipitate falls. Thus pure copper is obtained in powder; decant away the clear liquor, wash the precipitate in water, and drain it on a piece of linen cloth. It will be now of a green color. It is then to be placed on a stone, and a small quantity of quicklime in powder is to be added and ground up with it, in doing so the whole will change into a beautiful blue. The proportion of the lime added is to be about an eighth part. It will be now of the consistence of paste, and may very easily be dried.

Blue verditer is proper for distemper and for varnish, but as oil renders it very dark it is not fit for oil painting.

11. Dissolve blue stone in water, and pour it upon some whitening in powder, let it stand for some hours, until the water has lost most of its blue color. Then pour it off and add more, shake it up well and then let it stand as before. Thus proceed until the whitening is of sufficient color.

This makes a common article, because by the mixture of blue stone and whitening a sulphate of lime is formed which falls down along with the blue carbonate of copper; it is therefore an adulterated article, but if a nitrate of copper and quicklime be used, as in the first receipt, the result is that the lime first absorbs the aquafortis or nitric acid, and forms with it nitrate of lime; this, instead of falling down remains suspended in the liquor, and is afterwards thrown away with it; so that an oxyde of copper only falls. This afterwards being mixed with quicklime, and attracting carbonic acid from the air, changes the material into a pure carbonate of copper mixed with lime; and such is true verditer; in fresco painting great attention must be paid to make it always from the nitrate of copper.

BLUE WRITING INK.

I. A good and cheap blue ink may be made of the following ingredients:—Prussian blue 2 drachms, oxalic acid 4 ditto, water 1 pint.

II. Dissolve sulphate of indigo in water.

This is the ink used in ruling account books, &c. and is that in common use at present. The sort which turns black afterwards contains more sulphuric acid.

BOERHAAVE'S ASTRINGENT POWDER.

Mix together equal parts of alum, nutmeg, and American bole.

BOERHAAVE'S RED PILL.

Is prepared by mixing into a mass with crumbs of bread, or gum water, a portion of bi-sulphuret of mercury, and dividing it into pills, each pill containing 2 or 3 grains of the bi-sulphuret.

BOHEMIAN GLASS.

Crown.—Mix together. Flint 63 parts, potass 22, lime $12\frac{1}{2}$, oxide of lead $2\frac{1}{2}$, 100 parts of old glass.

Flint.—Mix $71\frac{3}{4}$ of calcined flints with $12\frac{1}{2}$ of potass purified, $2\frac{1}{2}$ of soda, 10 of lime, $\frac{1}{2}$ of white clay, $\frac{1}{12}$ th each of oxide of iron and of manganese, and 100 of cullet or old glass. If too blue leave out the manganese.

Plate.—Sixty-three parts of flint or fine white sand, 26 of purified potass, 11 of sifted slaked lime, and 100 of broken glass.

The second receipt is that used in the manufacture of the elegant glass articles lately brought here in such abundance. Glass is always clearer and tougher when not made wholly of new materials, but with old glass ground and melted up with them, hence the constant admixture of cullet or broken glass.

BOILED AND BAKED OIL.

Into an iron pot pour half a gallon of linseed oil, to which add $\frac{1}{4}$ lb. of litharge, set the pot on the fire, and be careful not to let it boil over, for when it first boils it rises very suddenly. It is best therefore prepared out of doors and at a distance from any building. Let it boil for many hours till it

becomes quite thick and tenacious. When it has boiled only two or three hours it is the common boiled oil of the shops, but when boiled for fourteen or sixteen hours, it becomes much darker and thicker. In this state it is called baked or burnt oil, and is of value in making varnish, particularly gold size and black japan varnish.

BOILS.

Suppuration, or bringing them to a head, should be promoted by warm poultices, like that of chamomile flowers, or boiled white lily root, or onion root; by long exposures to steam, or continued fomentation with hot water, also by stimulating plaisters. When sufficiently ripe, so as to show a white head the matter should be let out with a lancet or needle.—(See *Abscess*, p. 1.)

When there is a disposition in the body to the formation of boils, Peruvian bark and port wine, preparations of iron and acids, and sea bathing, are serviceable, as well as the use of mild purgatives and diuretics, as cream of tartar and sulphur, nitre in small quantities, Epsom salts, &c.

BOLOGNA PHOSPHORUS.

Form the sulphate of baryta into a thin cake with common flour paste. Heat this cake to redness in a crucible, it will thus acquire the property of being phosphorescent in the dark.

If sulphuric acid be poured upon some fresh calcined and consequently caustic baryta the combination will be so rapid that the mixture will become of a glowing red heat.

BOLOGNA SAUSAGES.

Take 1 lb. of beef suet, 1 lb. of lean pork, 1 lb. of bacon, fat and lean, and 1 lb. of lean beef and veal; cut them very small; take a handful of sage leaves chopped small, with a few sweet herbs, season pretty high with pepper and salt, and put it into a large clean gut. Set on a saucepan of water, and when it boils, put it in, pricking it first all over to prevent bursting. Boil one hour.

BOLOGNA WASH BALLS.

Take 20 lbs. of very old and brown Castile soap, shave or scrape it very thin, and place it in the air to dry; then add to it $\frac{1}{2}$ lb. of cassia wood, and $1\frac{1}{2}$ lb. of gum labdanum, both finely powdered; mix the soap and powders well together, and wet them with about $\frac{1}{2}$ a pint of rose water. Now beat the whole well together two or three times at intervals of a few days to let it become quite mellow, then make up the mass when quite stiff into round balls, and dry them in the shade. The color will be more or less brown.

BON-BONS.

Provide leaden moulds, which must be of various shapes, and be oiled with oil of almonds. Take a quantity of brown sugar syrup in the proportion to their size, in that state of boiling called the blow; to know

this, dip a skimmer into the sugar, shake it, and blow through the holes, when particles of light may be seen; add now to the sugar a few drops of any esteemed essence. If the bon-bons are preferred white, when the sugar has cooled a little, stir it round the pan till it grains and shines on the surface, then pour it into a funnel and fill the little moulds, when it will take a proper form and harden; as soon as it is cold take it from the moulds, dry it two or three days and put it upon paper. If the bon-bons are desired to be colored, add the proper color just before the sugar is to be taken off the fire.

BONE BLACK.

The same as animal charcoal, what is left in the still after the distillation of ammonia from bones. It is then animal charcoal, or the bones changed into a black substance. It is afterwards pounded and sifted for use as a pigment for making shoe blacking, clarifying sugar, and decoloring various liquids. (See *Animal Charcoal*, p. 20.)

BONES, DYES FOR.

I. Red.—Dissolve cochineal in spirits of hartshorn, into which immerse the bones, after having put them in weak aquafortis a few minutes.

II. Scarlet.—First boil in madder dye or Brazil wood, and then in a solution of muriate of tin.

III. Black.—Soak for a day or two in ink or in a weak solution of lunar caustic.

IV. Purple.—Boil for six hours with logwood and alum; not using an iron vessel.

V. Yellow.—First soak for twenty-four hours in a solution of sugar of lead, and afterwards in chromate of potass.

VI. Brown.—Boil in a solution of turmeric and afterwards boil in pearlash water.

VII. Blue.—Soak or boil in a solution of sulphate of indigo, to which a little salt of tartar may be added.

VIII. Green.—Dissolve verdigris in vinegar and boil the bones therein.

BONE GLUE.

The French have of late years made a considerable quantity of glue from bones, which they consider as superior to the ordinary glue made from the skins of animals.

For the purpose of making this glue, they use the refuse bone of the table-knife makers, and skulls of oxen, from which the teeth have been extracted. These materials are soaked for about a week in water rendered very sour by the addition of spirits of salts; in which time they become quite flexible, and may be bent with ease. Being taken out of the acid, boiling water is poured on the bones, or rather glue, to separate any grease, and also the acid that adheres to it. The pieces of glue are then wiped, washed in cold water, and dried in the shade. When this

glue is to be used, it is boiled in water to a proper consistence.

BONE GREASE.

By bruising and boiling the refuse bones of the kitchen, putting, however, a large quantity of salt in the pot with them, a large proportion of fat fit for making soap, &c., may be obtained by skimming it off when cold. To make candles of it, it must afterwards be well washed with cold water to separate any salt it may contain.

The use of the salt is to raise the temperature of the water, which without salt would boil at 212°, but with salt at from 216° to 220°, and this extra heat will add much in bringing out the fat.

BOOKS, GILDING THE EDGES OF.

The edges being cut are washed over with a composition of 4 parts Armenian bole and 1 of candied sugar, ground together with water to a proper consistence. To this add the white of eggs, in quantity about half that of the water; beat the whole together, and lay it on with a brush, and when nearly dry burnish the surface. Then slightly moisten it with a sponge, dipped in water, and apply the gold leaf with a piece of cotton wool. When dry, burnish, interposing a piece of very thin paper between the gold and the burnisher.

BOOKS, LETTERING THE BACKS OF.

Stamps of the letters or devices being prepared, they are laid close to a clear fire, and made pretty hot, but not red hot. The back of the book is dusted over with finely powdered resin or mastic; lay a piece of gold leaf, of sufficient size, on the place intended for the letter, and press the hot tool upon it; the heat will, of course, melt the rosin, and occasion the gold leaf to adhere firmly to the leather, while the superfluous edges are wiped off with a slightly greasy cloth.

BOOKS, TO REMOVE STAINS FROM.

I. Nearly all the acids remove spots of ink from paper, but it is important to use such as attack its texture the least. Spirits of salts, diluted into five times or six times the quantity of water, may be applied with success upon the spot, and after a minute or two washing it off with clear water.

II. A solution of oxalic acid, citric acid, or tartaric acid, is attended with the least risk, and may be applied upon the paper and prints without fear of damage. These acids taking out writing ink, and not touching the printing, can be used for restoring books where the margins have been written upon, without attacking the text.

III. When the paper is disfigured with stains of iron, it may be perfectly restored by applying a solution of sulphuret of potash and afterwards one of oxalic acid. The sulphuret extracts from the iron part of its oxygen, and renders it soluble in diluted acids.

iv. The most simple, but at the same time very effectual method of erasing spots of grease, wax, oil, or any other fat substance, is by washing the part with ether, and placing it between white blotting paper. Then with a hot iron press above the part stained, and the defect will be speedily removed. In many cases, where the stains are not bad, rectified spirits of wine will be found to answer the purpose.

BOOT POWDER.

This is a powder to be rubbed into the inside of the legs of boots to assist in drawing them on when new or tight. It consists only of French chalk pounded and sifted. It is of a perfectly white color, does not soil the stockings, and gives a great gloss and slipperiness to leather.

This material is also that which is used to put a satin-like gloss upon paper hangings.

BOOT VARNISH.

i. Gum arabic 4 oz., sugar candy 1 oz., ink $\frac{1}{2}$ pint, spirits of wine 1 oz.

This does not dry well.

ii. Put into a pint of black ink 2 oz. of sugar candy, 4 oz. of gum arabic, and a glass of port wine, a little Prussian blue, and a table spoonful of oil of vitriol.

iii. Two oz. of gum arabic, 1 of molasses, $\frac{1}{2}$ pint of ink, and a glass of strong spirits of wine, in which a few drops of oil of lavender have been dissolved.

This preparation is apt to crack.

iv. Mix the white of an egg with an equal quantity of water, if for colored boots or shoes, and with common writing ink if for black ones.

Kid shoes may be polished readily with this last varnish.

BOOTS, WATERPROOFING OF.

i. Take 1 pint of linseed oil with $\frac{1}{2}$ lb. of mutton suet, the same quantity of bees' wax, and a small piece of rosin. Boil all this in a pipkin together, and use it when milk-warm with a hair brush: two applications will make the articles waterproof.

ii. Common tar is to be made warm, and brushed over the soles of boots or shoes; these are to be put near the fire, that the tar may be absorbed. When this is the case, a second, and afterwards a third, may be used with advantage.

This is not applicable to the upper leathers, though it makes the soles very much more durable, and impervious to moisture.

iii. India-rubber varnish is a valuable article wherewith to anoint the upper leather of boots and shoes; it covers them, however, merely with a resisting varnish, but the lower parts subject to abrasion from contact with the ground are little benefitted by its application.

BOOT TOPS, TO CLEAN.

i. Mix in a phial, 1 drachm of chlorate of potass, with 2 oz. of distilled water, and when the salt is dissolved, add 2 oz. of muriatic acid. Then shake well together in another phial 3 oz. of strong spirits of wine, with $\frac{1}{2}$ an oz. of the essential oil of lemon; unite the contents of the two phials, and keep the liquid thus prepared closely corked for use. This chemical liquid should be applied with a clean sponge, and dried in a gentle heat, after which the boot tops may be polished with a soft brush, and they will appear like new leather.

ii. Dissolve in a quart of warm water 1 oz. of white vitriol and 1 of oxalic acid.

iii. Sour milk 1 quart, gum arabic 1 oz. juice of 2 lemons, white of 2 eggs, and 2 oz. of oil of vitriol.

iv. Sour milk 1 quart, cream of tartar, tartaric acid, and burnt alum, of each 2 oz. (See also *Books, to Remove Stains from.*)

BORAX GARGLE.

Take 2 drachms of borax, 7 oz. of rose-water, 1 oz. of honey of roses; mix them well together.

It is a very good application for the thrush in children, half a teaspoonful being put in the mouth now and then. The syrup of mulberries may be substituted for the honey of roses, and is the more pleasant preparation.

BORAX, GLASS OF.

Dry borax at a gentle heat, breaking down the froth as it arises, then melt it by increasing the heat, until it runs into a glass.

It is used in soldering, and as a blow-pipe flux.

BORDEAUX, OR PARISIAN CAKES.

Make a mixture of 1 lb. of butter, 1 lb. of loaf-sugar, $\frac{1}{2}$ lb. of wheat-flour, $\frac{1}{2}$ lb. of rice-flour, and 12 eggs; bake this in a tin or hoop, when cold cut it into slices flatwise, put a little jam or marmalade upon the lower slice, then put the next slice upon this, again jam upon that, and so on till the cake is built up again, the cake and jam being in alternate layers. Cut out a star-shaped hole in the upper layer, or cover and fill this with jam or dried fruits, with a few slight cross bars of paste to keep them in. Bake it a second time for about ten minutes.

The ingredients are here, the same as a pound cake, except that the latter has sugar and spices added. This may be baked the day preceding, or even if more convenient a week previously. It will not cut up well when hot.

BORDEAUX WINE, IMITATIVE.

Take a quart of fine Devonshire cider and an equal quantity of good port. Mix and shake them. Put the mixed liquor in bottle and cork them well, and let the bottles be laid on their sides. In a month it will be a very good imitation of foreign Bordeaux wine.

BOOTH'S AXLE GREASE.

Dissolve $\frac{1}{2}$ lb. of common soda in 1 gallon of water, add 3 lbs. of tallow, and 6 lbs. of palm oil (or 10 lbs. of palm oil only;) heat them together to 200° or 210°, mix, and keep the mixture constantly stirred till the composition is cooled down to 60° or 70°. A thinner composition is made with $\frac{1}{2}$ lb. soda, a gallon of water, a gallon of rape oil, and $\frac{1}{2}$ lb. of tallow or palm oil.

BOTANY BAY CEMENT.

Yellow gum and brick dust, of each equal parts.

It is used to cement china, earthenware, &c.

BOTTLE GLASS.

I. The following mixtures of ingredients afford a green glass, such as is used for carboys and bottles. Mix 11 lbs. of dry Glauber's salts, 12 lb. of soaper salts, $\frac{1}{2}$ bushel of waste soap ashes, 56 lbs. of sand, 22 lbs. of glass skimmings, 1 cwt. of green broken glass, 25 lbs. of basalt.

II. Yellow or white sand 100 parts, kelp 30 or 40, lixiviated wood ashes from 160 to 170 parts, fresh wood ashes 30 to 40 parts, potter's clay 80 to 100 parts, cullet or broken glass 100.

BOTTLING OF MALT LIQUORS.

In the first place, the bottles should be clean, sweet, and dry, the corks sound and good, and the porter or ale fine. When the bottles are filled, if for home consumption, they should not be corked till the day following: and if for exportation to a hot climate, they must stand three days or more (if the liquor is new)—it should be well corked and wired, but for a private family they may do without wiring, only they should be well packed in sawdust, and stand upright. But if some ripe are wanted keep a few packed on their sides, so that the liquor may touch the corks—and this will soon ripen, and make it fit for drinking.

BOTTS IN HORSES.

This is a drench made of 4 or 6 oz. of common salt dissolved in a quart of water. The horse is to be kept fasting for ten or twelve hours, then have 2 pints of milk given sweetened with honey, and about five minutes afterwards the drench.

BOUGIE.

A bougie is a small round flexible rod, used in certain medical operations, &c. Bougies are of various sizes and lengths, but generally about ten inches long, and from an eighth to a quarter inch in thickness.

I. Add 3 parts of boiled linseed oil to 1 part of melted amber, and when mixed add one part of oil of turpentine; give three coats of this mixture to a piece of loose spun silk cord, letting one coat dry before another

is applied. If not thick enough, continue one coat after another till of proper size. When dry, polish with a piece of pumice stone and water, and afterwards with fine sand paper, or Tripoli and oil.

This is the original receipt of the celebrated French professor Pickle, and is still generally used on the Continent.

II. Add to the oil and amber of the last receipt Indian rubber cut into very small pieces to the amount of about $\frac{1}{20}$ th part of the oil used. The Indian rubber being melted with the rest. The same proportion of Indian rubber varnish will be still better.

III. Hollow bougies are made by twisting round a wire a ribbon of silk, afterwards applying either of the varnishes, and when quite dry drawing out the wire.

IV. Coat a silk cord with Indian rubber varnish, made by dissolving Indian rubber in caoutchoucine or naphtha.

V. Roll up a long narrow slip of lead plaster on a wire, the plaster side outwards.

VI. Roll up a long narrow slip of linen or silk plastered over with a proportion of 1 lb. of yellow wax, and 1 oz. of spermaceti, and sugar of lead $\frac{1}{2}$ oz. (See *Bell*, p. 41.)

Those made according to the first receipt are apt to crack. Those according to the 2nd, 3rd, and 4th, although perfectly elastic, are very long in drying, sometimes several weeks. While the plaster bougies 5th and 6th, though made quickly, are very inferior, the heat of the body melting the plaster. A portion of an ordinary white wax bougie may be used upon emergency, it being slightly warmed previously to using to round the end and take off its brittleness.

BOULES DE NANCY.

Equal parts of iron filings and red tartar, made up into balls with spirit. These are dissolved in hot water, and used as a tonic.

BOUGIVAL, WHITE.

A white pigment composed of 2 parts pipe-clay and one of chalk; used as whitening.

BOUQUET DE LA REINE.

I. Essence of bergamot 1 drachm, English oil of lavender 25 drops, oil of cloves and aromatic vinegar of each 8 drops, essence of musk 10 drops, spirits of wine $\frac{1}{2}$ oz.

II. Oils of bergamot and lavender each 30 drops, neroli 15 drops, oils of verbena and cloves each 5 drops, essence of musk, ambergris, and jasmine, of each $\frac{1}{2}$ drachm, strong spirits of wine 1 oz.

BOUQUET WATER, EAU DE BOUQUET.

Take of sweet scented honey water 1 oz. essence of jasmine 5 drachms, syrup of cloves and spirit of violets each $\frac{1}{2}$ oz., calamus aromaticus, long cyperus and lavender each 2 oz., essence of neroli 1 scruple; mix them together; add a few grains of musk and ambergris.

It is used as a perfume, and also when sweetened with sugar as a cordial liqueur.

BOX-WOOD FOR ENGRAVING.

To choose.—Box-wood for wood engravers is to be chosen of as clear and regular a color as possible, by no means containing any white specks or patches of color, nor yet that which is of a reddish tint, as such will always cut irregularly and roughly, and oftentimes chip away under the graver.

For delicate work English box-wood is always to be preferred to either Turkish or American, as it is harder, and more uniform in grain, though not so large as the foreign.

II. *To prepare.*—The box-wood logs are cut into slices and then planed upon one surface so that the slice when finished shall be exactly an inch thick. To prepare it for drawing upon, rub the surface of the block with a little finely-powdered Bath brick and water, and when dry brush off as much as possible of the powder left with the hand; the block is then in a fit state to draw upon. Some draughtsmen rub the surface with a little flake white and gum, rubbing it well into the grain of the wood with the finger dipped in water, and leaving at last the least possible quantity on the surface, so as to communicate only a slight whiteness.

III. *To draw upon.*—The box-wood being prepared it should be drawn upon by very hard black lead pencils, such as those marked HHH, or those sometimes called architect's tracing pencils. It must all be done in distinct lines, for the easiest work the lines must not cross each other. The engraver in this work leaves all these lines, which is more difficult to do with cross hatching or crossed lines.

Everything drawn upon wood will be reversed in the print taken from it, thus care must be taken to remedy what would be a defect in the print. Thus what is to be done with the right hand, must be drawn on the wood as by the left. Thus in the drawing, a sword must be drawn as if in the left hand, and the reins of a horse as if in the right hand, &c. A man must dig with his left foot, and so on. It is very difficult thus to draw reversed, it may be managed easily by placing the copy or a sketch of it before a looking glass, and drawing on the wood the picture as seen in the glass. Of course it is to be understood that all pieces of wood for engraving upon are cut across the grain, consequently the drawing is made on the top of the fibres.

BOYLE'S DEPILATORY.

Take equal parts of orpiment and quicklime, powder them separately and dissolve them in water till they form a thick paste. This is laid over the part whence the hairs are to be removed, and afterwards to be wiped off with a wet cloth.

BOYLE'S FUMING LIQUOR.

Mix 4 parts of fresh slacked lime with 2 parts of sal ammoniac and 1 part of sulphur, then distil the mixture.

BRAMBLE BISCUITS.

These are so called because of a round form, like a piece of bramble stick cut off. Sometimes the two ends are bent round and

united, and are then called ring biscuits. The ingredients are 2½ lbs. of flour, 1 lb. of sugar, 12 oz. of butter, 5 eggs, and a little essence of lemon. First beat up the butter till it forms a kind of cream, then add the sugar in powder, and the lemon, afterwards the eggs, and lastly the flour, and adding milk or water as wanted. When made, the dough may be pushed through a kind of squirt made for the purpose, called a syringe mould, or rolled up with the hand in little rolls about 2½ inches long and ½ an inch thick. Bake them in rather a quick oven.

BRAN BREAD, TO MAKE.

To 4 lbs. of best household flour, put 2 table-spoonsful of small beer yeast, and ½ pint of warm water; let it stand 2 hours in a warm place. Add ½ lb. bran, and a tea-spoonful of salt; make the dough with skim milk, or warm water; cover it up, and let it stand an hour. Put the loaves into warm dishes, and let them stand twenty minutes before they go into the oven.

II. *Another Method.*—Mix with ½ peck of flour, containing the whole of the bran, ¼ pint of small beer yeast, and a quart of lukewarm water; stir it well with a wooden spoon until it becomes a thick batter, then put a napkin over the dough, and set it about 3 feet from the fire, until it rises well; and, if requisite, a little more warm water. Strew over it a table-spoonful of salt, and make the whole into a stiff paste. Put it to the fire, and when it rises, again knead it into the dough. If baked in tins, the loaves will be improved.

BRANDY, BRITISH.

I. To 60 gallons of clear rectified spirit put 1 lb. of sweet spirit of nitre, 1 lb. of cassia buds ground, 1 lb. of bitter almond meal, 2 oz. of sliced orrice root, and about 30 or 40 prune stones cracked. Agitate the whole well together two or three times a day, for three days or more; let them settle, then pour in 1 gallon of the best wine vinegar, and add to every 4 gallons 1 gallon of foreign brandy.

II. To 60 gallons of clear proof spirit add 6 oz. of tincture japonica (catechu) and 1 pint of sweet spirits of nitre.

III. Add to the last receipt ¾ oz. of vanilla, dissolved previously in 1 glass of spirits of wine.

IV. Take 8 gallons of pure spirits of wine, add 1 gallon of foreign brandy, 1 dram of the oil of cassia, 1 dram of the essential oil of almonds, and ¼ pint of dulcified spirit of nitre.

BRANDY FROM BEET ROOT, TO MAKE.

For the preparation of brandy, the water used in the first boiling of the roots is boiled again, and poured out on the residuum from the first expression of the pounded roots;

this must stand for a day or two, after which it is expressed, and the remaining dry pulp serves as a good food for cattle. The juice obtained in this way is mixed with the waste parts of the syrup and the mucilage which remains after the expression of the saccharine crystals, and all boiled together till half of it is evaporated. The liquor is then poured into a cooler exposed to a temperature of 45° Fahrenheit, and cooled to 65°. Having added a proportionate quantity of yeast, it is left to ferment, and in three or derfour days after, the distillation may be undertaken.

BRANDY FROM POTATOES, TO MAKE.

Potatoes, by distillation, afford brandy of the best quality, not to be distinguished from that obtained from wine. 1000 lbs. pressed, fermented, and distilled daily, affords from 60 to 70 quarts of good brandy.

The residue of the potatoe, after the spirit is extracted, is used as food for cattle.

BRANDY, TO GIVE APPARENT AGE TO.

Add to new brandy the amount of 6 drops of spirits of hartshorn to every quart, or a wine glass full to about 60 gallons. This will give a softness and mild fragrance, similar to that which is the result of age.

Liquid ammonia, as well as sweet spirits of nitre, has a peculiar effect in increasing the odour of all essential oils, and it is from the essential oil of wine that foreign brandy takes its peculiar aroma.

BRANDY, TO GIVE A BEAD TO.

Take 1 oz. of almond oil, 1 oz. of oil of vitriol; put them into a mortar and add by degrees 2 oz. of lump sugar, rubbing it well till it becomes a paste, then dilute it with small quantities at a time of spirits of wine.

We have not tried this receipt, and doubt whether a decomposition of the sugar into charcoal will or will not take place, as is the case when sulphuric acid or oil of vitriol and loaf sugar come freely into contact with each other.

BRANDY BALLS.

The same as bull's eyes or barley sugar, small pieces being taken, when hot, and rolled up into round balls, about the size of bullets.

BRANDY BITTERS.

I. Add to 100 gallons of spirits, 66 lbs. of sugar, 30 lbs. of orange peel, 30 lbs. of lemon peel, and $\frac{1}{2}$ lb. of oil of vitriol.

Sugar, in the admixture of all liquors by the distiller, is always considered to pay for itself. This it does by increasing the whole quantity to such an amount, as is equal to the quantity of sugar employed.

II. Bruise 2 oz. of coriander seeds and 8 oz. of Virginia snake-root; soak them for four or five days in a gallon of gin, shaking it well up three or four times a day; then strain it clear off. Put into a bottle $\frac{1}{4}$ a pint of the strongest spirits of wine with 1 oz. of orange oil and a $\frac{1}{4}$ oz. of oil of carraway; shake the oils and spirit together till well

mixed; stir it in with the rest, first adding a gallon of good clarified sugar and 6 gallons of common gin. Mix all together strain it, and fine with a little roche alum dissolved in water. It should be colored with brandy coloring.

III. Take 2 gallons of rectified spirits, 2 drachms of the oil of Seville oranges, 1 drachm of oil of carraway, 1 drachm of the oil of wormwood, $\frac{1}{2}$ oz. of almond cake $\frac{1}{2}$ oz. of coriander seed, $\frac{1}{2}$ oz. Virginia snake-root, 1 quart of clarified sugar, and 1 gallon of water. Steep and kill the oils as in the former receipt.

IV. In 6 gallons of proof spirits and 5 gallons of water, infuse 3 lbs. of gentian, 1 lb. of cardamoms, 2 lbs. of orange peel, 8 oz. of cinnamon, and 2 drachms of cochineal.

BRANDY FLAVOR.

By this term is understood such a mixture of ingredients, as added to British brandy improves its flavor, and gives it the character of the French article. As most distillers have a receipt of their own for the brandy as distilled, so some of the following must be more appropriate than the others. The peculiar aroma is at all times given with the sweet spirits of nitre, and it is advisable to have about $\frac{1}{2}$ a pint of this ether in every puncheon of brandy.

I. Add 10 lbs. of sugar candy and 10 lbs. of prunes bruised to every puncheon. The sugar-candy and prunes being first boiled together with water till the candy is dissolved.

II. Two gallons of spirits of wine, 4 oz. of tea, 4 oz. of sweet almonds coarsely pounded, 2 drachms of cloves.

III. Take 3 gallons of the best vinegar and 1 pint of oil of vitriol. Mix them in a cask, and let them stand three days, stirring the cask three or four times a day. Then take 2 gallons of clean strong spirit; mix all together. The above quantity will be enough for 120 gallons of brandy.

IV. Steep in a pint of brandy $\frac{1}{4}$ oz. of English saffron and $\frac{1}{2}$ oz. of mace, for ten days in a bottle, corked up, shaking it twice a day. Strain through a linen cloth, and add 1 oz. of terra japonica, finely powdered, and 3 oz. of sweet spirits of nitre. This is the proper quantity for 10 gallons.

BRANDY SHRUB.

I. Take 20 gallons of British brandy, reduced to 20 per cent. under proof, and add to it half the quantity of Seville orange juice. Fine with 2 quarts of milk.

II. Take 8 oz. of citric acid, 1 gallon of porter, 3 gallons of raisin wine, 2 quarts of orange-flower water; 7 gallons of good brandy and 5 ditto of water; this will produce 16 gallons. First dissolve the citric acid in the water, then add to it the brandy, next mix the raisin wine, porter, and orange-flower

water together, and add them to the former. In a week or ten days it will be fit for drinking.

BRASS.

Is composed of variable proportions of zinc and copper, according to the use for which it is required. In general, about 9 parts of zinc are added to 16 of copper when melted. The best brass is not made by the direct combination of the two fluid metals, but by the process called cementation. The vapour of the zinc ore, by this mode combines more intimately with the copper. The following are species of brass:—Dutch gold tombac, similor, Princes metal, pinchbeck, Manheim gold, hard solder, &c.

BRASS ORNAMENTS, TO PRESERVE.

Brass ornaments, when not gilt or lackered, may be cleaned, and a fine color may be given to them by two simple processes. The first is to beat sal ammoniac into a fine powder, then to moisten it with soft water, rubbing it on the ornaments, which must be heated over charcoal, and rubbed dry with bran and whiting. The second is to wash the brass work with roche alum boiled in strong ley, in the proportion of an ounce to a pint; when dry it must be rubbed with fine Tripoli. Either of these processes will give to brass the brilliancy of gold.

BRASS WORK, BRONZING.

This must be done with a small brush, and great care must be taken to keep the work constantly wet with the liquid, to prevent it from turning green. When the color which is wished has been attained, which will generally be in from twenty to thirty minutes, the work must be quickly washed in clean cold water, and then dried in soft warm sawdust, after which the whole is laid over with a coating of lacker, which preserves the colors.

BRASS PASTES FOR CLEANING.

I. Rotten-stone made into a paste with either soft soap or sweet oil.

II. Add to the above, oxalic acid equal to a quarter of the rotten-stone, and a little oil of turpentine, to form a paste.

III. Cream of tartar 1 oz., rotten-stone 4 oz., soft soap 1½ oz. Apply with a little water.

A leather is the best to clean with, and a piece of bat or felt afterwards to polish with.

BRAZIL SNUFF.

I. *True*.—The tobacco of which the snuff is made is merely dried without sweating, it therefore retains most of its green color. The leaves being stripped from their stalks are ground down to a fine powder; it is sifted only once, as it is considered that the more delicate parts of the leaf are thus obtained away from the stalks and grosser particles.

It becomes of a yellowish color after it is made, and thus is used.

II. *Imitation*.—Greentobacco, particularly that of the Oroonoko kind, is ground down and sifted, then mixed with Dutch pink, calcined smalts, and starch dust, so apportioned as to make with the snuff a greenish yellow powder. The whole mass is now scented with angel water, and put into bottles to imitate the real article.

BRAZIL WOOD LAKES.

Brazil wood is to be boiled in a proper quantity of water for fifteen minutes; then, alum and solution of tin being added, the liquor is to be filtered, and a solution of potash poured in as long as it occasions a precipitate. This is separated by the filter, washed in pure water, mixed with a little gum water, and made into cakes. Or, the Brazil wood may be boiled along with a little vinegar, the decoction filtered, alum and salt of tin added, and then potash-lye poured in to precipitate the lake. For 1 lb. of Brazil wood, 30 to 40 lbs. of water, and from 1½ to 2 lbs. of alum, may be taken, in producing a deep red lake; or the same proportions with ½ lb. of solution of tin. If the potash be added in excess, the tint will become violet. Cream of tartar occasions a brownish cast.

BRAZIL WOOD, TINCTURE OF.

Ground Brazil wood 3 lbs., solution of carbonate of soda 8 oz., sugar spirit (rum) 15 gallons. Used as a dye.

BREAD, TO MAKE, ON MR. COBBETT'S PLAN.

Suppose the quantity be a bushel of flour. Put this flour into a trough that people have for the purpose, or, it may be in a clean smooth tub of any shape, if not too deep, and sufficiently large. Make a pretty deep hole in the middle of this heap of flour. Take (for a bushel) a pint of good fresh yeast, mix it and stir it well up in a pint of soft water, milk-warm. Pour this into the hole in the heap of flour. Then take a spoon and work it round the outside of this body of moisture, so as to bring into it by degrees flour enough to make it form a thin batter, which must be stirred about well for a minute or two. Then take a handful of flour and scatter it thinly over the head of this batter so as to hide it. Then cover the whole over with a cloth to keep it warm; and this covering, as well as the situation of the trough, as to distance from the fire, must depend on the nature of the place and state of the weather, as to heat and cold. When the latter has risen enough to make cracks in the flour, begin to form the whole mass into dough, thus: begin round the hole containing the batter, working the flour into the batter, and pouring in, as it is wanted to make the flour mix with the batter, soft

water milk-warm, or milk. Before beginning this, scatter the salt over the heap, at the rate of half a pound to a bushel of flour. When the whole is sufficiently moist, knead it well. This is a grand part of the business; for, unless the dough be well worked, there will be little round lumps of flour in the loaves; and besides, the original batter, which is to give fermentation to the whole, will not be duly mixed. It must be rolled over, pressed out, folded up, and pressed out again, until it be completely mixed, and formed into a stiff and tough dough.

When the dough is made, it is to be formed into a lump in the middle of the trough, and, with a little dry flour thinly scattered over it, covered over again to be kept warm and to ferment; and in this state, if all be done rightly, it will not have to remain more than about 15 or 20 minutes.

The oven should be hot by the time that the dough has remained in the lump about twenty minutes. When both are ready, take out the fire and wipe the oven clean, and, at nearly the same moment, take the dough out upon the lid of the baking trough, or some proper place, cut it up into pieces, and make it into loaves, kneading it again in these separate parcels, shaking a little flour over the board to prevent the dough adhering to it. The loaves should be put into the oven as quickly as possible after they are formed; when in, the oven-lid or door, should be fastened up very closely; and, if all be properly managed, loaves of about the size of quarten loaves will be sufficiently baked in about two hours. But they usually take down the lid, and look at the bread, in order to see how it is going on.

BREAD, TO PREPARE IN THE METHOD OF THE LONDON BAKERS.

Sift a sack of flour into the kneading trough; add 6 lbs. of salt, and 2 lbs. of alum, dissolve them separately in a pailful of water (cooled to 90° Fahr.) with 2 quarts of yeast. Stir it well, and strain it through a cloth or sieve; afterwards mix it with the flour into a dough, next cover it up with cloths and shut down the trough lid close to retain the heat. In two hours more, mix in another pailful of warm water with the sponge, and again cover it up for two hours. After this knead it for more than an hour, with three pailful of warm water. Return the dough to the trough, sprinkle it with dry flour, and in four hours time knead it well for about half an hour, when it will be fit to mould into loaves.

BREAD, EXCELLENT, TO MAKE.

Mix 7 lbs. of best flour with 3 lbs. of pared boiled potatoes. Steam off the water and leave them a few minutes on the fire, mash them fine, and mix them whilst quite

warm in the flour with a spoonful or more of salt. Put a quart of water, milk warm, with 3 large spoonsful of yeast, gradually to the potatoes and flour. Work it well into a smooth dough, and let it remain four hours before it is baked.

BREAD FROM AMERICAN FLOUR.

This flour requires twice as much water to make it into bread as that made from English wheat and is therefore much more economical; 14 lbs. of American flour will make 21½ lbs. of bread, but the best sort of English flour produces 18½ lbs.—*Mrs. Rundell.*

BREAD, TO DETECT ADULTERATION IN.

Run into the crumb of a loaf one day old, the blade of a knife considerably heated; and if adulterated with alum it will show its unwholesome adherences on the surface; and it may be further detected by the smell. Bone-dust or plaster of Paris may be discovered by slicing the soft part of a loaf thin, and soaking it in a large quantity of water in an earthen vessel, placed over a slow fire, three or four hours. Then having poured off the water and pap, the obnoxious matter will be found at the bottom. (See *Alum*, p. 14.)

BREAD WITHOUT YEAST.

1. Take of carbonate of soda 2 oz., tartaric acid 1½ oz., common salt 2 oz.; mix well together. With the above, 12 lbs. of flour are to be intimately mixed, and kneaded and baked in the usual manner. If the ingredients are kneaded with sweet milk instead of water, the bread will be much richer.

This bread is well adapted for people of a constipated habit, as it has a moderately aperient quality.

II. Wheat flour 1 peck or 14 lbs., carbonate of ammonia 2 oz., water sufficient to make the dough, which may be baked immediately.

This bread has a yellow tinge, with small cells, nearly all of a size.

BREAD SEALS.

Oil the impression which is to serve as a pattern very slightly with a camel-hair pencil dipped in sweet oil, or with a little piece of oiled wadding. Take a little new bread and knead it well in the hands, until it becomes a perfect paste free from lumps and crumbs; color it with a little water color paint, but use no more than just enough to give the tint required. Then press a little of the bread well into the impression. Shape the top and remove it immediately; let it dry gradually. Sometimes gum water is mixed with the bread, but it generally causes the seals to crack in drying.

BREAKFAST POWDER.

A substitute for coffee; it is formed of rye roasted with a little fat, it must be shaken about well while roasting.

Indian wheat roasted in the same manner, after having been soaked in Spanish liquorice water is a far superior article.

BREATH, TO SWEETEN.

Take 2 oz of terra japonica and $\frac{1}{2}$ oz. of sugar candy, both in powder. Grind 1 drachm of ambergris with 10 grains of musk, and dissolve $\frac{1}{4}$ oz. of gum tragacanth in 2 oz. of orange-flower water; mix all together so as to form a paste, which roll into pipes the thickness of a straw; cut them into pieces and put one occasionally in the mouth.

The best preservative of a sweet breath is attention to the state of the stomach, to eat no strong and disagreeable food, and to keep the teeth clean.

BREE'S ANTI-ASTHMATIC PLAISTER.

Diachylon 1 oz., powdered camphor $1\frac{1}{2}$ oz. powdered opium $\frac{1}{2}$ oz., sweet oil $\frac{1}{2}$ a tea spoonful. Melt the diachylon in the oil, then remove the vessel from the fire and stir in the powders, spread it on leather before it gets cold.

BREECHES BALL.

This is a material, once very useful in cleaning and coloring a then common article of dress, leather breeches. Mix together 1 lb. of Bath brick, 2 lbs. of pipe-clay, 4 oz. of pumice-stone powder, and 6 oz. of ox-gall; color it with yellow ochre as desired. It is to be used over the leather by rubbing it with a little water, and when it has remained on to get dry, rub off the loose powder with a hard clothes brush.

BREMEN GREEN.

I. Filings of copper are to be put into a vessel, on these pour a solution of sal ammoniac, and stop all close; place the vessel on the hob of a stove, and add, as it may be required, the solution of ammonia. When ground in oil, it will bear lowering with white-lead, and if a little sugar of lead be added, it will much increase its lustre, as will also a little Venice turpentine. There should be 3 parts of sal ammoniac to 5 of copper.

II. Take 1 lb. of blue stone, $\frac{1}{4}$ lb. sugar of lead, and $\frac{1}{2}$ oz. of white rosin. The sugar of lead and the blue stone must first be calcined or made red hot, to drive off their water of crystallization, the resin must also be pounded dry. Then grind the whole together with spirits of turpentine, till very smooth, afterwards add white lead, according to the tint required.

III. To any quantity of blue-stone, dissolved in four times its weight of boiling water, pour a solution of potash to saturate the acid, and a solution of borax, until the color is struck; the precipitate must be thrown on a filter, and washed repeatedly in cold water, then dried and ground in oil with sugar of lead. Common turpentine and white-lead give additional body and lustre. These greens are like verditer.

In the manufacture and use of all green, take especial care that no iron touches it, or it will soon turn black, even an iron pallet-knife will do injury.

BREWING.

The process of brewing is fully described under the words *Ale*, *Beer*, *Fermentation*. The best seasons of the year for brewing are the spring and autumn, particularly the latter, as the temperature of the air then allows the worts to be cooled properly, and also the fermentation to be conducted with regularity, not flagging, as it is apt to do in the winter, nor rising too suddenly, as in the heat of summer. (See *Ale*, p. 7.)

BREWING UTENSILS, TO PRESERVE.

I. In cleaning them before being put away, avoid the use of soap, or any greasy material, and use only a brush and scalding water, being particularly careful not to leave any yeast or fur on the sides. Place them in a clean and moderately dry situation.

II. Scald the vessels, and if foul with yeast, &c. add a little soda, or pearlash to the water, and clean them with a birch broom, and afterwards throwing this away, clean with pure hot water and a brush.

III. Take salt and sprinkle it over the coolers, and over their sides previously wetted, let this remain some time, then wash it off with water only, scrubbing well with a broom.

IV. Throw some quicklime into the vessels, sprinkle it with water, and let the lime slack, in half an hour or so brush it about, and afterwards wash it off with pure water, until clean.

V. Wash well first with oil of vitriol, with 8 times its weight of water, and afterwards scrub well with clean water. (See *Casks*, p. 74.)

BRICK, OIL OF.

This is olive oil, into which is thrown a portion of porous brick, made red hot. The vessel is immediately covered over with a still or alembic head, and fire being put beneath, the oil is distilled. When thus treated, it possesses very peculiar and valuable properties. It is extremely limpid, almost like water, is colorless, and does not dry up readily, nor clog when drying, nor is it fat and greasy like the fixed oils.

It is used in some quack medicines, and also by the lapidary, as a vehicle to hold the diamond dust which he is in the habit of using.

BRICK, OIL OF, FICTITIOUS.

Linseed oil 1 lb., oil of turpentine $\frac{1}{2}$ lb., oil of hartshorn 1 oz., Barbadoes tar 1 oz., Mix together.

This is very different from the former. This is used in medicine as an embrocation in gout, rheumatism, palsy, &c.; the former principally in the arts.

BRILLIANT COMPOSITION FOR FIRE WORKS.

Mix very intimately together, by pounding and sifting, 6 lbs. of meal powder, 8 oz. of saltpetre, 2 oz. of sulphur, and 12 oz. of iron sand.

BRITANNIA METAL, OR TUTANIA.

I. Melt together equal parts of brass, tin, bismuth, and antimony. The brass is first to be melted, then throw in the tin, and afterwards the bismuth and antimony.

II. Melt together 2 parts each of brass, tin, bismuth, and antimony. When melted, as by the last receipt, add 1 part each of copper and arsenic, previously melted together in a different crucible.

III. Melt together 1 part of copper, 1 part of tin, and 2 parts of antimony.

Each of these is a hardening alloy, a quantity of which is to be added at discretion to melted tin; or in the commoner articles, to melted lead, till the required quality is obtained. The following mixture makes the article at once, as fit for spoons, tea-pots, &c.

IV. Melt together 8 oz. of brass, 2 lbs. of antimony, and 10 lbs. of tin.

BRITISH GUM.

Used by calico printers, is made by heating starch to 600° or 700° of heat, when it becomes brown, and has a gummy quality.

This is the substance used for the adhesive letter stamps; it differs from ordinary starch, in being soluble in cold water, and not affected by iodine.—(See *Dextrine*, p. 111.)

BRITISH OIL.

I. Boil together 1 oz. of camphor, 4 oz. of rectified spirits of wine, 12 oz. of sweet oil, and 5 oz. of spirits of hartshorn.

This is excellent for bruises, sprains, &c.

II. Oil of turpentine 2 lbs., Barbadoes tar 1 lb., oil of rosemary 2 oz.

This is sometimes called the oil of petre.

BRITISH TOOTH POWDER.

Take $\frac{1}{2}$ lb. gum myrrh, 2 lbs. of alum, and 6 lbs. of pumice stone. Powder all these separately in an iron mortar, then mix and sift.

BRODUM'S NERVOUS CORDIAL.

Tinctures of gentian, Columba root, cardamoms, and of Peruvian bark, compound spirits of lavender, and wine of steel, all in equal portions.

BROKEN KNEES IN HORSES.

To cure these, first wash them carefully that no grit remain, then apply the following tincture:—Ægyptiacum $\frac{1}{2}$ oz., Friar's balsam 1 oz., tincture of aloes and myrrh 1 oz. Mix these together for use.

BRONZE.

I. For Statuary.—(a) Copper 88 parts, tin 9 parts, zinc 2 parts, lead 1 part.—(b) Copper 88 $\frac{1}{2}$ parts, tin 5 parts, zinc 10 $\frac{1}{2}$ parts, lead 2 parts.—(c) Copper 90 parts, tin 9 parts, lead 1 part.—(d) Copper 91 parts, tin 9 parts.

II. For Medals.—(a)—Copper 89 parts, tin 8 parts, zinc 3 parts.—(b) Copper 95 parts, tin 5 parts.

III. For Cutting Instruments.—Copper 100 parts, tin 14 parts.

IV. For Ornamental Work, to be gilded.

—(a) Copper 82 parts, tin 3 parts, zinc 18 parts, and lead 2 parts.—(b) Copper 83 parts, zinc 17 parts, tin 1 part, lead $\frac{1}{2}$ part.

V. For Mortars.—Copper 93 parts, lead 5 parts, tin 2 parts.

By mortars is not here meant the short ordnance so called, but the machine to pound in. They should be hardened after casting, and turning smooth, by heating to redness the thin upper edge, and while hot, plunging it into cold water, otherwise they will be apt to crack.

BRONZE OF THE ANCIENTS.

It appears, from a number of experiments that the bronze, of which the ancients formed their weapons, and other articles, consists of 88 parts of copper to 12 of tin; and it is remarkable that the same admixture of the metals has been employed in nations very remote from each other.

BRONZE LIQUIDS.

I. Green.—Take 1 quart of strong vinegar; $\frac{1}{2}$ oz. of mineral green, $\frac{1}{2}$ oz. of raw umber, $\frac{1}{2}$ oz. of sal ammoniac, $\frac{1}{2}$ oz. of gum-arabic, 2 oz. of French berries, $\frac{1}{2}$ oz. of copperas, and about 3 oz. of green oats, if these can be procured; although, if they cannot, the preparation will succeed perfectly well without them. Dissolve the different salts and gums in small portions of vinegar; then mix the whole in a strong earthen vessel, adding the berries and the oats, over a gentle fire: bring the compound to boil. Then allow it to cool, and filter it through a flannel bag, when the bronze will be fit for use.

II. Take 1 English pint of strong vinegar, 1 oz. of sal ammoniac, $\frac{1}{2}$ oz. of alum, $\frac{1}{2}$ oz. of arsenic; dissolve them in the vinegar, and the compound is fit for use.

We know brass-founders who have been in the habit of using this cheap composition for several years; and, where the metal is good, it is very seldom found to fail.

BRONZE, TO DARKEN.

When either of the bronzes, first described, have been used and the work dried, if the shade should not appear so dark as is wished, let the work be placed before a smart fire, or in bright sunshine, where, however, no current of air passes. When thus exposed, let it be turned occasionally, and brushed with a soft brush. This plan will be found to produce a very fine bronze. Mix about $\frac{1}{4}$ oz. of the finest lamp black, with about one gill of strong spirit of wine, and strain the mixture through a fine linen cloth. The work on which the bronze has been already used must then be warmed upon a cistern plate, or over a clear fire, until it can scarcely be held in the hand. Then, with a fine camel-hair brush, such as is used for lackering, the work must be laid over with this mixture, in very thin coatings, until the shade required

be obtained. When cold, it must be polished with a very soft brush, or a piece of linen rag, dipped or moistened with clear green oil. A coating of lacker is then laid over the whole, and the most beautiful bronze will be obtained that can be produced on brass; and, if the work is not made too black with the mixture, nor the lacker used of too bright a yellow, the bronze obtained will be a beautiful dark green—the color now so much used by the English brass-founders. By this it will be seen, that any shade of what is called green bronze can be obtained, simply by using more or less of the blacking, and a lighter or darker color of the yellow lacker; and the different tints wished to be given to the work will of course be obtained by the different thickness of the coatings of blacking which the several parts of the work receive. The work, however, will stand much longer in color when the bronze can be made sufficiently dark, without using this blacking at all; and this can be done, although it takes a longer time than is required when the blacking is used.

BRONZE POWDERS.

There are various kinds of bronze powder, which are kept for sale by many of the colormen.

I. The *aurum musivum*, or Mosaic gold, is used for inferior articles; this is a preparation of tin, quicksilver, and sulphur, possessing a bright gold-like appearance.

II. A copper colored bronze may be obtained by dissolving copper in aquafortis until it is saturated, and then putting into the solution some small pieces of iron, when the copper will be precipitated in the metallic state, the fluid must then be poured off, and the powder carefully washed, dried, and levigated, when it may be put by for use.

III. Bronze powder is sometimes made from Dutch gold, which is sold in books at a very low price.

All inferior bronzes require to be covered with a coat of clear varnish, or they will very soon lose their metallic appearance, nor will the varnish entirely prevent, although it will greatly retard, this change.

IV. Verdigris 8 oz., flowers of zinc or tutti powder 4 oz., borax and nitre of each 2 oz., corrosive sublimate 2 drams; made into a paste with oil and melted together.

This is an inferior article, and is used in the common kinds of japanning tea-boards, &c.

(See *Copper Medallions*, p. 96.)

BRONZE TO, WITH OIL COLOR.

First give the work a coat of white or red lead, ground in oil, and when this is perfectly dry, apply another coat, consisting of the colors before named, ground in oil, and mixed with a small quantity of japan varnish; this is to be suffered to dry until it becomes tacky, when the bronze powder is to be applied to it.

BRONZE, PRINTING IN.

Take japanner's gold size and grind in it a yellow—any kind will do, as the color is merely to give it a little stronger consistence, and to cover any imperfection in the printing. When the size is prepared to the consistence of treacle, it must be applied to the types in the same manner as printing ink, and when the impression is taken it is then covered with fine gold bronze by means of a hare's foot. In some cases leaf-gold is applied, and pressed on with a little cotton wool. Enamelled paper or cards are the best for printing in gold upon. Printing in silver, and in bronze, is conducted in the same manner.

BRONZING, CLEANING WORK FOR.

This is either by filing, turning, rubbing with sand-paper, or dipping in aquafortis. It is absolutely necessary, in order to be successful, to have the work well cleaned, and free from grease, especially; and the latter of these methods is certainly the best, and therefore ought always to be used when it is wished to succeed particularly well, although any of the above methods are perfectly sufficient for ordinary purposes.

BROWN DYES.

I. *For Cotton*.—First imbue the cloth with the brown oxyde of iron, by soaking it in iron liquor; then dye it by boiling for two hours in a bath of quercitron bark. This will give a drab, olive, or yellow, according to the quercitron used, then by mixing a little sumach with the bark, and boiling again, any shade of brown may be obtained.

II. *For Silk*.—Fill a copper or saucepan with river water, when it gently boils, put in $\frac{1}{4}$ lb. of chipped fustic, 2 oz. of madder, 1 oz. of sumach, and $\frac{1}{2}$ oz. of cam wood; if not required to be so red, the cam wood may be omitted. These should boil at least from half an hour to two hours, that the ingredients may be well incorporated. The copper must then be cooled down by pouring in cold water, the goods may then be put in, and simmered gently from half an hour to an hour. If this color should appear to want darkening or saddening, it may be done by taking out the goods and adding a small quantity of black dye, or a small piece of green copperas. When of a proper color, rinse in two or three waters, and hang up to dry.

III. *For Wool*.—Brown or fawn color, though in fact a compound, is usually ranked among the simple colors, because it is applied to cloth by a single process. Various substances are used for brown dyes. Walnut-peels, or the green covering of the walnut, when first separated, are white internally, but soon assume a brown or even a black color, on exposure to the air. They readily

yield their coloring matter to water. They are usually kept in large casks, covered with water, for above a year before they are used. To dye wool brown with them, nothing more is necessary than to steep the cloth in a decoction of them till it has acquired the wished-for color. The depth of the shade is proportioned to the strength of the decoction. If the cloth be first passed through a mordant of alum, the color is brightened.

The root of the walnut-tree contains the same coloring matter, but in smaller quantity. The bark of the birch also, and many other trees, may be used for the same purpose.

IV. *For Wood.*—(a) It must of course be white wood used; to stain it brown, first gently warm it, and then brush it over with aquafortis. If the color be too yellow, soak it afterwards in sumach water, or walnut shell liquor.—(b) The wood may first be soaked in turpentine water, and afterwards in pearlash water.

(See *Staining of Wood*, p. 344.) For various other dyes, see *Index*.

BROWN ENAMEL.

Take of red-lead 1 oz., calcined iron 1 oz., antimony 2 oz., litharge 2 oz., zaffre 1 oz., sand 2 oz. Calcine or melt together and pound, mix with flux, according to degree of softness, and with flint glass, according to depth of shade. Variation of the ingredients produce variation of tint.

BROWN PAINTS.

I. *For House Painting.*—(a) Use burnt umber mixed to the consistence of thin treacle with linseed oil and a little turpentine and dryers. The color, whether dark or light, may be tempered with white-lead.—(b) Raw or unburnt umber may be used for common works.—(c) Spanish brown is a brighter or rather redder color.—(d) Brown colors may also be made at all times by the admixture of black and red.

II. *Artists' Colors.*—Vandyke brown is a fine rich warm color, used for depth of shadow, &c. Umber is also in constant use, but is apt to become darker by time. Cassel and Cologne earths, asphaltum, and the brown or Prussian blue are all favorites; the latter dries very rapidly, but the bituminous brown, asphaltum, and Cassel earth, &c., are very long in drying, unless mixed with varnish or drying oil. Burnt Sienna is a beautiful amber-brown transparent color.

III. *Water Colors.*—These are umber, burnt Sienna, Vandyke brown, and sepia, which is a liquid secreted by the cuttle fish, so common on our coasts. Bistre or soot brown, brown pink, &c. As a wash-color, to tint paper, maps, &c. we may use Spanish liquorice water, tobacco water, or coffee, strained from its dregs; all these produce a very equable tint over a large surface. All these are to be mixed with water and size.

(See *Mahogany*, p. 225; *Oak*, p. 250, and *Index*.)

BROWN OF PRUSSIAN BLUE.

M. Bouvier has published a process by means of which Prussian blue may be converted into brown, or black, by intense heat. This brown has all the transparency of asphaltum, with this advantage, that it dries quickly, and is permanent.

M. Bouvier's process is, to place upon a clear fire a large iron spoon; when it is red hot, put into it some pieces of Prussian blue about the size of a small nut; these soon begin to crackle and throw off scales in proportion as they grow hot; remove the spoon, and let it cool: some of it will be found blackish, and the rest of a yellowish brown.

II. If the blue is calcined in a close crucible, a black is formed which will be found very useful as it dries well.

M. Bouvier states that this pigment can only be obtained from the genuine Prussian blue in common use. He states, that he "never succeeded in making it with that sort which is manufactured in England." Thus it would appear, that to make the operation certainly succeed, blue must be employed in which there is much alumine. That of English manufacture, which is darker than the French, contains but little of this substance: when completely calcined, the English blue only produces a sort of orange colour, which is, in fact, very transparent and intense. Another condition requisite to the success of the operation is, that the heat ought to be at once carried to the exact point required. This is easily done by using proper caution. Instead of commencing the process by heating an iron spoon, the bits of color may be placed on a plate of iron, and the plate laid upon a quick fire; they sometimes give out flame, and always grow red along with the plate; when taken off the fire, they are left until they cease to emit smoke, and the blue color has disappeared.

BROWN PINK.

This color is made by precipitating, with alum, a decoction of French berries in such a way as that the alkali shall not be saturated. This color would be more lasting if, instead of the berries, yellow wood, quercitron and holly bark, for instance, were used; and still better would be the husks of nuts, which produce a very lasting brown color. The husks of nuts, contain some portion of starch: for this reason it would not be proper to employ boiling water for the purpose of extracting the color. A mixture may also be made, in whatever proportions are most agreeable, of wood, madder, and husks of nuts; and instead of using alum to precipitate the decoction, the acetate or sulphate of copper should be used, which is the best mordant for giving stability to the colors.

BROWN OINTMENT.

Take of resin ointment 2 oz., mix with it 1 drachm of red precipitate reduced to a very fine powder.

This is applied to various sores that are not inflamed, sore legs, eyes slightly affected with ophthalmia, &c.

BROWNING FOR COOKERY.

I. Melt 4 oz. of sugar in a pan over a clear fire with water, add 1 oz. of butter, and continue the boiling till the whole has turned quite brown, then add 1 pint of water; stir

it well up, put it in a bottle with $\frac{1}{2}$ oz. of bruised allspice and black pepper, 6 shalots cut small, a little mace and finely grated lemon peel, and $\frac{1}{4}$ pint of mushroom ketchup; strain through muslin.

ii. Sugar coloring 1 pint, of mushroom ketchup $\frac{1}{4}$ pint; season with spices.

BROWNING OF GUN BARRELS.

By this process the surface of several articles of iron acquire a shining brown color. This preparation, which protects the iron from rust, and also improves its appearance, is chiefly employed for the barrels of fowling-pieces and soldiers' rifles, to conceal the fire-arms from the game and the enemy. The finest kind of browning is the Damascus, in which dark and bright lines run through the brown ground.

This operation consists in producing a very thin uniform film of oxide or rust upon the iron, and giving a gloss to its surface by rubbing wax over it, or coating it with a shell-lac varnish.

i. Several means may be employed to produce this rust speedily and well. The effect may be obtained by inclosing the barrels in a space filled with the vapour of muriatic acid.

ii. Moistening their surface with dilute muriatic or nitric acid will answer the same purpose.

iii. But the most common material used for browning is the butter or chloride of antimony, which, on account of its being subservient to this purpose, has been called bronzing salt. It is mixed uniformly with olive oil, and rubbed upon the iron slightly heated; which is afterwards exposed to the air till the wished-for degree of browning is produced. A little aquafortis is rubbed on after the antimony, to quicken its operation. The brown barrel must be then carefully cleaned, washed with water, dried, and finally polished, either by the steel burnisher, or rubbed with white wax, or varnished with a solution of 2 oz. of shell-lac, and 3 drams of dragon's-blood, in 2 quarts of spirit of wine.

iv. The following process may also be recommended. Make a solution with $\frac{1}{2}$ oz. of aquafortis, $\frac{1}{2}$ oz. of sweet spirit of nitre, 1 oz. of spirit of wine, 2 oz. of sulphur of copper, and 1 oz. of tincture of iron, in so much water as will fill altogether a quart measure. The gun barrel to be browned must first of all be filed and polished bright, and then rubbed with unslaked lime and water to clear away all grease. Its two ends must now be stopped with wooden rods, which may serve as handles, and the touch-hole must be filled with wax. The barrel is then to be rubbed with that solution, applied to a linen rag or a sponge, till the whole surface be equally moistened; it is allowed to stand twenty-four hours, and is then scrubbed with a stiff brush. The appli-

cation of the liquid and the brushing may be repeated twice or oftener, till the iron acquires a fine brown color. After the last brushing, the barrel must be washed with plenty of boiling water, containing a little potash; then washed with clean water, dried, rubbed with polishing hard wood, and coated with shell lac varnish, for which purpose the barrel must be heated to the boiling point of water. It is finally polished with a piece of hard wood.

v. Storch recommends to make a browning solution with 1 part of sulphate of copper, 1 third of a part of sulphuric ether, and 4 parts of distilled water.

BRUCINE PILLS.

Brucine 10 grains, conserve of roses $\frac{1}{2}$ drachm. Make into 24 pills and silver them.

BRUISES.

The first thing to be attended to in the treatment of a bruise is to prevent inflammation coming on, for this purpose cold lotions are to be applied as soon as possible. These may be Goulard water, vinegar and water, or simply cold water. For a slight bruise, no other treatment is necessary; for one of greater severity, and which we find from its redness and increasing pain when touched is becoming inflamed, we must have recourse frequently to leeches, advising at the same time low diet, and giving opening and cooling medicines, such as Epsom salts. If matter is formed, we must discontinue the cold lotions and apply poultices, as we should to any other abscess. Never apply leeches, unless inflammation is present. If the skin is much discolored, or as we call it, black and blue, it arises from the small blood-vessels beneath the skin having been injured, and the blood having escaped. Before the skin can recover its proper color, this must be absorbed again. This may be much assisted by pumping cold water on the part, by tying a tight bandage round it, and by washing it with camphor liniment, opodeldoc, or the following lotion:—Sal ammoniac $\frac{1}{2}$ oz., vinegar and spirits, each 12 oz.

BRUISES OF HORSES.

The following lotions may be applied:—

i. Soap liniment 5 oz., liquid ammonia 1 oz., mix.

ii. Soap liniment 3 oz., oil of turpentine 2 oz., camphor 1 oz.

iii. Distilled vinegar 8 oz., spirits of wine 6 oz., sal ammoniac 1 oz.

iv. Sugar of lead $\frac{1}{2}$ oz., vinegar and water, of each 8 oz.

BRUNSWICK BLACK.

i. *Best*.—In an iron pot, over a slow fire, boil 45 lbs. of foreign asphaltum, for at least six hours; and during the same time boil in another iron pot 6 gallons of oil which has been previously boiled. During the boiling of the 6 gallons, introduce 6 lbs. of litharge gradually, and boil until it feels stringy

between the fingers; then ladle or pour it into the pot containing the boiling asphaltum. Let the mixture boil until, upon trial, it will roll into hard pills; then let it cool, and mix it with 25 gallons of turpentine, or until it is of a proper consistence.

II. *Cheap*.—Put 28 lbs. of common black pitch and 28 lbs. of common asphaltum made from gas tar into an iron pot; boil both for eight or ten hours, which will evaporate the gas and moisture; let it stand all night, and early next morning, as soon as it boils, put in 8 gallons of boiled oil; then introduce, gradually, 10 lbs. of red lead, and 10 lbs. of litharge, and boil for three hours, or until it will roll very hard. When ready for mixing, introduce 20 gallons of turpentine, or more, until of a proper consistence.

This is intended for engineers, founders, iron-mongers, &c.; it will dry in half an hour, or less, if properly boiled.

BRUNSWICK GREEN.

In a tub or pan, melt any quantity of chromate of iron in hot water, in another vessel dissolve sugar of lead, then add the two together, and mix and agitate them well, and then suffer the mixture to rest, and the water to be drained off the precipitate. This gives a yellow pigment, in fact a chromate of lead. To this yellow sediment add damp blue and white lead, until the required shade is obtained.

BUCCANED MEAT.

This is a mode of preserving meat among most savage nations. The meat is salted with some people, and not with others. It is cut into long slips like steaks or slices. It is then laid upon a hurdle or gridiron, made of sticks, called a buccan, and placed at some height above the ground, a fire of wood is then made below, and a thick smoke produced; the meat is thus partly roasted, partly dried, and partly smoked.

The Caribbees, North American Indians, Laplanders, and many other savage nations, cure and cook their meat and fish in this way, particularly to lay up for a winter's store, and for hunting expeditions. Buffalo flesh is thus cured in immense quantities, being brought home by the hunters in this dried state. It is said that the pirates of the West Indies, in 1630, obtained their popular name of "Buccaneers" from this practice.

BUCKTHORN, SYRUP OF.

I. Juice of buckthorn berries, fully ripe, 4 lbs. Steep ginger, and allspice, of each $\frac{1}{2}$ oz., in 1 pint of it, then strain, boil the rest to $1\frac{1}{2}$ lb., mix the two liquors, and add $3\frac{1}{2}$ lb. of sugar.

II. Juice, clarified by settling, 2 lbs., white sugar 3 lbs.

III. Juice 1 gallon, brown sugar 12 lbs.

IV. Juice 3 gallons, brown sugar 28 lbs. allspice 6 oz., ginger 4 oz.

A cathartic, more used as a cattle medicine than for human purposes. It is apt to gripe.

BUG POISONS.

I. Tar-water washed into the parts of the bedstead, &c. infected.

II. Apply Sir W. Burnett's disinfecting fluid to all the joints and crevices of the bedsteads by means of a feather.

III. A solution of potash, to which a little lime has been added. This must not be touched with the fingers.

IV. A mixture of Scotch snuff and soft soap.

V. Sweet oil in which tobacco has been soaked.

VI. Spirits of wine $\frac{1}{2}$ a pint, spirits of turpentine $\frac{1}{2}$ a pint, sal ammoniac 1 oz., corrosive sublimate 1 oz., camphor 1 oz. Laid on with a brush.

VII. Paint the joints of a bedstead with turpentine, white-lead, and linseed oil.

VIII. Corrosive sublimate and muriatic acid, of each 1 oz., water 4 oz. Dissolve, then boil 1 oz. of tobacco in $\frac{1}{2}$ a pint of water, which add to it, and also the same quantity of turpentine.

IX. Blue stone and white vitriol dissolved in water, have both been recommended.

X. Reduce 1 oz. of corrosive sublimate and 1 oz. of white arsenic to a fine powder. Mix with it 1 oz. of sal ammoniac in powder. 2 oz. each of oil of turpentine and yellow wax, and 8 oz. of olive oil. Put all these into a pipkin placed in a pan of boiling water, and when the wax is melted, stir the whole till cold in a mortar.—*Brande*.

All these preparations, except the first and second, are poisonous, to human creatures as well as bugs, and some of them eminently so. The prevention of these animals is of more importance than some may suppose it to be. In some severe diseases, the disturbance they give the patient may greatly impede recovery. Although these pests generally imply want of cleanliness, yet it sometimes happens that the plaster of the walls is so bad, and the paper so loose that they cannot be got at; in these cases the paper ought to be completely stripped off, the walls well washed with the solution receipt 2, then well stopped with fine mortar, and afterwards painted.

BULL'S EYES.

These are made precisely in the manner of of barley sugar, sometimes colored red with cochineal, and at others yellow with saffron. The only difference is, that barley sugar is cut up into sticks, and bull's eyes are these sticks cut up crossways into small square pieces.

(See *Barley Sugar*, p. 36.)

BUNIONS.

A bunion is a swelling of one of the joints of a toe, or occasionally on the instep, it arises from pressure, particularly by wearing high heels to shoes and boots. The cure will partly suggest itself, namely, to prevent pressure by larger shoes and to have them of buckskin or other soft leather, or of cloth. If not inflamed, the best remedy is to put upon it first a piece of diachylon plaister, and upon that a second piece of thick leather, this last having a hole the size of the bunion cut in it. If inflamed it must be poulticed; if this does not succeed and matter should form, it must be treated as a boil, and the

matter let out with a needle or lancet. The following ointment for an inflamed bunion is strongly recommended. Iodine 12 grains, lard or spermaceti ointment $\frac{1}{2}$ oz; a portion about the size of a horse bean is to be rubbed on the bunion gently twice or thrice a day.

BUNS.

All small pastry containing yeast goes by this name, though all buns do not contain yeast. Common buns are made thus:—Take 3 lbs. of flour, put it in a pan, form a hole in the middle of the heap of flour and pour into the hole nearly half a tea-cupfull of good but not bitter yeast, along with $\frac{1}{2}$ pint of luke-warm milk; mix well together the yeast, milk, and a little of the flour; now leave it to rise or ferment for an hour in a warm place. When well risen melt $\frac{1}{4}$ lb. of butter, add to it $\frac{1}{2}$ pint more milk and a little sugar. Pour it in the pan and mix the whole well together with the fermented part, and also the rest of the flour, adding, if necessary, more milk to make it of the consistence of a thin dough, rather thinner than that for bread. Set it again aside and in about a quarter of an hour form it into round balls, put these on buttered iron plates, and then into a warm place to rise, or prove as it is called. When well risen bake them in a hot oven; when baked and while yet hot, rub over the tops of them a little egg and water to give them a gloss. You may add at the second mixing any currants, carraway seeds, or spices, as you may desire, to flavor. (See *Bath Bun*, p. 37.—*Chelsea*, p. 80.—*Cross*, p. 103.—*Regency*, p. 291.—*Scotch*, p. 305, &c.)

BURGUNDY PITCH, PLAISTER.

Simple.—Spread by means of a hot iron, Burgundy pitch on a piece of leather. Some persons add a little mustard powder, and others a little lard.

Compound.—Take of Burgundy pitch 2 lbs. labdanum 1 lb., yellow resin and yellow wax each 4 oz., expressed oil of mace 1 oz. To the pitch, resin, and wax, melted together, add first the labdanum and then the oil of mace.

To those afflicted with a continued cough in the winter season, a plaister prepared from either of the above, placed upon the chest, will afford great relief.

BURNS AND SCALDS.

I. Immediately after the accident, if the skin be not broken or only slightly so, soak the part or keep it bathed with cold water.

II. Scrape some potatoe and apply it to the part, renewing it with more when it becomes warm.

This acts in the same way as water alone, by giving cold to the part.

III. Rub it over with a piece of yellow soap, or wash with a few drops of creosote.

IV. Make a wash of soft soap, basilicon ointment, oil of turpentine, and water.

V. Place over it a poultice made of bread and cold water, upon which a little creosote has been poured.

VI. Apply in the first place, if the skin be broken, vinegar; and when the pain begins to subside, a bread and water poultice; if there should be a watery discharge, as from a blister, apply dry chalk.

VII. Make a wash of linseed or olive oil and lime water equal parts.

This is called Carron oil, from its being used in the iron foundry of that name, where accidents from burns frequently occur. It is very efficacious in preventing, if applied in time, the inflammation subsequent to burns, or of removing it after it has come on.

VIII. Use as a lotion lime water and common spirits in the proportion of 1 part of the former to 2 of the latter. This should be applied cold and the parts kept constantly covered with fine linen cloth wet with it.

IX. Mix $\frac{1}{2}$ pint of gin or brandy with a wine glassfull of solution of sugar of lead.

X. Apply a paste of oatmeal and water to the part immediately after the accident.

If the burn or scald be very extensive the following remedies are both excellent.—In several bad cases of burns and scalds, the topical application of well-carded cotton wool has succeeded in effecting a cure in a few days. For this discovery we are indebted to chance. The child of a negro in the West Indies, in consequence of falling into boiling water, was most dreadfully scalded. The mother, being ignorant of any mode of treatment, immediately laid the child on the cotton wool she had been carding, and covered it over with it. The cotton wool adhered closely to the injured parts, and being caked by the discharge, completely defended the surface from the action of the atmosphere. In the course of a few days the whole peeled off with the injured skin, leaving a healthy surface covered with a cuticle. The same treatment has been adopted in Scotland, and elsewhere, in several bad cases of burns and scalds, with similar happy results. When the discharge exudes through the first layer, more cotton must be added to absorb it. In order that it may adhere to the injured part, the surface should be moistened with oil.

Mr. Wakley, the Coroner for Middlesex, says, "The best application for burns is pure flour. I wrote a book many years ago descriptive of its efficacy. As soon as the incrustation caused by the flour falls off, the wounds also disappear. In fact, it acts like a charm."

In all cases of burns and scalds, it is necessary to observe, that if fever should ensue, gentle laxative medicines ought to be administered. The best are castor oil and Epsom salts. If the injury arising from the scald or burn be very severe, suppuration should be promoted by fomentations and emollient cataplasms. The deformity or constriction of muscles and tendons, which arises from burns and scalds is to be obviated as much as possible by bandage and position. Particular attention must be paid to position where joints are concerned, and in burns of the neck. In all, the limbs should be as much as possible in their natural situation of rest; but the head, in particular, should be kept in a proper position. The diet should be of a mild character.

BURNT SUGAR, SOLUTION OF

Burn white sugar till the vapors are copiously disengaged and the dark brown matter sticks to the vessel, add warm water to form a solution, to every ounce measure of which add a sixteenth part of spirits of wine to keep it; when to be used dilute it with more water that the shade of color may be perceived.

BURTON ALE, TO MAKE A HOGSHEAD OF.

Take 1 quarter of pale malt and $8\frac{1}{2}$ lbs. of pale Kentish hops; mash three times with a barrel of water each time. Let the first mash be worked at 170° , the second at 176° , the third at 150° . Boil the first wort by itself, and when boiling add to it 3 lbs. of new honey, $1\frac{1}{2}$ of coriander seeds, and 1 oz. of salt. Mix the worts when boiled, cool them to 61° and set to work with $1\frac{1}{2}$ pint of yeast. As soon as the gyle gets a yeasty head, skim it half off; rouse up the rest with another pint and a half of yeast, $\frac{3}{4}$ oz. of bay salt, and $\frac{1}{4}$ lb. of malt or bean flour; draw it off clear into casks.

BUTTER, TO CLARIFY.

Put any quantity of butter in the inner vessel of a glue pot, or in a saucepan put inside of another saucepan, something being put in first to keep it from touching the bottom. The butter being in the inner vessel, water must be put in the outer one, place this on the fire until the water simmers but not boils. The butter will be melted and is to be put aside till quite cold, then dip the vessel which holds it suddenly into hot water, and keeping it there only a second or two, it will melt the surface so that the butter may be turned out in a lump; cut off the clear part, and salt and pack it in the usual way.

This clarified butter will be very hard and keep well. In the same manner may be detected several fraudulent mixtures with butter, such as flour, and also show by its hardness if lard be mixed with it, lard being always soft and cooling with ridges on the surface.

BUTTER, TO IMPROVE.

Butter that has not been properly churned, or that has not been carefully separated from the butter-milk, or has been improperly packed and is turning rancid, should be immediately washed and kneaded in spring water, changing the water two or three times, then re-salted with salt pounded very fine. Butter that has an unpleasant flavor is said to be improved by the addition of $2\frac{1}{2}$ drachms of bi-carbonate of soda to 3 lbs. of butter.

BUTTER, TO PRESERVE.

I. The common method of pressing butter is, after washing it well with pure cold water to get out from it all cheesy particles, to rub into it common salt from $\frac{1}{2}$ oz. to 2 oz. to the pound, according to the time it is required to be kept.

II. Mix 2 parts of salt, 1 of loaf sugar, and 1 of saltpetre, beat them altogether to a fine powder, and use 1 oz. of this mixture to every pound of butter.

This butter does not taste well for a fortnight after it is salted, but after that time has a rich marrowy taste that the same butter otherwise cured does not possess, and tastes so little salt that one would imagine it would not keep. Yet it is said to be perfectly good after two years making, and even after a voyage to the East Indies, provided that the heat has never melted it during the voyage.

BUTTER PRESERVED WITH HONEY.

Mix together honey and butter in the proportion of 1 oz. of honey to a lb. of butter, the butter being a little softened by warmth,

This butter has an agreeable taste, will keep for years, and may be useful on long voyages.

BUTTER, TO PACK.

By the following process, butter may be kept fresh and sweet for years in any climate. The butter is to be well churned, and worked and packed hard and tight in kegs of seasoned white oak. The head is then put in, leaving a small hole into which brine is poured to fill the vacant space; and of so much importance is it deemed, to prevent any bad taste, that the plugs for the hole must not be made of cedar or pine, but of cypress or bass wood, as otherwise it would be injured. After which, these kegs are placed in hogsheads well filled with brine of such a strength that it will bear an egg. They are then headed up tight and close.

BUTTER BISCUITS.

Two lbs. of flour, $\frac{1}{4}$ lb. of butter, 3 table-spoonsfull of yeast, and water or milk to make a stiff dough. First rub the butter in with the flour, then mix the water and yeast together, so that the water shall taste slightly bitter; mix with the flour, knead the whole together and set aside for half an hour to prove or rise. When risen, roll into a thin sheet and cut into round shapes with the docker, pricking them at the same time. Bake in a hot oven. Be careful not to get bitter yeast.

BUTTERFLIES, TO TAKE IMPRESSION OF.

Chip the wings off the butterfly, lay them on clean paper, in the form of a butterfly when flying. Spread some thick clean gum water on another piece of paper, press it on the wings and it will take them up; lay a piece of white paper over it, and rub it gently with the finger, or the smooth handle of a knife. The bodies are to be drawn in the space left between the wings.

BUTTER OF ANTIMONY.

I. Grind together equal parts of common antimony and corrosive sublimate. Distil in a wide-necked retort, and let the buttry matter that comes over run in a moist place to a liquid oil.

II. Common antimony 1 lb., common salt 4 lbs., oil of vitriol 3 lbs., water 2 lbs. Distil.

BUXTON WATER.

Imitated by dissolving in a bottle of filtered water, 15 grains of carbonate of soda, $\frac{1}{2}$ dram of tartrate of soda, with 80 drops of wine of iron: before corking add 8 drops of sulphuric acid.

Buxton water has been found serviceable in disordered conditions of the digestive organs consequent on high indulgence and intemperance; in calculous complaints, and in gout.

COCOA OR CACAO.

The nuts of the cacao, bruised and roasted; it is much richer than coffee. Common cocoa is made from the husks of the nut or bean.

Weak cocoa has been much recommended lately by medical men in those numerous cases of indigestion and nervous complaints, where tea and coffee does not agree. In these cases let it be boiled in water, then suffered to get cold; the oil which is on the surface can then be readily removed; when wanted, warm up for use. (See *Chocolate*, p. 85.)

CAJEPUT, LINIMENT OF.

I. Soap and compound camphor liniment, of each $1\frac{1}{2}$ fluid oz., oil of cajeput 1 fluid oz.

II. Camphor 1 drachm, oil of cajeput 2 drachms, sulphuric ether 1 oz. Mix and keep it in a stoppered bottle in the cold, as it is very volatile.

CAJEPUT, OIL OF.

This is prepared in the Moluccas by distilling the dry leaves of the *Melaleuca leucodendron*. Cajeput is a native word, signifying merely a white tree. This oil is green; it has a burning taste, a strong smell of camphor, turpentine, and savine. It is very fluid, and at 48° has a specific gravity of 0.948. The color seems to be derived from the copper vessels in which it is imported, so that it is removed by distillation with water, which also separates the oil into two sorts; the first which comes over having a density of 0.897, the last of 0.920. This has a green color.

CAJEPUT OPODELDOC.

Take of almond soap 2 oz., alcohol 1 pint, camphor 1 oz., cajeput oil 2 oz. First dissolve the soap and camphor in the alcohol in a retort, by means of a sand heat, and when the solution is about to congeal, or becomes nearly cold, add the oil of cajeput, shake them well together, and put it into bottles to congeal.

This is a very good stimulant in cases of rheumatism, paralytic numbness, chilblains, &c.

CAKE.

So extensive is the collection of articles of pastry known by the name of cake, that we must refer to their various names as under. A common cake, being of very ordinary domestic manufacture, need not be described.

(See *Banbury*, p. 34.—*Bath*, p. 37.—*Cheese*, p. 80.—*Ginger*, p. 148.—*Lemon*, p. 211.—*Marlborough*, p. 230.—*Tipsey*, p. 330.—*Plum and Seed*, p. 294.—and many others, the names of which will be found in the Index.)

CALAMINE, PREPARED.

Calamine, or carbonate of zinc, is a native mineral, which however requires purifying. This is done by simply grinding it, then sifting it into water, and after the greater part of the sediment has fallen, pouring the still turbid water off, and letting a yet finer deposition take place. This is the prepared calamine. In medicine it is astringent and drying, and as such is used in the calamine ointment, and as a dusting powder for wounds, excoriations, &c.

CALAMINE CERATE, OR OINTMENT.

I. *Simple*.—Prepared calamine $7\frac{1}{2}$ oz., wax $7\frac{1}{2}$ oz., olive oil 1 pint. Mix the oil with the melted wax, then remove them from the fire, and when they first begin to thicken, add the calamine, and stir constantly until they cool.—*Lon. Phar. new edit.* 1851.

II. Prepared calamine and cerate, of each $\frac{1}{2}$ a lb., olive oil 16 oz. First melt the wax, then add the oil, and as soon as it becomes partly congealed, add the calamine.

III. Mix together equal weights of lard, calamine, and suet.

IV. Prepared calamine 1 lb., ointment of yellow wax 5 lbs. Mix them together.

V. *Compound*.—Simple calamine cerate, made according to the second receipt 1 lb., nitric oxyde of mercury 1 oz. Pound the mercury, and add it by degrees to the cerate.

CALLOT'S SOFT ENGRAVERS' VARNISH.

Take of virgin-wax 4 oz., of amber (or of the best asphaltum calcined) and of mastic, each 2 oz.; of resin, common pitch, or shoemaker's wax, each 1 oz., and of varnish or turpentine $\frac{1}{2}$ oz. Having prepared all these ingredients, take a new earthen pot and put it over the fire with the virgin-wax in it: and when that is melted, add gradually to it the pitch; and afterwards the powders, stirring the mixture each time in proportion to the addition made to it. When the whole is sufficiently melted and mixed together, take the pot from the fire, and having poured the mass in an earthen vessel full of clean water, form it into balls by working it with the hands; keep them in a box, free from dust.

The two ounces of mastic are to be used only in summer, because it hardens the varnish, and preserves it from being cracked by the engravers' leaning over the plate during the graving; but in that for winter use, only one ounce should be put.

CALOMEL, TO TEST IF PURE.

The specific gravity of calomel is a very good test to distinguish it from chalk and other white powders, as it is much heavier than either of them; but the most unequivocal test is, by rubbing some of the powder in a mortar with some pure ammonia, or by shaking it in a phial with some lime water. In either of these cases, if the calomel is in a pure state, the combination will become intensely black.

CALOMEL PILLS.

I. Calomel mixed with a little gum water and flour, or with gum water only into a mass. Each pill should contain 2 or 3 grains of calomel. One of the larger and one or two of the smaller pills is a dose.

The quantity of calomel to be administered at once is very uncertain; children generally bear it better than adults—with some constitutions its action is very violent, and a very small quantity suffices. So on the other hand, some disorders require not merely repeated doses, but a large quantity, in the cholera, for example, we have seen administered more than 100 grains in two or three hours.

II. Calomel, oxy-sulphuret of antimony, and treacle, of each 2 drachms, powdered guaiacum $\frac{1}{2}$ drachm. This mixture in the quantity of from 5 to 10 grains is a good alterative pill in skin diseases and liver affections.

CALOMEL, FLOWERS OF.

Distil calomel in a low retort, having a very short and wide neck, so disposed in the furnace that the neck of the retort being too hot for the calomel to settle there, it may be driven over into a large receiver half filled with hot water, and kept so as to steam. It will be found in the state of a fine white powder. *Dose* from 1 to 4 grains.

CALOMEL OINTMENT.

Simple.—One drachm of calomel with 1 oz. of lard. Dr. Pereira says, "Were I required to name a local agent pre-eminently useful in skin diseases generally, I should fix on this. It is well deserving a place in the Pharmacopœia."

II. *Compound.*—Mix together 2 oz. of calamine cerate with 1 oz. of simple calomel cerate.

CALOTYPE PAPER.

Take a sheet of the best writing paper, having a smooth surface and a close and even texture. Dissolve 100 grains of crystallized nitrate of silver in 6 oz. of distilled water. Wash the paper with this solution with a soft brush on one side, and put a mark on that side whereby to know it again. Dry the paper cautiously at a distant fire, or else let it dry spontaneously in a dark room. When dry, or nearly so, dip it into a solution of iodide of potassium, containing 500 grains of that salt dissolved in 1 pint of water, and let it stay two or three minutes in this solution. Then dip it into a vessel of water, dry it lightly with blotting-paper, and finish drying it at a fire or by the air. The paper, so far prepared, is called iodized paper, because it has a uniform pale yellow coating of iodide of silver. This is the first part of the preparation of calotype paper, and may be performed at any time. The remaining part is best deferred until shortly before the paper is wanted for use. When that time has arrived, take a sheet of the iodized paper, and wash it with a liquid prepared in the following manner:—Dissolve 100 grains of crystallized nitrate of silver in 2 oz. of distilled water; add to this solution half of its volume of strong acetic acid; let this mixture be called A. Make a saturated solution of crystallized gallic acid in cold distilled water; the quantity dissolved is very small; call this solution B. When a sheet of paper is wanted for use, mix together the liquids A and B in equal volumes, but only mix a small quantity at a time. Wash a sheet of the iodized paper over with this mixture, laid on with a soft brush, let it rest half a minute,

then dip it in water and dry it ready for use. This must not be done by day-light.

CALUMBO BITTERS.

I. Calumbo root $2\frac{1}{2}$ oz., proof spirit 2 lbs.

II. Calumbo root, fresh orange and lemon peel of each 1 oz.; spirits of wine 1 quart; digest for a week, then express the tincture, add lump sugar 4 oz. and a little coloring

CALVES, TO REAR, WITHOUT THE COW

Put some water on the fire, nearly as much as the calf can drink; when it boils throw into it 2 handfuls of oatmeal, and suffer the whole to boil for a minute; then leave it to cool till of the warmth of new milk; then mix with it 1 or 2 quarts of milk that has stood twelve hours and that has been skimmed; stir the whole and give it the calf to drink. The calf grows faster than if brought up by the mother, besides which all the cream and the greater part of the milk is saved.

Calves to be brought up by hand should be taken from the cow directly after their birth, else they distress the mother too much. They should have nothing but the pure milk for the first four days, and to induce them to drink, the fingers must be put into the mouth of the calf and then the hand dipped into the liquid, thus he will suck the fingers and his mouth, dipping at the same time into the drink, he will suck it up readily.

CAMOMILE DROPS.

Dissolve $\frac{1}{2}$ oz. of the oil of camomile in a $\frac{1}{2}$ pint of spirits of wine. *Dose* 10 to 20 drops.

This is intensely bitter, and is a fine tonic. Half an ounce shaken well in a pint of water forms an excellent camomile water.

CAMOMILE, ESSENCE OF.

Quassia wood 8 oz., spirits of wine 1 gallon oil of camomile sufficient to scent it.

CAMPBELL'S GREEN LINIMENT.

Made with 1 oz. each of camphor and of extract of hemlock; 2 oz. of compound spirit of ammonia; 6 oz. each of liquor ammoniæ and of olive oil.

Used for swellings and enlarged joints.

CAMEOS, ETC. TO CARVE.

Take the common helmet, or the red helmet shell, those whose inner surface is pink or dark colored are most suitable, cut them into squares with a lapidary's mill, round off the corners, and shape them into an oval on a wet grindstone. Fix the enamel side on a short stick with jeweller's cement, grind off the brittle surface, sketch the subject with a black-lead pencil, (or it is better for a young artist to have a drawing of the size before him; cut the subject with engravers' tools, namely, a chisel tool to clear the bare places; a lozenge-shape for forming the subject, and a scraper, made of a three-angled file, ground off taper to the point, for cleaning the enamel surface round the subject, and also for forming the lineaments and other delicate parts. The color on the cheeks and hair is produced

by leaving the layer of colored shell on those places. The stick must be grasped in the left hand, and held firmly against a steady bench, and with the tool resting in the hollow of the right hand, dig away the shell. A convenient length for the tools is three inches and a half; they must be kept in good condition to work with care and truth. The cameos are polished with a cedar stick, of cork dipped in oil of vitriol and putty powder, and cleaned with soap and water. Mother of pearl is carved in the same way.

CAMPBOR, TO POWDER.

Camphor may be beaten in a mortar for some time without being reduced to powder, but if it be first broken with the pestle and then sprinkled with a few drops of spirits of wine it may be readily pulverized. Powdered camphor is much used in tooth powders, fire-works, &c.—*Cooley*.

CAMPBORATED CHALK.

Precipitated chalk 3 oz., camphor 1 oz. Add a few drops of spirits of wine to the camphor, then reduce it to a fine powder, and well mix it with the chalk; lastly pass it through a clean fine sieve.

This is a very common tooth powder, but its long continued use is said to make the enamel of the teeth very brittle. It should be kept in corked bottles.

CAMPBORATED VARNISHES.

I. *Copal*.—This varnish is designed for articles which require durability, pliability, and transparency, such as the varnished wire gauze, used in ships instead of glass—2 oz. of pulverized copal, 6 oz. of essential oil of lavender, $\frac{1}{2}$ oz. of camphor, and essence of turpentine, a sufficient quantity, according to the consistence required to be given to the varnish. Put into a phial of thin glass, or into a small mattress, the essential oil of lavender and the camphor, and place the mixture on a moderately-open fire, to bring the oil and the camphor to a slight state of ebullition; then add the copal powder in small portions, which must be renewed as they disappear in the liquid. Favor the solution by continually stirring it with a stick of white wood, and when the copal is incorporated with the oil, add the essence of turpentine boiling; but care must be taken to pour in, at first, only a small portion.

This varnish is little colored, and by rest it acquires a transparency, which, united to the solidity observed in almost every kind of copal varnish, renders it fit to be applied with great success in many cases, and particularly in the ingenious invention of substituting varnished metallic gauze in the room of Muscovy tale, a kind of mica, in large laminæ, used for the cabin windows of ships, as presenting more resistance to the concussion of the air during the firing of the guns. Varnished metallic gauze of this kind is manufactured at Rouen.

II. *Sandarac*.—(a) Gum sandarac 6 oz., gum elemi 4 oz., gum animi 1 oz., camphor $\frac{1}{2}$ oz., pounded glass 4 oz., and pure alcohol 32 oz. Make the varnish according to the

directions given. The soft resin must be pounded with the dry bodies. The camphor is to be added in pieces.—(b) Gallipot, or white incense, 6 oz., gum animi 2 oz., gum elemi 2 oz., pounded glass 4 oz., and alcohol 32 oz. Make the varnish with the assistance of heat, but with great caution, lest it should burn.

The two last varnishes are to be used for ceilings and wainscots, colored or not colored; they may even be employed as a covering to parts painted with strong colors.

CAMPBORATED SPIRIT.

Dissolve 1 oz. of camphor in $\frac{1}{2}$ a pint of spirits of wine,

Used for chilblains, rheumatism, &c., and is much recommended by dentists as an excellent wash for the teeth and gums.

CAMPBORATED VINEGAR.

Camphor 1 oz. powdered with 20 drops of spirits of wine; then rub it well in a mortar with 2 oz. of sugar, and add $1\frac{1}{4}$ pint of best white wine vinegar. Shake until all is dissolved. Dose from $\frac{1}{4}$ to $\frac{1}{2}$ oz.

CAMPBORATED WINE.

Dissolve $\frac{1}{2}$ oz. of camphor in $6\frac{1}{2}$ oz. of wine. It will be necessary first to add to the camphor a little spirits of wine, to dissolve it the more readily and completely.

CAMPBOR BALLS.

I. Melt 3 drachms of spermaceti and 4 drachms of white wax, with 1 oz. of almond oil, and stir in 3 drachms of powdered camphor. Pour the compound into gallipots so as to form cakes. They may be colored with alkanet, &c.

II. Lard 2 oz., white wax 2 oz., powdered camphor $\frac{1}{2}$ oz., melt and proceed as before.

Used for rubbing on the hands after washing them, to prevent chaps; and also to whiten the skin.

CAMPBOR BALLS IN FARRIERY.

I. Mix together into a ball 2 drams of camphor with sufficient liquorice powder and syrup to give it proper consistence.

II. Camphor 2 drams, nitre 1 oz., liquorice powder and syrup to make a ball.

CAMPBOR CAKE.

I. Pour 1 drachm of melted spermaceti on to an ounce of camphor liniment and mix them well together.

II. Take 4 oz. of almond oil, $\frac{3}{4}$ oz. of spermaceti; melt, add camphor, cut small, 1 oz., melt altogether and stir while cooling.

CAMPBOR LINIMENTS.

I. *Simple*.—Camphor $\frac{1}{2}$ oz., dissolved in 2 oz. of olive oil.

A good application for bruises, and when rubbed on the chest for coughs and other irritations. This is the same as camphorated oil.

II. *Compound*.—With 12 oz. of spirits of lavender mix 6 oz. of caustic ammonia and 2 oz. of camphor.

III. Camphor 2 oz., liquid ammonia 6 oz., spirits of lavender 16 oz.

This is the same as Ward's essence for the headache.

iv. Take 1 oz. of Barbadoes tar, $\frac{1}{2}$ oz. of camphor, rubbed up with a little spirits of wine.

v. Take of camphorated spirit 2 oz., dilute spirits of hartshorn 2 drachms, oil of rosemary 1 drachm.

A good application for rheumatism and gouty swellings.

CAMPBOR DRAUGHT.

Infuse 2 drachms of Virginian snake-root, during a quarter of an hour, in $\frac{1}{4}$ of a pint of boiling water. Then take 1 oz. of syrup of Peruvian bark, 2 drachms of tincture of bark, 12 grains of camphor. Rub all these last together for a long time in a glass mortar, then add 1 oz. of liquor of acetate of ammonia, and finally the former infusion of snake-root, when cold; the infusion being first filtered.

CAMPBOR DRINK FOR HORSES.

Camphor 2 or 3 drams, olive oil 1 oz., carbonate of soda 1 drachm, rub together and add tincture of opium 1 oz., warm water 2 pints.

Used for cattle as a diuretic.

CAMPBOR EMULSION.

I. Mix together 1 scruple of camphor 2 drachms of sweet almonds blanched, white sugar 1 drachm, and water 6 oz.

II. Camphor 10 grains, the white of 1 egg, 1 oz. of white sugar, 6 oz. of water.

These are convenient methods of administering camphor medicinally.

CAMPBOR OINTMENT.

Spermaceti ointment 1 oz., camphor 2 drachms; dissolve by a gentle heat, and stir till cold.

CAMPBOR MIXTURE.

Take of camphor 1 drachm, rectified spirits of wine 10 drops, double refined sugar, $\frac{1}{2}$ oz., boiling distilled water 1 pint. Rub the camphor first with the spirits of wine, then add the sugar, lastly add the water by degrees, and strain the mixture.

In the camphor emulsion the camphor is rubbed with the almonds, the unctuous quality of which serves in a considerable degree to cover the pungency of the camphor without diminishing its activity. Camphor under the present form as well as that of the emulsion is useful in fevers taken to the extent of a table-spoonful every three or four hours.

CAMP VINEGAR.

Steep in the best vinegar for a month 1 dram of cayenne pepper, 2 table spoonful of soy and 4 of walnut ketchup, 6 anchovies, chopped, and a small clove of garlic minced fine. Shake it frequently, strain through a tammy, and keep it well corked in small bottles.

CANALS, CEMENT FOR.

Take 1 part of iron filings, reduced to sifted powder, 3 parts of silica, 4 parts of alumine combined with oxide of iron, the same quantity of pulverized brick, and 2 parts of hot lime; the whole measured by weight and not by bulk. Put the mixture into a

large wooden tub, in order that nothing foreign shall be introduced into it. If sufficient water is poured out to extinguish the lime and give a degree of liquidness to the cement, and if all the component parts are briskly stirred, a great degree of heat will be emitted from the lime, and an intimate union formed by the heat.

CANDIED SUGAR.

Boil 2 quarts of clarified sugar to a strong blow, grain it, that is turn it white by rubbing it against the sides of the pan; when it is white and about the thickness of cream, put it in well oiled leaden moulds, and these into a stove till perfectly dry.

CANDLES, TO IMPROVE TALLOW FOR.

Take 2 lbs of alum for every 10 lbs. of tallow, dissolve it in water before the tallow is put in, and then melt the tallow in the alum water, with frequent stirring, and it will clarify and harden the tallow so as to make a most beautiful article for either winter or summer use, almost as good as sperm.

CANTHARIDES, OIL OF.

Powdered Spanish flies 4 oz., olive oil 32 oz. Soak them for six hours in a water bath, then press the oil away from them.

CANTHARIDES, TINCTURE OF.

I. Cantharides 2 drachms, cochineal $\frac{1}{2}$ dram, proof spirit $\frac{1}{2}$ lb.

II. Cantharides 3 drachms, spirits of wine 2 lbs. (See *Blister*, p. 48)

CANTON'S PHOSPHORUS.

Mix together 3 parts of calcined oyster shells and 1 part of flowers of sulphur, and expose the mixture for an hour to a strong heat in a covered crucible. When this substance has been for some time exposed to the sun's light and then taken to a dark room it remains phosphorescent.

CANKER IN APPLE TREES, TO CURE.

Encircle the tree, about knee high, with a streak of tar, early in the spring, and occasionally add a fresh coat of tar.

(See *Apple Tree Canker*, p. 26.)

CANVAS PREPARED, FOR PAINTERS.

It is first strained tightly upon frames; then washed with a thin glue. When dry it is painted with a coat of oil color, made of white lead, red lead, linseed oil, and turpentine; and afterwards with a second coat, in which the red lead is omitted, and sugar of lead, with a little coloring matter, substituted.

CAOUCHOUCINE, HOW PREPARED.

Caouchoucine is the invention of Mr. W. H. Barnard, and is obtained by distilling caouchouc, (Indian rubber) as imported. When the temperature has reached 600°, a dark colored oil or liquid is distilled over, which is caouchoucine. This substance, when mixed with alcohol, is a solvent of all the resins, particularly copal. It possesses

some singular properties, viz. that in a liquid state it has less specific gravity than any other liquid known to chemists, being considerably lighter than sulphuric ether, and in a state of vapor is heavier than the most ponderous of gases.

CAOUCHOUCINE, TO DEPRIVE OF ODOUR.

Caouchoucine, the spirit of Indian rubber has a powerful and penetrating odour; to deprive it of this mix with every gallon of the liquid about $\frac{1}{2}$ pint of aqua regia or of chlorine; when upon agitation it will become perfectly scentless.

CAOUCHOUC LIQUID.

Cut some Indian rubber into small pieces and soak it in coal naphtha, it will swell up to 30 times its bulk when dry. After having thus soaked for some hours, it is to be beaten well up in a mortar with a pestle, till well incorporated. This is an excellent water-proofing material. It is put on either with a brush if for the purpose of a varnish, or else spread with a knife or piece of wood; it takes nearly a week to dry.

CAOUCHOUC, SOLVENTS FOR.

I. The best solvent for naphtha is caouchoucine, or its own oil, next to which that which is mostly now used is coal naphtha, or as it is sometimes called, spirit of coal tar.

II. Take equal weights of sulphuric acid and water, mix them, and when cold, add a quantity of it to a quantity of oil of turpentine, and agitate thoroughly; the acid will become colored by uniting with, or charring the resin; let the acid subside, and decant the clear spirits. Repeat the operation until the acid subsides without being discolored.

The oil of turpentine thus prepared with warmth and strong solar light, is a perfect solvent of caouchouc.

CAOUCHOUC VARNISH.

Take 16 oz. of caouchouc, or elastic resin, 16 oz. boiled linseed oil, and 16 oz. of essence of turpentine. Cut the caouchouc into thin slips, and put them in a matrass placed in a very hot sand-bath. When the matter is liquified, add the linseed oil in a state of ebullition, and then the essence warm. When the varnish has lost a great part of its heat, strain it through a piece of linen, and preserve it in a wide-mouthed bottle.

This varnish dries very slowly, a fault which is owing to the peculiar nature of the caouchouc.

CAOUCHOUC BALLOONS.

Put a little ether into a bottle of caouchouc, close it tightly, soak it in hot water, and it will become inflated to a considerable size. These globes may be made so thin as to be transparent.

A piece of caouchouc, the size of a walnut, has thus been extended to a ball of a foot or more in diameter.

CAPERS.

I. *French*.—These are the flower buds of a prickly shrub, not uncommon in the South of France, Spain, Italy, &c. They are

plucked by children, sifted, and put into vinegar, which has been boiled and afterwards cooled before the buds are put in it.

From the use of copper sieves Foreign capers frequently become contaminated with that metal. This contributes to give them that lively green color so much valued. Pieces of copper money, are also added for this purpose. This vile fraud is however easily detected. If copper be present either in the capers or the pickle they will develop a blue color when agitated with liquid ammonia in excess.—*Cooley*.

II. *English*.—The true caper shrub does not grow here, the best substitute are the berries of the caper spurge, a tall, upright, milky plant. The second best substitute are the young berries of the nasturtium plant. They are preserved by soaking in vinegar.

CAPILLAIRE.

I. Sugar 12 lbs., water 1 gallon. Boil nearly to a syrup, clarify with the whites of 3 eggs, take off the scum while it continues to boil for a quarter of an hour longer, adding while warm 1 pint of orange flower water.

II. Gum tragacanth 3 oz., water 2 gallons. Boil, strain, and make up to 3 gallons, then add 24 lbs. of white sugar, clarify with the white of 5 eggs, then add orange-flower water $2\frac{1}{2}$ pints. This does not mix well with wine.

III. Lump sugar 8 lbs., water 1 gallon. Clarify in boiling with the white of an egg; when nearly cold, add 1 pint of rose-water.

IV. Simple syrup 1 pint, curaçoa a wine glass full.

CAPSICUM, SPIRITS OF.

Take 10 drachms of capsicum, bruised, and 2 pints of proof spirit. Digest for fourteen days and filter.

(See *Chillie*, p. 83, *Cayenne*, p. 78.)

CAPSULES FOR MEDICINES.

The balsam of copaiba, cubebs, and other nauseous medicines, have been lately inclosed in little oval or pear-shaped capsules of gelatine. To make and fill these capsules, melt on the fire in a double vessel, or glue pot, a quantity of glue, let it be to the full consistence of thick treacle, when boiling, and add in that state a little sugar. Dip the end of an iron rod in this melted glue, shake it about in the air, till somewhat congealed; slip it off the rod, and which should have been previously greased, into a little hole on a board, or on to a needle point or wire to harden: when dry, place the capsules in rows in little cavities cut in a sheet of cork, put into each about 12 drops of the medicine, and then a drop of the glue upon it, to close the whole together; if not smooth when done, they may be made so by sticking each upon a needle, and dipping it for a moment into glue, somewhat thinner than that first used.

CAPTAINS' BISCUITS.

In making biscuits the art is more in the method to be employed than in the ingredients. Captains' biscuits are in three sizes

or thickness. The ingredients being nearly the same in each; for ordinary captains' biscuits, and which are of a moderate thickness, crisp in their nature, and to be eaten alone or with cheese, &c., take 7 lbs. of fine flour, 6 or 8 oz. of butter, and a quart of milk; mix these together well with the hands till they make a hard even tough dough, cut it into pieces and roll it out into a sheet about half an inch thick, without any dry flour on the board, as this will render them spotty; mould them into proper shapes and sizes, and dock them on both sides, or if on one side only let the holes go quite through. Bake in a quick oven for 10 or 12 minutes. When they are of a light brown color take them out. Put them in the drying stove till crisp. If done too much in the oven they will be brittle, if done too little they will be tough. The drying stove should be somewhat open for the steam to escape or they will become soft.

II. *Thick*.—These are the same as the last except that the dough is rolled out in a thicker sheet, and they are docked on both sides, but only half through, so that when finished they will split into halves, and thus the inner sides may be buttered. These require more drying than the last kind.

III. *Thin*.—These are very small and thin and do not require above half the butter.

CARAMEL SUGAR.

Sugar, when boiled, presents different characters, according to the degree of such boiling. The last stage is called caramel, and the different articles of confectionary, made of such sugar, are called caramelised. The sugar is known to be boiled to the caramel degree, thus:—Take out a little on the end of a piece of wood, and dip it suddenly into water as cold as possible, if it snaps with a loud noise, and is of a fine yellow color, it is done. The pan, should directly this is found to be the case, be taken off the fire, and the bottom of it placed in a pan of cold water, lest the heat which is in it continue so long, as to make it darker than it ought to be, after the caramel it rapidly burns and becomes very dark-colored. The degree of boiling next under this is called the crack, or like barley sugar.

(See *Sugar, to Boil and Clarify, and Sugar Candy*, p. 324.)

CARATCH SAUCE.

I. Take 3 cloves of garlic, cut them in pieces, $\frac{1}{2}$ oz. of cayenne pepper, and a spoonful or two each of Indian soy and walnut pickle; mix these in a pint of vinegar with as much cochineal as will color it.

II. Mushroom ketchup 6 pints, walnut ketchup 1 pint, Indian soy and chillie vinegar of each $\frac{1}{4}$ pint, essence of anchovies 1 table spoonful.

CARBONATED LIME WATER.

Lime water a pint, common water 2 pints. Pass carbonic-acid gas through it, till the

water, which is at first rendered cloudy, becomes transparent again.

This is used in some calculous complaints.

CARDAMOM, TINCTURE OF.

Simple.—Take $2\frac{1}{2}$ oz. of cardamoms bruised and 2 pints of proof spirits; digest for fourteen days and filter.

II. *Compound*.—Take $2\frac{1}{2}$ drachms each of cardamoms bruised, and carraways bruised, 1 drachm of cochineal, 5 drachms of cinnamon bruised, and 5 oz. of raisins stoned; digest for fourteen days and filter.

CARDAMOM WATER, OR TINCTURE.

Allow 4 oz. of the cardamom seeds to each gallon of spirit. Let them soak a week before using.

CARMINE, TO PREPARE.

Boil 1 oz. troy of cochineal, finely powdered in 12 or 14 pints of rain or distilled water, in a tinned copper vessel, for three minutes, then add 25 grains of alum, and continue the boiling for two minutes longer, and let it cool; draw off the clear liquor as soon as it is only blood warm, very carefully into shallow vessels, and put them by, laying a sheet of paper over each of them, to keep out the dust for a couple of days, by which time the carmine will have settled. In case the carmine does not separate properly, a few drops of a solution of green vitriol will throw it down immediately. The water being drawn off, the carmine is dried in a warm stove. The first coarse sediment serves to make Florence lake; the water drawn off is liquid rouge.

CARMINE, ADULTERATION IN, TO DETECT.

Add to the suspected carmine, enough spirits of hartshorn to dissolve it. All the matters with which it is usually adulterated will remain undissolved. This sediment will be generally found to be starch.

CARMINE LIQUID.

Dissolve carmine in liquid ammonia or spirits of hartshorn. This makes a most beautiful ink, as also a fine color for velvet painting, and for staining maps, paper, &c.

CARMINE BLUE.

To a solution of sulphate of indigo add carbonate of potass. This will throw down a blue precipitate which has been called blue carmine or soluble indigo.

CARMINE, PURIFIED.

To liquid carmine add acetic acid and spirits of wine, till the whole color is precipitated, afterwards carefully wash with spirit and dry in the shade.

CARMINATED LAKE FROM MADDER.

Boil 1 part of madder in from 12 to 15 pints of water, and continue the ebullition till it be reduced to about 2 lbs. Then strain the decoction through a piece of strong linen cloth, which must be well squeezed; and add

to the decoction 4 oz. of alum. The tint will be a beautiful bright red, which the matter will retain if it be mixed with proper clay. In this case, expose the thick liquid which is thus produced on a linen filter, and subject it to one washing, to remove the alum. The lake, when taken from the driers, will retain this bright primitive color given by the alum.

CARMINATED LAKE FOR CRAYONS.

The decoction which floats over the colored precipitate known by the name of carmine, being still highly colored, the addition of sulphate of alumine, which is afterwards decomposed by a solution of carbonate of soda, disengages the alumine, and the latter, in precipitating itself, carries with it the coloring part of the bath. According to the dose prescribed for the composition, 2 or 3 oz. of alum may be employed. The greater or less quantity of this substance, the base of which seizes on the coloring fecula, determines the greater or less intensity observed in the color of the lake resulting from it. When the process is conducted on a small scale, and by way of trial, the precipitate is received on a filter. It is then washed with warm water, and when it has acquired the consistence of soft paste, it is formed into small cakes or sticks.

This is the substance which constitutes the beautiful carminated lakes used for crayon painting.

CARMINATIVE MEDICINES.

These are such as act quickly in removing flatulency and warming the stomach, therefore also as stimulant. The chief carminatives are the essential oils and spices, particularly those of cinnamon, cloves, peppermint, aniseed, nutmeg, pennyroyal, &c.

CARMINATIVE DRINKS FOR CATTLE.

I. *Horses*.—Rum, brandy, or gin 4 to 6 oz., water 12 oz., peppermint water 2 oz.

II. *Cows*.—Common salt 4 oz., Barbadoes aloes 4 drachms, ginger powder 1 drachm, water 2 pints, opium $\frac{1}{2}$ oz., peppermint water 2 oz.

CARRAWAY BRANDY.

Soak $\frac{1}{2}$ lb. of carraway seeds in a gallon of brandy, along with 2 sticks of cinnamon, broken up. Let it rest a fortnight; strain off and slightly sweeten with loaf sugar or sugar candy.

CARRAWAY COMFITS.

Made by heating 2 lbs. of carraway seeds, cleaned in the comfit pan, and turned about (as directed under the word *Comfit*, p. 93) until of sufficient size. Bath comfits are small, Scotch comfits larger. Celery comfits are made in the same way.

CARRAWAY WATER.

Bruise 1 lb. of carraway seeds, soak them in a gallon of water for twenty-four hours, and then strain and filter.

CARRAWAY CORDIAL.

I. For 20 gallons. Take $1\frac{1}{2}$ oz. of oil of carraway, 20 drops of the oil of cinnamon, 5 drops each of the oils of orange and lemon, 13 gallons of weak spirit, and 10 lbs. of sugar. Kill the oils first in strong spirits of wine.

II. To make 10 gallons. Take 7 of weak spirit, 40° under proof, 4 oz. of the oil of carraway killed in strong spirits, 1 oz. of oil of cinnamon, 2 gallons of syrup, and 1 gallon of water. This is much sweeter than the last.

The weaker a cordial is of spirit, and the sweeter of sugar the more oil it requires to bring it up to the desired pungency, hence the great quantity of oil of carraway in the last receipt above. The English aim to save spirit at the expense of oil: the French save oil at the cost of spirit. The latter being cheap with them, but owing to the duty, dear to us.

III. Take 30 gallons of clean malt spirits, 12 lbs of carraway seeds bruised, 6 lbs. of coriander seeds; distil, and draw off 20 gallons; make up to the strength of 22 under proof, and sweeten with $1\frac{1}{2}$ lb. of sugar to each gallon so reduced.

Two or three more gallons may be drawn off, but it will form an inferior article, it should therefore be kept separate.

IV. Take 30 gallons of clean spirits, 10 lbs. of carraway seeds, bruised; 2 lbs. of aniseed, 8 oz. of dried rosemary, 4 oz. each of dry lemon peel and of cloves; distil and draw off while pure. Sweeten to palate.

CASCARILLA, TINCTURE OF.

Take 5 oz. of cascarilla, bruised, and 2 pints of proof spirit. Macerate seven days, then press and strain. *Dose*—1 to 3 drachms for adults.—*Lond. Phar. new edit.* 1851.

Used for indigestion and weakness. The true cascarilla casts a strong scent of musk when burnt.

CASCARILLA WATER.

Cascarilla bark 1 lb., boiling water 6 pints, soak for some days, then strain through flannel; or else distil over half the quantity.

CASKS, SEASONING OF WHEN NEW.

Put the staves just cut and shaped, before they are worked into vessels, loose in a copper of cold water, and let them heat gradually so that they must be well boiled, and in boiling take out a hand-bowl of water at a time, putting in fresh till all the redness is out of the liquor, and it become clear from a scum of filth that will arise from the sap so boiled out: also take care to turn the staves upside down, that all their parts may equally have the benefit of the hot water. Observe also that in a dry, sultry summer, the sap is more strongly retained in the wood than in a cool and moist one, and therefore must have the more boiling. Then when the vessel is made, scald it twice with water and salt boiled together, and it may be readily filled with strong beer without fearing any twang from the wood.

CASKS, TO SWEETEN WHEN MUSTY.

I. Make a strong ley of ash, beech, or other hard wood ashes, and pour it, boiling hot, into the bung-hole, repeating it as often as there is occasion.

II. Or, fill the cask with boiling water, and then put into it some pieces of unslaked stone-lime, keeping up the ebullition for half an hour. Then bung it down and let it remain until almost cold, when turn it out.

III. Or, mix bay salt with boiling water and pour it into the cask, which bung down, and leave it to soak.

IV. Or, if the copper be provided with a dome and a steam pipe from its top, pass the steam into the cask.

V. Or, unhead the cask, scrub it out, head it again; put some powdered charcoal into the bung-hole, and 2 quarts of mixture of oil of vitriol and cold water. Then bung it tight and roll and turn the cask for some time; afterwards wash it well and drain dry.

VI. Or, take out the head, and brush the inside with oil of vitriol, afterwards wash it, then burn a slip of brown paper steeped in brimstone within the bung-hole and stop it close for two hours, when it should be well washed with hot water.

VII. Mix $\frac{1}{2}$ pint of sulphuric acid (not the diluted) in an open vessel with a quart of water, and whilst warm, put it into the cask and roll it about in such a manner that the whole internal surface may be exposed to its action. The following day, add about 1 lb. of chalk and bung it up for three or four days, when it may be washed out with boiling water. By this process a very musty cask may be rendered sweet.

For sweetening musty bottles, it will be only necessary to rinse the inside with the diluted sulphuric acid in the above-mentioned proportion. The addition of chalk, if it were immediately corked, would burst the bottle, and if the cask be old, it would be advisable to let a little gas escape before bugging it.

VIII. It is the system of the London coopers to take out the head, place the cask over a brisk fire, and char the inside completely. The head is then put in again, and the cask, before used, is filled two or three times with hot water, bunged down and well shook before it is used again.

CASKS, MATCH FOR SWEETENING.

Melt some brimstone and dip into it a piece of coarse linen cloth, of which, when cold, take a piece of about an inch broad and five inches long, and set fire to it, putting it into the bung-hole, with one end fastened under the bung, which must be driven in very tight; let it remain a few hours before removing it out.

CASSEL AND COLOGNE EARTHS.

These are bituminous earths, originating as it is supposed from the decomposition of wood: the mineralogists have also given them the name of lignites. The Cassel earth has

the greater quantity of bitumen and has a rich tone or color, but it loses this in some measure by exposure to the light. Another serious inconvenience in the bituminous earths is their retarding the drying of the oils; therefore when employed, they must be ground with the strongest drying oils; and to compensate for their growing lighter by the action of the air, they should be mixed with colors that are permanent, such as umber, charcoal-black, and oxide of iron.

CASSIA, ELECTUARY OR CONFECTION OF.

Take $\frac{1}{2}$ lb. of fresh cassia pulp, 2 oz. of manna, 1 oz. of tamarind pulp, 8 oz. of syrup of roses. Bruise the manna, then by means of a water-bath, dissolve it in syrup. Then mix the pulps, and evaporate to a proper consistence.—*Lond. Phar. new. edit.*

CASSIA, CONSERVE OF

Take 16 parts of cassia pulp; 12 parts of syrup of violets, and 3 parts of sugar. Evaporate in a water-bath, to the consistence of a soft extract, and when cold, add 1 part of oil of orange-flowers.

CASSIS, RATAFIA DE.

Take of black currants, picked from their stalks 3 lbs., crush them, and add 1 drachm of cloves, 2 of cinnamon, 4 quarts of spirits of wine, and $2\frac{1}{2}$ lbs. of sugar. After a fortnight, shaking the bottle each day, strain first through linen and afterwards paper.

CASSIUS, PURPLE PRECIPITATE OF.

Take 1 oz. of the solution of gold in aqua-regia, $1\frac{1}{2}$ pint of distilled water. Mix and dip into the mixture rods or slips of tin, when the purple powder will fall down.

It is much used in coloring glass, porcelain, &c.

CASTILE SOAP.

Composed of soda 9 parts, oily fat 76.5 and water 14.5; but it is not made by these proportions of ingredients, because of the alkali employed being in an impure state. Thus supposing common barilla be used, it will in all probability require half as much weight of barilla as the fat required. For the white curd soap it may require one-third part by weight of crude alkali, and as this seldom contains more than twenty per cent. of real pure soda, it reduces the quantity of alkali in the soap, when complete, to from six to ten per cent.

CASTILE SOAP, ENGLISH IMITATION OF.

Soda 10 parts, oily fat 75, water, &c. 14.3. It is seen that this contains rather more alkali than the former.

CASTOR, TINCTURES OF.

I. Castor, bruised, $2\frac{1}{2}$ oz., rectified spirit 2 pints. Macerate for seven days, then press and strain.—*Lond. Phar. new. edit.* 1851.

II. Russian castor 1 oz., assafoetida $\frac{1}{2}$ oz., spirits of hartshorn 1 lb.

These tinctures are anti-spasmodic, and usefully administered in hysterics, &c.

CASTOR OIL CLYSTER.

Take of castor oil 2 oz., mix it with an egg; then add 8 oz. of warm gruel.

This will operate very mildly and is efficacious in case of worms.

CASTOR OIL DRAUGHT.

Take of castor oil 4 drachms and the yolk of an egg; mix them accurately together and add 1½ oz. of cinnamon or peppermint water.

CASE HARDENING.

Iron goods, previously to being polished, have their surfaces rendered very hard and steel-like, that they may take a better face, and not be so liable to rust as ordinary iron goods; this process, which is called, case-hardening, may be performed in various ways. The following are the most simple; before the application is applied, the goods must at all times be finished, with the exception of the cleaning and polishing.

I. Put the goods into an iron box, while among them and between them is sprinkled charcoal.

II. Make a paste with a strong solution of prussiate of potass and clay, spread it over the article to be hardened, and make it white hot in a furnace, or until you see that the salt of potass has been decomposed. Then take it out, let the heat subside to a dull redness, then plunge it into cold water.

III. Dry and pound scraps of hoofs or horns, add a little bay salt and some stale urine, to form a sort of paste. Rub this over the goods. Let it get a little dry, then put the articles into the furnace to acquire a red heat, lastly plunge them in this hot state into cold water to harden.

CATCHUP, MUSHROOM.

This is usually made in September, when the mushrooms are abundant. They are to be chosen as large and black as possible. Break them in pieces, lay these pieces in an earthen pan, sprinkling over each layer with salt. Put a folded cloth over and let it stand a day and a night, or longer, by the side of the fire; then strain off the liquor into a saucepan, and to every quart put 1 oz. of spice, composed of about equal parts of black pepper, allspice, and sliced ginger, with 2 or 3 cloves. Boil the liquor fifteen minutes over a brisk fire, though it will be stronger and keep longer if it be reduced to one half, and then the spices need not be put in till it has boiled half an hour. When you take it off the fire, let it stand to settle, pour off clear, and bottle it. The sediment may be bottled also, as it makes a good fish sauce. Anchovies, bay leaves, and cayenne, may be added to the spices. Dip the corks in melted rosin.

That sold by hawkers is generally a mixture of all kinds of materials that are convertible into the semblance of catchup; it is vile and injurious stuff.

(See *Walnut Catsup*, p. 349.)

CATCHUP FOR SEA STORE.

I. Take a gallon of strong stale beer, 1 lb. of anchovies washed from the pickle, the same of shallots peeled, ½ oz. of cloves, ½ oz. of whole pepper, 3 or 4 pieces of ginger, and 2 quarts of mushrooms rubbed to pieces. Cover up close and let it simmer till half wasted, then strain it through a flannel bag, let it stand till quite cold and then bottle. This may be carried to any part of the world, and a spoonful of it to 1 lb. of fresh butter, melted, will make a fine fish sauce, or will supply the place of gravy sauce. The staler the beer, the better will be the catsup.

II. Chop 24 anchovies, having first boned them. Put to them 10 shallots, cut small, and a handful of scraped horseradish, ¼ oz. of mace, a quart of white wine, a pint of water, and a pint of red wine, a lemon cut into slices, ½ pint of anchovy liquor, 12 cloves, and the same number of peppercorns; boil all together till it come to a quart, then strain it off and keep in a cool dry place.

CATERPILLARS, TO PREVENT THEIR RAVAGES.

I. Sow with hemp all the borders of the ground wherein the cabbages, &c. are planted and although the neighbourhood is infested with caterpillars, yet the part inclosed by the hemp will be free from them.

II. Take a chafing dish, with lighted charcoal, and place it under the branches of the tree, or bush, whereon are the caterpillars; then throw a little brimstone on the coals. The vapour of the sulphur, which is mortal to these insects, and the suffocating fixed air arising from the charcoal, will not only destroy all that are on the tree, but will effectually prevent the shrubs from being, at that season, infested with them. A pound of sulphur will clear as many trees as grow on several acres.

III. Another method of driving these insects off fruit-trees is, to boil together a quantity of rue, wormwood, and common tobacco (of each equal parts) in common water. The liquor should be very strong. Sprinkle this on the leaves and young branches every morning and evening during the time the fruit is ripening.

A mode of destroying caterpillars has been discovered by accident. A piece of woollen rag had been blown by the wind into a currant-bush, and when taken out was found covered by these leaf-devouring insects. Pieces of woollen cloth were immediately placed on every bush in the garden, and next day the caterpillars had universally taken to them for shelter. In this way thousands were destroyed every morning.

CATECHU OINTMENT.

Finely powdered catechu and yellow rosin of each 4 oz., alum 9 drachms, olive oil 10 oz., water sufficient to mix into an ointment.

This is chiefly used in hot countries where the ordinary fat ointments would melt or become too liquid.

CATECHU, TINCTURE OF.

Take of extract of catechu $3\frac{1}{2}$ oz., cinnamon bruised $2\frac{1}{2}$ oz., diluted alcohol 2 pints. Macerate for seven days, then press and strain. *Dose*—from a tea to a table spoonful for adults.—*Lon. Phar. new edit.* 1851.

This tincture is of great service in cases of looseness, &c., and is sometimes combined with chalk mixture. The cinnamon is a very useful addition to the catechu, not only because it warms the stomach, but destroys the disagreeable astringent taste of the catechu.

CATECHU, CONFECTION OF.

I. Catechu 4 oz., gum knio 3 oz., opium 1 drachm, dissolved in sherry; cinnamon and nutmeg each 1 oz., syrup of red roses, boiled to the consistence of honey, 2 lbs. 3 oz.

II. Catechu 4 oz., cinnamon 2 oz., knio 3 oz., opium $1\frac{1}{2}$ oz., syrup 2 lbs. 3 oz.

III. Catechu 1 lb., powdered cinnamon and nutmeg, of each 4 oz., opium $\frac{1}{2}$ oz., syrup of roses 7 lbs.

CATECHU LOZENGES.

I. Mix up 4 lbs. of sugar and 12 oz. of catechu, with gum water, into a stiff paste.

II. To the above paste add 16 grains of ambergris or of musk, or 12 drops of the essence of neroli.

III. As before, adding 3 drachms of orrice root in powder; this gives the smell and flavor of violets.

All these lozenges are taken to disguise an offensive breath.

CATGUT, TO MAKE.

Take the entrails of sheep, or any other animal, procured from the newly-killed carcass. Thoroughly clean them from all impurities and from attached fat, and wash them well in clean water; next soak in soft water for two days, or in winter three days, then lay them on a table and scrape them with a small plate of copper, having a semi-circular hole cut in it, the edges of which must be quite smooth and not capable of cutting. Now, after washing, put them into fresh water, and there let them remain till the next day, when they are again to be scraped. Let them soak again in water for a night, and two or three hours before they are taken out, add to each gallon of water 2 oz. of pearlash. They ought now to scrape quite clean from their inner mucous coat, and will consequently be much smaller in dimensions than at first. They may now be wiped dry, slightly twisted, and passed through a hole in a piece of brass, to equalize their size; as they dry, they are passed every two or three hours through other holes, each smaller than the last. When dry they will be round and well polished, and being oiled are fit for use.

Large catguts are formed of several intestines twisted together, the smallest are of a single intestine cut into two or four pieces. The cutting the strips equally is very inge-

nious. A leaden ball, with two, three or four holes in it, is placed inside one end of the gut, a little knife-blade is put into each of the holes, and through the gut, so that its cutting edge meets the part to be split. One of these knife-blades has a handle outside, this being held in the hand, and the gut drawn along; it is cut into as many equable strips as there are knife-blades.

A coarse species of catgut used for turning lathes and similar purposes, is made from the intestines of horses. The guts, previously cleaned, are soaked in water, with a pailful of weak solution of lime, for each 8 or 10 sets; the mucous membrane is then separated, the intestine cut into 4 strips by forcing a ball with 4 knives, placed cross-wise along them; these strips are next twisted, and when dry, any slight inequalities removed by fish skin.

CATHARTICS.

Such medicines as are of the same nature but more violent than aperients; of this nature are croton oil, aloes, colocynth, scammony, gamboge, &c. (See these words in *Index*.)

CATHARTIC PILLS.

Take 8 parts of aloes and scammony, 4 parts of colocynth, 1 part of oil of cloves, and the same of the sulphate of potass with sulphur. Make into a mass and divide into 5 grain pills. *Dose*—Two pills over night.

This is the common and celebrated pil cochiae of Apothecaries Hall, 4 grains of this pill with 2 or 3 grains of mercurial pill is an excellent remedy in bilious attacks.

CATHETER.

A long hollow tube introduced into the bladder for the purpose of drawing off its contents. Catheters are either made of metal or elastic gum; and if of the former material, a suitable shape is given to them for the purpose of accommodating them to the flexure of the urethra.

I. Take a thick piece of India-rubber, and cut its edge round and round, so as to form a ribbon about a quarter of an inch wide, and as thin as a card. Twist this round a wire of proper size and shape, rub it over with caoutchoucine two or three times at intervals, till the edges unite, when it being dry, and the wire drawn out, it will be fit for use.

II. Use a piece of silk ribbon instead of the ribbon of India-rubber, and coat it with a surface of liquid caoutchouc. Drying will finish it.

CATHERINE WHEELS, COMPOSITIONS FOR.

I. Meal powder 12 oz., saltpetre 3 oz., sulphur $1\frac{1}{2}$ oz., and steel filings 2 oz.

II. Meal powder 2, saltpetre 1, camphor 1 part.

III. Meal powder 8, saltpetre 3, sulphur 1, steel filings 1.

IV. Meal powder 16, saltpetre 8, sulphur 4, and glass dust 1 part

CATHOLICON DUPLICATUM RHEO. P.

The double catholicon of nicolai, or compound electuary of rhubarb, is prepared by simmering over a slow fire $\frac{1}{2}$ lb. of polypody root, 2 oz. of succory root, 1 oz. of liquorice root, 3 oz. of the leaves of agrimony and spleenwort, 6 lbs. of water, till reduced two-thirds; add 6 drams of fennel-seeds, strain and add 4 lbs. of sugar, boil to the consistence of syrup, and add 4 oz. each of extract of cassia and pulp of tamarinds. Then add by degrees 4 oz. each of powdered rhubarb and senna leaves, 1 oz. of liquorice root, $\frac{1}{2}$ oz. of fennel-seeds, and mix and form an electuary.

This is too troublesome in the preparation to be much used. Without the rhubarb, and with honey instead of sugar, it forms a good enema. It was formerly esteemed a universal remedy, but is now disused.

CAULIFLOWERS, TO PICKLE.

The whitest and firmest cauliflowers that can be obtained should be chosen for this purpose. Cut or break the flower into small branches, and put them into salt and water for a week or ten days. The brine, or pickle, should be made strong enough with salt for an egg to float on the surface. Take them from the brine and put them into a saucepan of clean water. Let them boil for about ten minutes or a quarter of an hour, or until they begin to get tender; but they must not be done, or they will lose their crispness. Drain them from the water and spread them on a coarse cloth, or on sieves, and put them to dry in the sun until all the moisture is evaporated; then put them into a jar and cover them with distilled or white wine vinegar. Mace, long pepper, white peppercorns, and a few grains of allspice may be added to the vinegar, which should be kept warm for some time by the side of the fire to extract the flavor of the spice, but must not be allowed to boil. Pour the vinegar over the cauliflower when it is cold. Cork the jar close, and put it aside for use. Fill the jar occasionally with vinegar, as the flowers absorb it.

CAUSTIC MEDICINES.

These are such as corrode the skin or destroy the texture of such animal substances as they remain in contact with. Their action is commonly called *burning*. Fire is the most powerful caustic; this applied by means of a hot iron is called the actual cautery. It is seldom used in this country, except in farriery, yet in absence of other means of stopping bleeding, it has been often found valuable in case of serious accidents. The chief caustics used in medicines are as follows:—

1. *Common. Potential Cautery.*—Mix together pure potass and quicklime equal parts. Keep it in a stoppered bottle in a dry state, first rubbing them well together

in a mortar. When wanted for use, mix up a sufficient quantity with a drop or two of water.

This, when applied to the skin, very quickly raises a blister and penetrates to the flesh, leaving a soft white scar, that slowly comes off. It is used to open ulcers, abscesses, &c.

II. *Common. Mild.*—Mix, when wanted, equal parts of soft soap and quicklime.

This is not so liable to spread as the former, but is much milder.

III. *Lunar.*—The nitrate of silver or lunar caustic is dissolved in water and applied with a fine brush, or used in the lump by touching the edges of a wound with the moist end of the stick of caustic.

This occasions comparatively little pain, removes proud flesh, and enables the wound to close more readily. Applied to the skin it turns it black.

IV. *Liquid.*—Strong acetic acid or nitric acid, applied with a camel's-hair brush, or thus:—Put on the part to be burnt a piece of diachylon plaister, with a hole cut in the middle of it, pour this hole full of acetic acid, and place a second piece of plaister over it, in five minutes a blister will be raised, in ten minutes the skin will be burnt through.

Nitric acid is applied to warts and corns, a drop being put on each wart. It leaves a deep yellow stain on the skin.

V. *Opiate.*—Common caustic 4 drachms, powdered opium 1 drachm, soft soap enough to mix.

CAUSTIC FOR CANKER IN HORSES.

Dissolve $\frac{1}{4}$ oz. of corrosive sublimate in 1 oz. of muriatic acid, then add spirits of wine and water, each 4 oz. Sulphate of copper is often used as a caustic, both in farriery and human surgery.

CAYENNE PEPPER.

I. Capsicums and salt, each 1 lb. Grind together and color with Armenian bole.

II. English chillies 1 lb., salt 4 oz. 100 chillies will make 2 oz. of cayenne, the flavor of which is superior to that of capsicum, or that imported.

III. *Reduced.*—English chillies, bury in flour, bake for two hours and a half, or till they are dry enough to powder, then cut them into small pieces; to each ounce add 1 lb. of flour, water to make them into small biscuits, bake; afterwards powder the biscuit and sift.

IV. *Prepared.*—Cayenne pepper, ground, soaked in vinegar, the vinegar strained off, and the pepper dried. This is milder than the raw pepper.

CAUSTICS FOR FOOT ROT IN SHEEP.

I. Blue vitriol 1 oz., white vitriol 1 oz., burnt alum 2 oz., bole $\frac{1}{2}$ oz., honey to form a stiff paste.

II. Sulphate of copper 2 oz., water 12 oz., dilute sulphuric acid 2 dr.

Some veterinary surgeons condemn all caustic applications, using only mild poultices and emollient ointments.

CAYENNE PEPPER, ESSENCE OF.

Grind or pound chillies into a powder, to every pound of the powder put 4 oz. of common salt, with vermilion and rose-pink, or red ochre, to color. Rub the whole through a sieve. The essence differs in nowise from the above, except that the compound powder without the coloring ingredients is soaked in brandy or vinegar. Cayenne wine differs only in using white wine instead of brandy.

CAYENNE BRANDY, WINE, AND VINEGAR.

Soak for a fortnight 1 oz. of ground cayenne in a pint of brandy wine, or vinegar. Strain it off and bottle.

CEDRAT CORDIAL.

Take of the finest loaf sugar, powdered $\frac{1}{2}$ lb. Put it into a glass mortar with 100 drops of the oil of cedrat; rub them together with a glass pestle, and put them into a vessel along with a gallon of very clean spirit. Sweeten it afterwards to taste, the chief object of the sugar and the pounding in the mortar being to kill the oil, and well incorporate it with the sugar and spirit.

The cedrat is a species of citron, highly esteemed in Italy, though with difficulty to be procured in this country. The oil is occasionally imported, and into France still more frequently. The quantity of oil here appears to us too small for a gallon.

CEDRAT, ESSENCE OF.

This is obtained from the flowers of the citron tree, by soaking them for three or four days in salt and water, and then distilling them. It is amber-colored and slightly fragrant.

CELERY, ESSENCE OF.

This is prepared by soaking for a fortnight $\frac{1}{2}$ oz. of the seeds of celery in $\frac{1}{2}$ of a pint of brandy; a few drops will flavor a pint of soup or broth, equal to a head of celery.

CEMENT.

The various cements are described under the names of the makers—*Hamelin—Keene—Parker—Pew—&c.* Under the names of the places where made, see *Armenian—Botany Bay—Indian—Japanese—&c.* Under the properties it professes, or the use to which it is applied, as *Iron—Opticians'—Seal Engravers'—&c.* Or, finally, under the general term of *Glue—Lute—Mortar—Stucco*—for which the reader is referred to *Index*.

CEPHALIC SNUFF.

I. Mix together equal parts of the leaves of asarabacca, marjoram, and of the lily of the valley.

II. Dried leaves of asarabacca 1 oz., flowers of lavender 2 drams.

III. Dried leaves of asarabacca 3 oz., leaves of the dock and flowers of lavender, each 1 oz.

IV. Sage leaves, rosemary, lilies of the valley and the tops of sweet marjoram, of each 1 oz., with a dram each of asarabacca root, lavender flowers, and nutmeg; pound and sift it very finely.

CEPHALIC PLAISTER.

Take 2 lbs. of dry pitch, 1 lb. of rosin of the spruce fir, 4 oz. each of yellow rosin and of yellow wax, 1 drachm of the expressed oil of nutmeg. Melt together the pitch, wax, and resin, and add the other ingredients while melting.

This is the same as pitch plaister.

CERATE, SIMPLE.

I. A composition of equal parts of yellow wax and olive oil.

Used alone as an emollient application to sores, or as a base to compound more active ointments.

II. Eight oz. white wax, 1 pint of olive oil, and 2 oz. of spermaceti.

Cerates are generally rather thicker than ointments, and are often a substitute in the summer and in hot countries for the ointments proper in the winter and in cold places. In the preparation of cerates the oils and fats should be perfectly fresh, and the wax unadulterated.—(See the various names in *Index*.)

CERUSE OINTMENT.

Take of ointment of white wax 1 lb., ceruse or white-lead, reduced to fine powder, 2 oz., form them into an ointment by melting over a gentle fire.

This is a useful desiccative cooling ointment, good for burns, excoriations, &c.

CHALK MIXTURE.

Take 3 drachms of the cretaceous powder, and 4 oz. of water, add the water to the powder gradually, till they are uniformly mixed.

This is a very useful medicine for correcting acidity in the stomach when attended with looseness.

CHALK, COMPOUND POWDER OF.

Take of prepared chalk $\frac{1}{2}$ lb., cinnamon 4 oz., tormentil and gum arabic, each 3 oz., long pepper $\frac{1}{2}$ oz. Powder them separately and mix them.—*Lon. Phar. new edit. 1851.*

This powder is used for weakness and acidity in the stomach; and in looseness from the same cause.

CHALK, PRECIPITATED.

Precipitate a solution of muriate of lime by a solution of carbonate of soda in water, and wash the sediment.

Whiting, which is nothing more than ground chalk, is often used for the above without other preparation.

CHALK, PREPARED.

This is the same as common whiting or chalk, ground to a fine powder, washed in water, formed into lumps, and dried.

It is used in medicine to correct acidity in the stomach. Mixed with water, it is one of the best remedies for counteracting the poisonous effects of oxalic acid on the stomach. It is also used and employed in painting, particularly, in distemper, either as a distinct white, called white-wash, or in combination with colors to lower their tint.

CHALYBEATE PILLS.

Mix together extract of bark and sulphate of iron (green vitriol) each 1 scruple, subcarbonate of soda 15 grains, powdered myrrh 30 grains. Add syrup of ginger to form the whole into a mass, which divide into 34 pills.

CHALYBEATE, OR IRON POWDER.

I. Wet steel dust with white wine vinegar, expose it to the sun; repeat this until the dust is changed into a brownish red powder.

II. Knock the reddish brown rust off from pieces of old iron, such as hoops.

III. Pound in an iron mortar the black scales thrown off by the blacksmith.

CHALYBEATE WATER, ARTIFICIAL.

I. Water impregnated with fixed air 1 pint, iron filings 1 oz. Keep in a cool place for twenty-four hours, and pour it off clear.

II. Take of crystallized sulphate of iron 2 drachms, white sugar 3 drachms; pulverize and make into twelve powders. Take bicarbonate of soda 2 drachms, white sugar 3 drachms; pulverize and divide it into twelve powders. One paper of each of these powders is dissolved in half a glass of water; then the two portions of water are mixed, and swallowed during the effervescence.

III. Dissolve 8 oz. of crystallized citric acid in about four times its weight of hot water saturated with pure proxyde of iron in the washed state, after being precipitated by ammonia from the sulphate of iron. The solution is sweetened, flavored, and highly charged with carbonic acid gas, so as to make a very palatable potion, agreeable to the stomach.

Chalybeate waters are used in cases of debility, and have long obtained a high celebrity for the relief of complaints peculiar to females. They ought not to be used in plethoric or inflammatory conditions of systems; or by persons of a full habit of body.

CHALYBEATE WINE.

I. Take 2 oz. of filings of iron, 2 drachms each of cinnamon and mace, add them to two pints of Rhenish wine. Infuse for three or four weeks, then filter for use.

II. Put a drachm of citrate of iron in a bottle of port wine, and take a wine-glassful twice a day.

Beneficially used as a tonic in nervous complaints.

CHAMBERLAIN'S RESTORATIVE PILLS.

These pills consist of cinnabar, sulphur, sulphate of lime, and a little vegetable matter.

The inventor says the pills are the most certain cure for scrofula, scurvy, and all impurities of the blood, but often take two years to effect a cure.

CHAMPAGNE, IMITATION OF.

Brown sugar 10 lbs., loaf sugar 12 lbs., water 9 gallons, concrete acid of lemons or crystallized tartaric acid $\frac{3}{4}$ oz.; dissolve by a gentle boil. Before it grows cold add nearly a pint of yeast and ferment. When the working is nearly over add 1 gallon of perry and 3 pints of brandy. Bung it up for three months, then draw out a quart of the wine, dissolve 1 oz. of isinglass in it, pour it again into the cask, and in a fortnight bottle it off, putting a lump of sugar into each bottle. If desired to be pink, put 1 oz. of cochineal into the cask when the wine is first put in. (See *Cider* p. 85, 86, & *Gooseberry* p. 157.)

II. Take 3 gallons of water and 9 lbs. of raw sugar, boil the water and sugar half an hour, skim it clean, and then pour the boiling liquor upon 1 gallon of currants, picked from the stalks, but not bruised; when cold work it for two days with $\frac{1}{2}$ pint of ale yeast, afterwards filter it through flannel into a clean cask with $\frac{1}{4}$ pint of isinglass finings. When it has done working, bung it up, let it stand a month, then bottle it, putting a lump of loaf sugar into each bottle.

This wine is of a pink or a white color, according as red or white currants have been used.

CHARCOAL TO MAKE.

This is usually manufactured from coppice wood, cut every sixteen years; the faggots are made into a large conical pile, covered up with clods of earth, leaving circular rows of holes from top to bottom. The wood is then kindled, and as it becomes red, the holes are regularly closed to stop the further combustion, and when the whole has been closed up, the pile is left to cool; when the black skeleton of the wood is left, which differs from the raw wood in burning without any smoke, and with little or no flame, yielding at the same time no soot. The air which passes through the burning charcoal has its oxygenous part converted into carbonic acid gas, without being, when cooled, any ways altered in bulk, although its weight by the gallon is increased. The air being thus rendered unfit for respiration kills whatever animals or plants are confined in it; numerous accidents have happened of persons being suffocated by sleeping in close rooms with a charcoal fire. The charcoal for medical purposes should, like that for gunpowder, be made of soft woods, as alder, heated in iron long necks until no volatile matter is given out. Small quantities may be made, by burying wood under sand in a covered crucible, and exposing the whole to fire. In this latter method, the box-wood charcoal for galvanic purposes is made.

CHARCOAL CRAYONS FOR DRAWING.

Saw the finest grained charcoal into slips of the size wanted, put them into a pipkin of melted bees'-wax; which place on a slow fire for half an hour, take them out. When cold they are fit for use.

The advantages of these pencils are, that they can be made at the most trifling expense, and that drawings made with them are as permanent as ink. The above process will also harden both red and black chalks, and make them permanent also.

CHARCOAL POULTICE.

To $\frac{1}{2}$ lb. of the common cataplasm, add 2 oz. of fresh burnt charcoal, finely pounded and sifted. Mix the whole well together.

The common cataplasm here referred to, is made by adding boiling water to a mixture of 1 part linseed meal and 2 parts oatmeal, and smearing it over with olive oil. The charcoal poultice is applied to foul, unhealthy ulcers, and venereal sores, to destroy their fetid smell and to improve their appearance.

CHEESE CAKES.

I. Put a pint of warm cream into a saucepan over the fire, and when it is warm, add to it 5 quarts of new milk. Then put in some rennet, stir it, and when it is turned, put the curd into a linen cloth or bag. Let the whey drain from it, but do not squeeze it too much. Put it into a mortar and pound it as fine as possible; add $\frac{1}{2}$ lb. of sweet almonds, blanched, and $\frac{1}{2}$ lb. of biscuit powder, then add 9 well-beaten yolks of eggs, a grated nutmeg, a little rose or orange-flower water, and $\frac{1}{2}$ lb. of fine sugar.

II. Slice a small loaf or roll, as thin as possible, first cutting off the crust, pour on to it a pint of boiling cream, and let it stand two hours. Beat together 8 eggs, $\frac{1}{2}$ lb. of butter, and a nutmeg grated. Mix them into the cream and bread, with $\frac{1}{2}$ lb. of currants, well washed and dried, and a spoonful of brandy. Bake them in patty pans on a crust raised on the edges.

III. Boil 4 oz. of rice till it is tender, and then put into a sieve to drain; mix with it 4 eggs well beaten up, $\frac{1}{2}$ lb. of butter, $\frac{1}{2}$ a pint of cream, 6 oz. of sugar, a nutmeg grated, and a glass of brandy. Beat all well together.

CHEESE CEMENT.

Take some fresh cheese made with rich creamy milk, (Cheshire cheese will do,) pound it, and wash it in water until all the soluble part is carried off by the water; this may be operated in a sieve, or linen cloth, through which the cheese is afterwards pressed to get rid of the water; when quite drained, it crumbles like stale bread; it is then dried upon unsized paper, and in that state will keep fresh a very long time.

This material, which is caseum, mixed with a small proportion of butter, is not soluble in water, except by the addition of quick lime; but by pounding this with the mixture, it becomes transformed into a very viscous sort of cheese, which can be diluted with water to the consistency required for the work. It dries quickly, and when quite dry it cannot be again dissolved, therefore no more should be prepared than can be immediately used.

CHELSEA PENSIONER.

Gum guaiacum $\frac{1}{4}$ oz., rhubarb $\frac{1}{4}$ oz., cream of tartar 2 oz., flowers of sulphur 4 oz., and 2 nutmegs, all in powder. Make them in a confection by pounding them well together in a mortar. *Dose*—two tea spoonsful night and morning.

This well-known nostrum for rheumatism and gout is said to have been invented by a Chelsea pensioner, who administered it to Lord Amherst with great success.

CHELSEA BUNS.

Take plain bun-dough or bread-dough, roll it out in a sheet, break some firm butter in small bits, and place over it, fold it up, and roll it out as you would paste. After you have given it two or three turns, moisten the surface of the dough, and strew over it some moist sugar, roll up the sheet into a roll and cut it in slices, place these on a

buttered tin, that has edges about half an inch high; prove them well and bake them in a moderate oven. The tops may be dusted over with lump sugar, or rubbed over with milk or the white of an egg. About $\frac{1}{2}$ lb. each of sugar and butter will be wanted for 4 lbs. of dough.

(For numerous other Buns see *Index*.)

CHELTENHAM SALTS.

I. Glauber salts, Epsom salts, and common salt, in equal parts; dry in an oven and powder. Purgative in doses from $\frac{1}{2}$ oz. to 1 oz.

II. Glauber salts 2 drachms, Epsom salts 65 grains, common salt 10 grains, sulphate of iron 2 grains.

The glauber salts should be dried by itself, as it liquefies when slightly heated.

CHELTENHAM WATER, IMITATIVE.

Dissolve in $\frac{1}{2}$ a pint of tepid water 1 drachm of potassio-tartrate of soda, 20 grains of carbonate of soda, 5 grains of common salt. Filter, put into a half-pint bottle, and before corking, add 3 drops of sulphuric acid.

CHEMICAL WASH BALLS.

Take 5 lbs. of white oil soap, shave or scrape it as above, and then add to it 2 lbs. of fine rice powder, $\frac{1}{2}$ lb. of white-lead, and $\frac{1}{2}$ lb. of pure and unmixed pearl white. Previous to mixing with the soap-shavings, these powders must be put into a basin, with about 12 oz. of orange flower or myrtlewater, and 1 oz. of essence of ambergris. When this has been well mixed, the soap-shavings are to be put in, and the whole is to be well beaten two or three times a day, for several days. After the whole mass is well incorporated and stiff, it is to be made up into balls, which should be very round, and to weigh $1\frac{1}{2}$ oz. Dry these very cleanly on sheets of white paper, and when perfectly hard, wrap and seal each singly in a separate piece of white paper.

If wanted to be colored for blue, mix some powder blue with the soap,—if green, a mixture of powdered blue and yellow ochre; and so on for other colors.

CHEMISTS BOTTLES, COLORS FOR.

I. *Blue*.—(a) Dissolve blue vitriol in water, using 1 oz. to each quart, add the same quantity of alum, and afterwards a little oil of vitriol.—(b) Dissolve blue vitriol in water.—(c) Dissolve the sulphate of indigo in water.—(d) Dissolve Prussian blue in water.—(e) Dissolve blue stone in water and add spirits of hartshorn.

II. *Purple*.—(a) Verdigris 2 drachms, spirits of hartshorn 4 oz., water $1\frac{1}{2}$ pint.—(b) Sugar of lead 1 oz., cochineal 1 scruple, water to fill up.—(c) Make an infusion of logwood, and to it add a little spirits of hartshorn.

III. *Green*.—(a) Common verdigris 3 oz. dissolve in oil of vitriol, and add 2 quarts of water.—(b) Add distilled vinegar and blue vitriol to a strong decoction of turmeric.

iv. *Red*.—(a) Spirit of hartshorn colored with cochineal.—(b) Carmine or lake dissolved in water, to which a little muriate of tin may be added.—(c) Boil red beet, dilute it to color, and brighten with a little acetic acid.—(d) Dissolve sal ammoniac in water, and tinge with cochineal.—(e) Red cabbage liquor, brightened with vinegar.

v. *Yellow*.—(a) Dissolve iron in muriatic acid and dilute.—(b) Dissolve Indian yellow in water.—(c) Pour hot water on turmeric and filter through paper; a little of any alkaline turns it brown.

CHERRY BOUNCE, OR BRANDY.

i. *English*.—To make 1 gallon, take 12 lbs. of Morello cherries, cut off the stalks so that about half an inch of each shall remain on the fruit. Prick each cherry with a needle, put them into wide-mouthed quart bottles along with a little syrup or loaf sugar to each, and 3 or 4 cloves. Two lumps will be enough sugar to each bottle. Pour upon the cherries enough gin or brandy to cover them, this will be about 1 gallon for 12 lbs. of cherries.

ii. Prepare the cherries as before. Put them in bottles and cover them with brandy; cork them close and stop for a month, then pour off the brandy, and to each quart add 8 oz. of sugar candy powdered; when dissolved, pour the brandy back again upon the cherries.

The two foregoing methods are those pursued by private families and pastrycooks, where the cherries are wanted equally with the liquor. Distillers use the following method.

iii. Take any quantity of small black cherries, pull off the stalks, and slightly bruise the fruit in a tub with a mallet or wooden rammer, pour it into a cask, and cover it over with strong spirit, stirring up the whole occasionally, particularly for the first few days. The cask should stand on the head and be tapped, before the cherries are put in, a small tap basket being fastened inside to prevent the fruit from clogging up the tap. This will be very black and strong. When wanted for sale, draw off 4 pints; add to it 4 pints of water and 1 lb. of sugar, to form a gallon.

As often as any of the brandied juice is drawn off, an equal quantity of fresh spirit is poured in at the top, until it shows a weakness of color or flavor.

iv. *Imitative*.—Soak black elderberries in the same manner as cherries. When drawn off, substitute 1 pint of cider for the same quantity of water, which makes 1 gallon, and a tea spoonful of dulcified spirit of nitre.

The cherry brandy of the public houses is generally half cherry brandy and half elderberry wine, mixed together.

v. *American*.—To 4 quarts of brandy put 4 lbs. of red cherries, 2 lbs. of black cherries, and 1 quart of raspberries, a few cloves, 1 stick of cinnamon, and a bit of orange peel.

Let this stand a month closely stopped, then bottle it, putting a lump or two of sugar into each bottle. The cherries and spices are not to remain in it.

vi. *French*.—Morello cherries, with their kernels bruised, 8 lbs., brandy 8 pints. Soak for a month; strain, at the same time squeezing the cherries to take out the juice from them, and add 1½ lb. of sugar. Called in France Ratafia de cerises.

CHERRY WATER.

Black cherries 12 lbs., the stones being bruised; water 1 gallon. This is now seldom used, on account of the large quantity of prussic acid which it contains.

CHERRY WINE.

i. Take red cherries, stalk and mash them, but as much as possible without breaking the stones, rub them in a hair sieve with the hands, that the juice may pass through. To every gallon of this juice add 2 lbs. of sugar. Put it into a cask and let it ferment; when the fermentation has subsided, bung it up close for a month, then fine it, bottle it off, putting a lump of sugar into each bottle, let it stand two or three days, then cork it down and pack away. It will be fit to drink in three or four months.

ii. Take 6 gallons of spring water, and boil it an hour, then take 24 lbs. of black cherries, bruise them, not breaking the stones, pour the water, boiling, upon the cherries, and stir them well together; after twenty-four hours, strain the liquor, and to every gallon add 2 lbs. of sugar. Then mix it well and let it stand a day longer. Pour off the clear liquor into a cask. Bung it up, and after a month bottle it off.

CHESHIRE CHEESE, TO MAKE.

It is necessary, in making the best cheese, to put in the new milk without skimming, and if any overnight's milk be mixed with it, it must be brought to the same natural warmth; into this put as much rennet as is just sufficient to come to the curd, and no more, for on this just proportion the mildness of the cheese is said to depend; a piece dried of the size of a worn sixpence, and put into a tea-cupful of water with a little salt, about twelve hours before it is wanted, is sufficient for 18 gallons of milk. The curd is next broken down, and when separated from the whey, is put into a cheese vat and pressed very dry; it is next broken very small by squeezing it with the hands. New curd is mixed with about half its quantity of yesterday's, and which has been kept for that purpose. When the curds have been thus mixed, well pressed and closed with the hands in a cheese-vat, till they become one solid lump, it is put into a press for four or five hours, then taken out of the cheese-vat, and turned, by means of a cloth put into the same

for this purpose, and again put into the press for the night. It is then taken out, well salted, and put into the press again till morning, when it is taken out and laid upon a flag or board, till the salt is quite melted, then it is wiped, put into a dry room, and turned every day, till it becomes dry enough for the market.

CHESHIRE SALT.

I. *Basket Salt*.—Quickly boil the brine of salt springs until only so much water is left as just to cover the crop of crystals at the bottom of the pan, which are then put into conical baskets and dried in stoves.

II. *Common*.—By evaporating brine at the heat of 160° or 170° of Fahr, and draining the crystals in square hoppers. This occasions the lumps to be square as we find them when for sale.

III. *Bay or large grained*.—From brine evaporated at about 130° of heat, and the liquor then set aside to crystallize very gradually. For preserving, this is stronger than the former, but scarcely so pleasant in taste. The salt ordinarily used in France is of this character.

IV. *Fishery Salt*.—Brine evaporated very slowly at the heat of 100° and set aside to crystallize. This is still stronger than the former, and is only used to preserve fish and occasionally meat when for hot climates. A great quantity of this salt is sent to Ireland to preserve pork and beef. (See *Salt*.)

CHEVALLIER'S ALCOHOL.

Mix a little caustic magnesia with the strongest spirits of wine that can be obtained from the distillers, and put it by for some time, that the magnesia may absorb any acetic acid which may be contained in the spirit. Then pour off the clear portion, and distil it twice in a water bath with $\frac{1}{10}$ its weight of very high dried chloride of lime. This should have a specific gravity of 0.823, and be so strong that caustic barytes will not be slackened by it.

CHEVENIX'S ANTIMONIAL POWDER.

Protoxyde of antimony and phosphate of lime, (obtained by dissolving burnt bones in muriatic acid, and precipitating the solution by sub-carbonate of ammonia water,) of each equal parts. Dissolve in muriatic acid, and pour the solution into water, alkalized with sub-carbonate of ammonia; in from 3 to 8 grains. This is febrifuge and diaphoretic. In doses of 10 to 20 grains, it is emetic and purgative. It is used as an alterative in uterine diseases.

CHIAN TURPENTINE, FICTITIOUS.

I. Equal parts of Canada balsam and yellow resin.

II. Venice turpentine and yellow resin, of each 2 lbs., Canada balsam 12 oz.

III. Yellow resin 7 lbs., rape oil 1 pint, water and oil of turpentine, each a quart. Boil altogether.

CHICKEN POX.

The eruption is often preceded by chilliness, succeeded by flushings and heat, pains in the head and back, thirst, restlessness, and a quick pulse. About the second or third day, the pustules become filled with a watery fluid, (which is never converted into yellow matter, as in small-pox,) and about the fifth day they usually dry away and are formed into crusts or scabs. No danger ever attends this disease.

Treatment.—In general, it is only necessary to make use of a spare regimen on the first appearance of the eruption, and to give one or two cooling purgatives afterwards; but should the febrile symptoms run high, it may then be advisable to make the patient take frequent small antimonial doses, with saline draughts and nitre, as for simple fever; drinking plentifully at the same time of cold diluting liquors, and keeping the body open with gentle laxatives or emollient clysters. The like treatment will also be proper in the swine-pox, which is, indeed, only a species of the chicken-pox.

CHILBLAINS, LOTIONS FOR.

I. Take 1 oz. of white copperas dissolve in a quart of water.

II. Sal ammoniac 1 oz., vinegar $\frac{1}{2}$ a pint.

III. Soap liniment 4 parts, tincture of cantharides 1 part. Only touch them with this and not rub.

IV. Alum 2 drachms, white vitriol 2 drachms, vinegar $\frac{1}{2}$ pint, spirits of wine 2 oz. water $\frac{1}{2}$ pint. Rub every night.

V. Vinegar and spirits of wine, each $\frac{1}{2}$ pint, alum 2 drachms. Apply night and morning.

VI. Equal parts of spirits of rosemary and oil of turpentine.

VII. Spirits of wine and camphor, or camphor liniment.

VIII. Compound camphor liniment and soap liniment, $\frac{1}{2}$ oz. of each, oil of turpentine 3 drachms.

IX. Compound soap liniment and solution of the acetate of ammonia, of each 1 oz.

X. Olive oil 1 oz., expressed oil of mace 1 drachm, camphor 2 drachms, and spirits of wine 2 oz.

CHILBLAINS, OINTMENTS FOR.

I. Spermaceti ointment 6 drachms, prepared calomel 2 scruples, rectified oil of turpentine 1 drachm. This may be rubbed on the parts affected before they are broken, or applied upon lint as an ointment afterwards.

II. Mercurial ointment, made from the nitrate of mercury, 1 oz., camphor 1 drachm, oil of turpentine 2 drachms, olive oil 4 drachms. Apply with friction two or three times a day, or as a salve when they are broken.

CHILLIE VINEGAR.

Fill a bottle with dried chillies, pour upon them hot vinegar, shake the bottle, and in a week the vinegar will be fit to use. A fresh supply of vinegar poured in from time to time, as the first is used, will become as hot with the chillies as can be desired, and that for a long period.

CHINA OR GLASS, CEMENT FOR.

I. Take the juice of garlic, stamped in a stone mortar; this carefully applied will join the parts so closely as scarcely to be perceived.

II. Another cement for the above purpose is formed by beating the white of an egg very clear, and mixing it with pounded stone-lime, unslacked, and sifted through muslin; or isinglass, and lime as above mentioned, mixed together, and a little water added. The mended articles are to be set in the shade to dry, and not before the fire.

III. Oyster-shells calcined, well pounded, and sifted through muslin, afterwards ground on a hard stone till reduced to powder, and then mixed with the white of eggs, make a paste or glue. With this any thing may be joined of hard substance; and holding it close a few minutes just to dry, it will stand both fire and water. Any small hole or crack may be stopped in the same manner.

CHINA INK.

I. Dissolve isinglass in hot water, to which a very small quantity of soda has been added to destroy the jelly-like property of the isinglass. Rub on a porphyry-slab the finest lamp black, with some of the above solution, to a proper consistence, adding a small quantity of musk and camphor to give it the required odour. It may be pressed into plaster of Paris or other moulds, slightly oiling them.

II. Proust says, that lamp-black purified by potash-lye, when mixed with a solution of glue, and dried, formed an ink, which was preferred by artists to that of China.

III. M. Merimée gives the following directions for preparing this ink with glue. Into a solution of glue he pours a concentrated solution of nut-galls, which occasions an elastic resinous-looking precipitate. He washes this matter with hot water, and dissolves it in a spare solution of clarified glue. He filters anew, and concentrates it to the proper degree for being incorporated with the purified lamp-black. The astringent principle in vegetables does not precipitate gelatine when its acid is saturated, as is done by boiling the nut-galls with lime water or magnesia.

The lamp-black is said to be made in China by collecting the smoke of the oil of sesame. Infusion of galls renders the ink permanent on paper.

CHINA LOCKSOY.

This is a species of vermicelli used generally throughout the east as a thickener for soups. It is made of rice, by boiling the grains till they become soft, then beating them up in a wooden mortar, and finally squeezing the paste thus made through a tube, having at the bottom some small holes.

That brought from China is opaque, that from Cochin China is transparent. In cooking, the opaque swells much more than the transparent kind. In all probability, the former is made of raw or unboiled rice-flour.

CHINESE COMPOSITION FOR JAPAN-WORK.

Gold size, mixed with whitening, to which is added a little red lead to harden it, and a little powdered litharge to dry it more rapidly.

CHINESE FIRES FOR FIRE-WORKS.

I. *Red*.—Take of meal powder 1 lb., saltpetre 1 lb., charcoal 4 oz., sulphur 4 oz., iron sand 14 oz.

II. *White*.—Meal powder 1 lb., saltpetre 1 lb., sulphur 8 oz., iron sand 14 oz.

III. *Grey*.—Meal powder 1 lb., saltpetre 4 oz., sulphur 2 oz., charcoal 1½ oz.

These compositions are intended for cases to be attached to a revolving wheel, as streamers, &c. (For others, see *Brilliant Illumination, Gold Fire, Slow Fire, Dead Fire, &c.*)

CHINESE FLYERS.

Cases for this fire-work may be made of different sizes, from 1 to 8 oz., they must be made of thick paper, and 8 interior diameters long. They are rolled with a straight pasted edge, and pinched close at one end. The method of filling them is, the case being put in a mould, whose foot must be flat at the top, and not with a nipple like a rocket mould; fill it within half a diameter of the middle of the case, then ram a diameter of clay, and upon this some more composition to fill the case nearly to the top, then fill it up with clay; when filled, pinch the end close upon the clay, beat it flat and dip both ends of the case thus filled into a pot of melted composition of glue and red lead; when dry, bore a hole exactly through the clay in the middle, then in the opposite sides of both ends make a vent as in tourbillions; and in that side which you intend to fire first, make a small hole to the composition near the clay, from which carry a quickmatch, covered with a single paper, to the vent at the other end, then when the charge is burnt on one side, it will, by means of the quickmatch, communicate to the charge on the other, and which may be of a different sort of composition. The flyers being thus made, put an iron pin, that must be fixed in the work on which they are to be fired, and on which they are to run; through the hole in the middle, on the end of this pin must be a nut to keep the flyer from running off.

CHINESE PASTE.

Mix together bullock's blood and quick lime, in the proportion of 1 lb. of the latter to 10 lbs. of the former. It becomes a stiff jelly, in which state it is sold to the consumers, who beat it down with an addition of water into a state sufficiently fluid for use.

CHINESE PROPAGATION OF FRUIT TREES.

Strip a ring of bark, about an inch in width, from a bearing branch, surround the place with a ball of fat earth, or loam, bound fast to the branch with a piece of matting; over this they suspend a pot or horn, with water, having a small hole in the bottom just sufficient to let the water drop, in order to keep the earth constantly moist. The branch throws new roots into the earth just above the place where the ring of bark was stripped off. The operation is performed in the spring, and the branch is sawn off and put into the ground at the fall of the leaf. The following year it will bear fruit.

CHINESE SHEET LEAD.

The operation is carried on by two men; one is seated on the floor with a large flat stone before him, and with a moveable flat stone-stand at his side. His fellow workmen stand beside him with a crucible filled with melted lead; and having poured a certain quantity upon the stone, the other lifts the moveable stone, and dashing it on the fluid lead, presses it out into a flat and thin plate, which he instantly removes from the stone. A second quantity of lead is poured in a similar manner, and a similar plate formed, the process being carried on with singular rapidity. The rough edges of the plates are then cut off, and they are soldered together for use.

Mr. Waddell has applied this method with great success to the formation of thin plates of zinc for galvanic purposes.

CHINESE YELLOW, TO MAKE.

The Acacia, an Egyptian thorn, is a species of mimosa, from which the Chinese make that yellow which bears washing in their silks and stuffs, and appears with so much elegance in their painting on paper. The flowers are gathered before they are fully opened, and put into an earthen vessel over a gentle heat, being stirred continually until they are nearly dry, and of a yellow color; then to $\frac{1}{4}$ a lb of the flowers, a sufficient quantity of rain-water is added, to hold the flowers incorporated together. It is then to be boiled until it becomes thick, when it must be strained. To the liquor is added $\frac{1}{2}$ oz. of common alum, and 1 oz. of calcined oyster-shells, reduced to a fine powder. All these are mixed together into a mass. An addition of a proportion of the ripe seeds to the flowers renders the colors somewhat deeper. For making the deepest yellow, add a small quantity of Brazil wood.

CHING'S WORM LOZENGES.

A popular nostrum for worms, consisting of two preparations, the basis of both of which is chloride of mercury.

The Yellow Lozenges.—Prepared by mixing 1 lb. of chloride of mercury, washed in alcohol, with 4 drams of saffron that has been boiled in 1 pint of water, and strained, and 28 lbs. of white sugar, making the whole into a mass with gum tragacanth mucilage, and rolling it out to an exact thickness. Each lozenge should contain 1 grain of the chloride. The dose is one lozenge at bed-time, and on the succeeding morning a brown lozenge is to be taken.

The Brown Lozenges.—Take 7 oz. of the chloride of mercury, washed as before, $3\frac{1}{2}$ lbs. of jalap, 9 lbs. of white sugar, and enough of gum tragacanth mucilage to make a mass. Each lozenge should contain $\frac{1}{2}$ a grain of the chloride.

These nostrums are by no means safe, as the chloride is seldom diffused equally, and may in some lozenges be in dangerous quantity. When long kept, also, or exposed to damp, they may acquire poisonous properties.

CHINTZ, TO WASH.

Take 2 lbs. of rice, boil it in 2 gallons of water till soft; then pour the whole into a tub; let it stand till about the warmth in general used for colored linens; then put the chintz in, and use the rice instead of soap, wash it in this, till the dirt appears to be out, then boil the same quantity as above, but strain the rice from the water, and mix it in warm clear water. Wash in this till quite clean; afterwards rinse it in the water which the rice has been boiled in, and this will answer the end of starch, and no dew will affect it. If a gown, it must be taken to pieces, and when dried, be careful to hang it as smooth as possible; after it is dry, rub it with a sleek stone, but use no iron.

CHLORINATED SODA.

I. Dissolve 1 lb. of dry carbonate of soda in 2 quarts and $\frac{1}{2}$ pint of distilled water; through this direct a stream of chlorine gas.

II. Decompose chloride of lime with carbonate of soda. The carbonate of lime thus formed will fall down as a white powder, while the chlorinated soda will remain in solution. It must be filtered off, and if wanted in a dry state, the liquor must be evaporated.

This is an excellent disinfecting liquid; adding a wine glass-full to a pint of water, and washing tainted meat with it, removes all fetid odour. A few drops in a tumbler of water is a good wash for the mouth. In hospitals it is used as a lotion in many cancerous, syphilitic, and putrid cases.

CHLORINE GAS OR LIQUID.

Take of common salt 3 lbs., of black oxide of manganese 1 lb., oil of vitriol 2 lbs., water 1 lb. Distil them in a retort. The chlorine passes over as a gas, of a pale greenish yellow

color; having a receiver annexed containing water, it will be absorbed by the water, and form a liquid.

This liquid, either alone, or formed into a compound with lime, soda, or potass, forms a valuable bleaching material, and one which has a most powerful effect in removing noxious effluvia, in disinfecting and purifying apartments after disease, &c. When united with lime, it forms chloride of lime; when with soda, it forms the still more valuable bleaching powder, known as the chloride of soda; and when with potass, it constitutes the chloride of potass, or *Eau de Javelle*.

CHOCOLATE.

I. Caraccas cacao 8 lbs., island cacao 2 lbs., roast them, and while warm, add white sugar 10 lbs. Make into a paste on a heated slab, or pour into moulds.

II. Caraccas cacao 8 lbs., sweet almonds, to relieve the dryness of this kind of cacao. Some substitute butter, or in this country more frequently mutton suet.

III. Island cacao 8 lbs., starch powder sufficient to absorb the superabundance of oil yielded by this description of cacao.

IV. *Spanish*.—Caracca nuts 11 lbs., loaf sugar 3 lbs., vanilla 1 oz., cinnamon $\frac{1}{4}$ oz., cloves $\frac{1}{2}$ drachm.

V. Caracca nuts 10 lbs., sweet almonds 1 lb., sugar 3 lbs., vanilla 3 oz.

VI. Caracca nuts 8 lbs., island cacao 2 lbs., white sugar 10 lbs. aromatics to taste.

VII. *Common*.—Cacao cake, from which the oil has been expressed, with mutton suet added instead. This is the common chocolate paste sold at the grocers.

VIII. Maize and peas, in equal portions, roasted, ground, and mixed with oil.

CHOCOLAT A LA VANILLE.

To 20 lbs. of the best chocolate paste, add cinnamon, Mexican vanilla, of each 3 oz., cloves 1 scruple. This is a most excellent article, both to eat it in a dry state, or to drink when prepared with milk.

CHOCOLATE, STOMACHIC.

Take 4 oz. of chocolate, prepared without sugar, vanilla 1 oz., cinnamon 1 oz., ambergris 48 grains, sugar 3 oz. Warm the chocolate paste by beating it in a hot iron mortar, add the aromatics in powder with the sugar. Mix it with the paste, with, if necessary, a little butter. A few grains of this added to the chocolate pot, when making chocolate, much improves the flavor.

CHOCOLATE BRANDY, OR RATAFIA.

Take of chocolate nuts 1 lb., cacao nibs $\frac{1}{2}$ lb. Bruise or grind, and soak in 1 gallon of proof spirit or brandy. Soak for a fortnight, strain, and then add $1\frac{1}{2}$ lb. of sugar and 30 drops of tincture of vanilla.

CHOCOLATE DROPS.

Scrape the chocolate to powder, and put 1 oz. to each pound of sugar, moisten the paste with clear water, work it as above, only take care to use all the paste required,

as if it be put on the fire a second time, it greases, and the drop is not of proper thickness. When in a melted state, it is to be dropped on greased paper, and have sifted over it white comfits of a minute size. Coffee and clove drops are made in the same manner.

CHOCOLATE CREAM.

This is prepared by scraping 1 oz. of good chocolate in a quart of thick cream, with $\frac{1}{4}$ lb. of loaf sugar; boil and mill it till smooth, and when cold, add the whites of 9 eggs, whisk it, take up the froth in sieves, and serve in glasses.

CHOCOLATE ICE.

Chocolate 2 oz.; rub down with 2 pints of cream for icing, and freeze it as wanted.

CHROME RED.

I. Into saltpetre brought to fusion in a crucible at a gentle heat, pure chrome yellow is to be thrown by small portions at a time. A strong ebullition takes place at each addition, and the mass becomes black, and continues so while hot. The chrome yellow is to be added till little of the saltpetre remains undecomposed, care being taken not to overheat the crucible, lest the color of the mixture should become brown. Having allowed it to settle for a few minutes, during which the dense basic salt falls to the bottom, the fluid part, consisting of chromate of potass and saltpetre, is to be poured off, and it can be employed again in preparing chrome yellow. The mass remaining in the crucible is to be washed with water, and the chrome red being separated from the other matters, is to be dried after proper washing. It is essential for the beauty of the color, that the saline solution should not stand long over the red powder, because the color is thus apt to become of a dull orange hue.

II. A second method of preparing this red sub-chromate, is by boiling the chromate with two-thirds its weight of oxyde of lead in water.

CHROME YELLOW.

This is a rich pigment of various shades, from deep orange to the palest canary yellow. It is made by adding a limpid solution of the neutral chromate of potass to a solution equally limpid of acetate or nitrate of lead. A precipitate falls, which must be well-washed and carefully kept out of the reach of sulphuretted vapors. A light shade of yellow is obtained by mixing some solution of alum or sulphuric acid with the chromate, before mixing it with the solution of lead, and an orange tint is to be procured by the addition of subacetate of lead in any desired proportion.

CIDER, TO MAKE.

After the apples are gathered from the tree, they are ground to a pulp in a mill, and afterwards put into coarse strong bags, and pressed with a great weight, so as to squeeze

out of them all their juice. The juice is placed in large open tubs, and kept at a heat of about 60°. Here it will soon begin to ferment. When it has passed through the proper fermentation, and which may be known by its appearing tolerably clear, and having a vinous sharpness upon the tongue, any farther fermentation must be stopped by racking off the pure part into open vessels, exposed for a day or two in a cool situation. After this the liquor must again be put into casks, and kept in a cool place during the winter. The proper time for racking may always be known by the brightness of the liquor, the discharge of the fixed air, and the appearance of a thick crust formed of fragments of the reduced pulp. The liquor should always be racked off anew, as often as a hissing noise is heard, or as it extinguishes a candle held to the bung-hole. When a favourable vinous fermentation has been obtained, nothing more is required than to fill up the vessels every two or three weeks, to supply the waste by fermentation. On the beginning of March, the liquor will be bright and pure, and fit for final racking, which should be done in fair weather. When the bottles are filled, they should be set by uncorked till morning, when the corks must be driven in tightly, secured by wire or twine and melted rosin, or any similar substance.

I. *General rules for making.*—Always choose perfectly ripe and sound fruit.

II. Pick the apples by hand. An active boy, with a bag slung over his shoulder, will soon clear a tree. Apples that have lain any time on the soil, contract an earthy taste, which will always be found in the cider.

III. After sweating, and before being ground, wipe them dry, and if any are found bruised or rotten, put them in a heap by themselves, for an inferior cider to make vinegar.

IV. Always use hair cloths, instead of straw, to place between the layers of the pommage. The straw, when heated, gives a disagreeable taste to the cider.

V. As the cider runs from the press, let it pass through a hair sieve into a large open vessel that will hold as much juice as can be expressed in one day. In a day, or sometimes less, the froth will rise to the top, and in a short time grow very thick; when little white bubbles break through it, draw off the liquor by a spigot, placed about three inches from the bottom, so that the lees may be left quietly behind.

VI. The cider must be drawn off into very clean sweet casks, and closely watched. The moment the white bubbles before-mentioned are perceived rising at the bung-hole, rack it again. When the fermentation is completely at an end, fill up the cask with cider, in all respects like that already contained in it, and bung it up tight.

The cider made from unripe apples does not keep well; the fruit then must be as ripe as possible, but looked over to see that none of them are rotten. Cool weather should also be chosen, lest the fermentation should run too high, and the liquor become sour and lose its briskness. The apples should be so well ground, that the pips and rind are well broken, as these give a pleasant flavor; also, the more tasteless the apple, the more grinding it will require. Among the most esteemed cider apples are the *russet* and the *bitter-sweet*. The former a rough and brown, and the latter a red apple. (See *Dorsetshire, Scotch Cider*, and *Colepress*.)

CIDER FROM RAISINS.

Take 14 lbs. of raisins with the stalks, wash them in 4 or 5 waters, till the water remains clear, then put them into a clean cask with the head out, and put 6 gallons of soft water upon them, after which, cover it up well and let it stand ten days. Then rack it off into another clean cask, and in four or five days it will be fit for tapping and bottling. A little coloring should be added when put into the cask the second time.

CIDER, TO IMPROVE.

To fine and improve the flavor of one hogshead, take 1 gallon of good French brandy, with $\frac{1}{2}$ oz. of cochineal, 1 lb. of alum, and 3 lbs. of sugar candy; bruise them all well in a mortar, and infuse them in the brandy for a day or two; then mix the whole with the cider, and stop it close for five or six months. After which, if fine, bottle it off.

Cider and perry, when bottled in hot weather, should be left a day or two uncorked, that it may get flat; but if too flat in the cask, and soon wanted for use, put into each bottle a small lump or two of sugar candy, or four or five raisins. Cider should be well corked and waxed, and the bottles put upright in a cool place.

CIDER, CHAMPAGNE.

Good cider (pale) 1 hogshead, spirit 3 gallons, honey or sugar 20 lbs. Mix and let them rest for a fortnight, then fine with skimmed milk $\frac{1}{2}$ gallon. This will be very pale, and a similar article, when bottled in champagne bottles, and silvered and labelled, has been often sold to the ignorant for champagne. It opens very brisk if managed properly.

CIDER WINE.

I. *White.*—Take 2 quarts of cold soft water, add them to 9 gallons of cider. Then put in 8 lbs. of honey and 2 oz. of white tartar. Ferment them all together. When fermented, add $\frac{1}{2}$ gallon of rum, and 2 oz. each of cinnamon, cloves, and mace. This will make 9 gallons.

II. Take soft water 2 gallons, cider 7 $\frac{1}{2}$ gallons, honey 6 lbs., and white tartar in powder 2 oz. Ferment all together for two or three days, and add ginger in powder 3 oz., sage and mint, 1 handful of each, and British spirits $\frac{1}{2}$ gallon.

III. *Red.*—Cold soft water 3 gallons, honey 10 lbs., cider 16 gallons. After fermenting for three or four days, add 4 lbs. of raw sugar, 4 lbs. of red beet root sliced, and

red tartar in powder 6 oz., sweet marjoram and sweet briar, 3 handfuls each, and rum 1 gallon.

CINNAMON CAKES.

Beat 6 eggs with a coffee cupful of rose water; add 1 lb. of sifted sugar, $\frac{1}{4}$ oz. of pounded cinnamon, and sufficient flour to make it into a paste. Roll out thin, and stamp it into small cakes.

CINNAMON COMFITS.

Soak cinnamon bark in water for two days, then cut it up into strips about as thick as a stocking needle, and half an inch long. Boil and dry these in sugar as described under the word *Comfit*.

CINNAMON CORDIAL.

Take 20 gallons of proof spirit, 10 lbs. of the best cinnamon. Distil them, and then take 30 lbs. of white sugar, dissolved in a gallon of rose-water with water sufficient to pay for the sugar. If 1 scruple of musk and 1 scruple of ambergris be added it will be exceedingly fine.

An explanation is necessary here as to the water to be added. A distiller would calculate the cost of the above per gallon without the sugar. Suppose it came to 10s., and that there were 15 gallons. The sugar costing 15s. he would have to add $1\frac{1}{2}$ gallon of liquor or water to cover this cost. The cordial after the sugar is added then costing the same per gallon as before.

II. To make 10 gallons allow $1\frac{1}{2}$ oz. of oil of cinnamon or cassia, 1 drachm of the oil of Seville oranges, 5 or 6 gallons of spirits or gin, 2 gallons of water, and 2 gallons of syrup or clarified sugar. From the large quantity of sugar that this contains it is thick, like cream, and very sweet.

III. Put 1 oz. of the oil of cassia to 5 gallons of proof spirit, killing the oil first in a little very strong spirits of wine. When mixed well, add 5 gallons of water, 3 lbs. of sugar, and a very little burnt sugar. Fine it down by 1 oz. of alum dissolved in water, and poured into the cask. In twenty-four hours it will be fit to draw.

IV. Put into a still 8 lbs. of fine cinnamon, 18 gallons of spirit, and 10 of water. Draw off 18 gallons, which may be reduced by water, sweetened and colored as before. It should be of a light yellow; some distillers use no coloring.

CINNAMON LOZENGES.

I. Cinnamon 7 oz., sugar 12 oz., mucilage of gum tragacanth.

II. White sugar 8 lbs., essence of cinnamon 3 oz., mucilage 18 oz.

CINNAMON SOAP.

30 lbs. of good tallow soap; 20 lbs. of palm-oil soap. *Perfumes*:—7 oz. of essence of cinnamon, $1\frac{1}{4}$ oz. sassafras, $1\frac{1}{4}$ oz. bergamot. *Color*:—1 lb. yellow ochre.

CINNAMON, SYRUP OF.

Cinnamon 3 oz., boiling water 1 lb., infuse for a week, strain, and add 1 lb. of sugar.

CINNAMON, COMPOUND TINCTURE OF.

I. Cinnamon 6 drachms, smaller cardamom seeds 3 drachms, long pepper and ginger 2 drachms, proof spirit 2 lbs.

II. Cassia buds 3 oz., smaller cardamom seeds $1\frac{1}{2}$ oz., long pepper, white pepper, and ginger, each 1 oz., proof spirit 1 gallon.

III. Cinnamon, canella alba, and galanga root, each $\frac{1}{2}$ an oz., lesser cardamom seeds 2 drachms, spirits of wine 1 pint.

IV. Cinnamon 6 drachms, lesser cardamom seed 3 drachms, long pepper 2 drachms ginger 2 drachms, proof spirit 2 pints.

CINNAMON WATER AND SPIRIT.

I. Steep 1 lb. of cassia bark in a gallon of water. It should be distilled, but this is not absolutely necessary.

II. Cassia buds 1 lb., cassia lignea 2 lbs. for 8 gallons of water.

III. Cassia 6 lbs., spirits of wine 2 gallons, water 20 gallons. Draw off by distillation 4 gallons of spirit of cinnamon and 10 gallons of cinnamon water.

Cassia is the outer bark of the cinnamon tree, and being powerful in flavor and cheaper than the inner bark or cinnamon, is usually substituted for it in making the oil, spirit, &c.

CIRCASSIAN CREAM.

Half a pint of almond emulsion, 1 drachm of essence of almonds, (dilute prussic acid,) 4 grains of bichloride of mercury, and $\frac{1}{2}$ pint of spirits of wine, to which any esteemed perfume has been added.

CITRIC ACID.

Saturate the juice of limes or lemons with powdered chalk, wash the sediment with cold water, and dry it. Each gallon of juice yields 8 ounces of this citrate of lime. Pour upon the washed powder dilute sulphuric acid, 9 ounces being used to each ounce of chalk. Strain through a cloth, and expose the liquor in shallow vessels that it may crystallize by spontaneous evaporation. One ounce in water is equal to a pint of lemon juice. It is a very pleasant acid, cooling and antiseptic.

CITRON CORDIAL.

I. Take of dry yellow rinds or peels of citrons 3 lbs., orange peel 2 lbs., nutmegs bruised $\frac{3}{4}$ lb., proof spirit 10 gallons, water 2 gallons. Digest with a gentle heat, and then draw off by distillation 10 gallons. This is to be sweetened according to taste by loaf sugar. (See *Cedrat*.)

II. For 3 gallons take 7 quarts of spirits of wine, 22 under proof, 12 lbs. of figs, 4 lbs. of prunes, 1 drachm of the essence of lemon, 1 drachm of the oil of cloves, and 1 quart of syrup. The fruit must be mashed and soaked in the spirit for some days, then filtered off, and the oils killed with strong spirit, the sugar being afterwards added.

CITRONELLA.

Fresh orange peel 2 oz., fresh lemon peel 4 oz., cloves $\frac{1}{2}$ oz., coriander 1 drachm, proof spirit 4 pints. Distil in a water bath, and add white sugar to sweeten.

CITRON, OIL OF.

It is obtained from the yellow part of citron peel either by pressure, when it is colorless and very thin, or by distillation from the same peel, when it is inferior in delicacy and greenish. The former is called the oil of cedrat—the latter the oil of citron, the two names being used merely for the sake of distinction. One hundred citrons yield 1 oz. of the white oil, and afterwards $\frac{1}{2}$ an oz. of the green.

CITRON PEEL, CANDIED.

Soak the peel in water, and let this be frequently renewed. When deprived by this means of their bitterness, the peels are to be drained or wiped, and placed in syrup until they become soft and transparent. The strength of the syrup is to be kept up by pouring it off occasionally and boiling afresh, after which each time it may be poured hot upon the peels. When finished they are to be placed on sieves in a warm place to dry.

CLAIRET, ROSSALIE DE SIX GRAINS.

The seeds of anise, fennel, dill, coriander, caraway, and the cretan carrot, of each 1 oz. proof spirit 2 quarts, sugar 1 lb.

CLARENCE BISCUITS.

Mix into a paste (as described under the word biscuit) 5 lbs. of flour, $1\frac{1}{2}$ lb. of sugar, $\frac{1}{2}$ lb. of butter, 1 oz. of volatile salt, 2 eggs, 1 pint of milk, and a few caraway seeds; a little more milk may be added, if necessary. Roll the paste, which should be moderately stiff, out into sheets, about a $\frac{1}{4}$ inch in thickness; cut them out with an oval cutter, put them on tins, and bake on a hot oven.

CLARET RAGS.

Linen colored with archil, or by dipping into the juice of blood-red grapes, or the juice of mulberries, or in the lees of red and claret wine. It is exported from France to other places, and used to color the rind of Dutch cherries, articles of confectionery, &c.

CLARET, IMITATIVE.

I. Take of cold soft water 18 gallons, vine leaves 3 pecks, raw sugar 50 lbs., red tartar 8 oz., and barberries 6 quarts. Ferment all these together with yeast; then after three or four days, add sassafras chips 3 lbs., and brandy 1 gallon. The leaves should be soaked in the water for two days before the sugar, &c. is added. It must be boiled for an hour before setting to ferment.

II. Take of cold soft water 11 gallons; soak in it for two days 2 pecks of vine leaves, add sugar 30 lbs., red tartar 6 oz. Boil for an hour, cool and ferment for a week. Strain

off clear, and add 1 gallon of brandy, in which has been steeped for three or four days 2 oz. of cinnamon, powdered, and 2 nutmegs, also powdered. This will make 18 gallons.

III. Take 6 gallons of water, 2 gallons of cider, and 8 lbs. of Malaga raisins bruised. Put them all together, and let them stand closely covered in a warm place for a fortnight, stirring it well every second day. Then strain out the liquor into a clean cask, and put to it a quart of barberries, a pint of the juice of raspberries, and a pint of the juice of black cherries. Let it stand in a warm place for four or five days, then bung it up, and let it remain a week; then bottle it off.

CLARET, TO DARKEN.

I. If the wine be pale in color, take a pound of turnsole to every hogshead, soak it in a gallon of the wine for a day or two, then pour it into the hogshead, rouse it about well three or four times at intervals of some hours.

II. Take any quantity of damsons or sloes, slightly bruise them, and pour upon them any kind of spirit or wine; this will extract the color from the sloes. A pint of this will color a hogshead of claret. This is also a good coloring for port wines.

If the sloes are steeped in wine they will generally ferment. To avoid this, a quantity of sugar must be added so as to make a syrup. With spirit this is not necessary. Damsons are preferable to sloes from their not being so astringent or rough to the taste. They should be as ripe as possible.

CLARET, TO FINE.

Take the whites and shells of six fresh eggs, whisk them up well with a little of the wine to be fined. Pour them into the cask, and rack off when settled. Clarets when bottled should be kept warm in saw-dust.

CLARET, TO MANAGE.

Claret is not a wine of a strong body, though it requires to be of a good age before it is drank, and therefore should be well managed. The best way is to feed it in the cask every two or three weeks with a pint of French brandy. Taste it frequently, to know what state it is in, and use the brandy accordingly, but never put in much at a time. If the claret is faint in flavor, rack it into a fresh-empty hogshead upon the lees of good claret, and bung it up; shake it about well for two or three days.

CLARET, WHEN FOUL, TO RESTORE.

Rack it off from the dregs on some fresh lees of its own kind. Then take a dozen of sweet apples, pare them, and take away the cores. Then put them in the hogshead, and stir it well up. A little cider will give freshness, and logwood roughness and color.

CLARIFYING POWDER.

This consists of the white and the yolk of eggs beaten together, and then dried by a gentle heat. It is made extensively in the

south of France, as a clarifier for wines, and exported thence to the West Indian colonies as a clarifier for sugar.

CLARY WINE.

I. Take 24 lbs. of Malaga raisins, pick and chop them very small, then put them into a tub, and to each pound allow a quart of water; let them steep twelve days, stirring them twice a day; then strain the liquid off, put it into a clean cask with $\frac{1}{2}$ a peck of the tops of clary, when in flower, afterwards bung it up for six weeks, then strain and bottle.

II. Take 10 gallons of water, 25 lbs. of sugar, and the whites of 12 eggs, well beaten up, set this over the fire, and let it boil gently for an hour, skimming it frequently; then put it into a tub, and when almost cool, cask it with about $\frac{1}{2}$ a peck of clary tops and $\frac{1}{2}$ a pint of yeast. Stir it three times a day, for three days, and when it has done working, close it up. If fine, you may bottle in three or four months.

CLATER'S DRINK FOR SHEEP.

Nitre 6 oz., powdered ginger 4 oz., colcothar 2 oz., common salt $3\frac{1}{2}$ lbs., boiling water 3 gallons; when cold, add 36 oz. oil of turpentine. Dose from 1 to 2 oz., to be given once in four days for a fortnight.

CLEANSING POULTICE FOR CATTLE.

Black soap 1 lb., honey 8 oz., burnt alum 4 oz., verdigris powdered $\frac{1}{2}$ oz., reduce the strength with a little wheat flour. Applied to the sores of horses, particularly to greasy heels.

CLOTH CLOTHES, TO SCOUR.

If a black, blue, or brown coat, dry 2 oz. of Fuller's earth, and pour on it sufficient boiling water to dissolve it, and plaster with it the spots of grease; take a pennyworth of bullock's gall, mix with it $\frac{1}{2}$ a pint of stale urine, and a little boiling water; with a hard brush dipped in this liquor, brush spotted places; then dip the coat in a bucket of cold spring water. When nearly dry, lay the nap right, and pass a drop of oil of olives over the brush to finish it. If grey, drab, fawns, or maroons, cut yellow soap into thin slices, and pour water upon it to moisten it. Rub the greasy and dirty spots of the coat. Let it dry a little, and then brush it with warm water, repeating, if necessary, as at first, and use water a little hotter; rinse several times in warm water, and finish as before.

CLOTHES, TO PERFUME.

Take of oven-dried best cloves, cedar and sandal wood, each 1 oz. Beat them to a powder, and sprinkle them in a box or chest, where they will create a most beautiful scent, and preserve the apparel against moths.

CLOTHES, TO PRESERVE.

As clothes, when laid up for a time, acquire an unpleasant odour, which requires consi-

derable exposure to the atmospheric air, it will be prevented by laying recently-made charcoal between the folds of the garments; and even when the odour has taken place the charcoal will absorb it.

CLOTHES BALL.

Mix 2 lbs. of pipe-clay, 4 oz. of Fuller's earth, 4 oz. of whitening, and $\frac{1}{4}$ of a pint of ox gall.

This is used to take grease from woollen goods, coats, carpets, pelisses, &c. (See *Scouring Ball*.)

CLOTHES POWDER.

Pipe-clay $1\frac{1}{2}$ lb., white pepper and starch, each 1 oz., Florentine iris root $1\frac{1}{2}$ oz., spirits of wine 2 oz. This is to dust over clothes, laid by, to keep away moths and other insects.

CLOTTED CREAM, DEVONSHIRE.

This is milk, heated gradually to near boiling in very shallow tin vessels over a charcoal fire. It is kept in this state till the whole of the cream is tarrown up, which will be in from twelve to twenty-four hours. The vessel is then taken off the fire, and the cream remains on till it is cold, when it is skimmed off. It is exceedingly thick.

CLOVE CORDIAL.

Take of cloves, bruised, 1 lb., allspice 2 oz. proof spirit 2 gallons. Soak for twenty-four hours, then put all into a still, and draw off 7 quarts. Sweeten with sugar.

CLOVE PINKS, EXTRACT AND SYRUP OF.

I. Take 2 lbs. of the petals of clove pinks, cutting off the white claws of them; steep these in 6 pints of boiling water, let it cool, and in six hours strain it off. This is of a beautiful odour and fine dark color.

II. Clove pinks 1 quart, loaf sugar 3 lbs.; pound them together, add water to make a syrup, and strain. Syrup of cochineal is generally used for this.

CLOVES, SYRUP OF.

Cloves 3 oz., white wine 1 pint. Infuse for some days, then strain, and add 1 lb. of sugar.

CLOVE LOZENGES.

Cloves 5 drachms, sugar $1\frac{1}{2}$ lbs., mucilage of gum tragacanth, sufficient to make a paste. This will make 150 lozenges, containing 2 grains of cloves each. (See *Lozenges*.)

CLOVER SEED, TO DETECT DOCTORED.

I. *Test for colored red clover seed.*—Fill an ounce phial $\frac{1}{2}$ full with the suspected seed, and fill it up with muriatic acid diluted with 2 parts of rain water. If, after standing three or four hours, being frequently well shaken, the liquor be colored green, or greenish yellow, the seed is doctored; or provided the seed be clean and free from dust, and the acid is made cloudy or opaque, it is doctored. The acid, when applied to genuine seed in the same manner, will remain per-

fectly transparent; therefore if the acid be not clear, the seed is doctored, although no color may appear as described.

II. *Test for colored trefoil and white clover seed.*—Fill an ounce phial $\frac{1}{3}$ with the suspected seed, and add spirit of sal ammoniac until it be $\frac{2}{3}$ full. Cork and shake the phial, and let it stand a few seconds, not exceeding half a minute, for if it stand longer, the genuine seed will color the liquid. If the liquid be colored either yellow or yellowish-green, the seed has either been dyed, or its natural color has been brought to the surface by artifice.

III. *Test for bleaching red clover, white clover, and trefoil.*—Take a four-ounce bottle $\frac{1}{2}$ full of the suspected seed, fill it up with boiling water, frequently shake it, and when it is cold, if the liquid change the blue color either of litmus paper, or of the leaf of a cabbage red, the seed is doctored.

The spirit of sal ammoniac, the muriatic acid, and the litmus paper, may be obtained of any chemist; and the cabbage leaf must be what is popularly called the red cabbage.

CLUTTON'S FEBRIFUGE SPIRIT.

I. Vitriolic ether 4 pints, muriatic ether 1 pint.

II. Equal parts of the above ethers.

III. Oil of vitriol 1 lb. 12 oz., muriatic acid 1 lb., spirit of wine 1 gallon. Distil them together

CLUZELL'S KERMES.

Prepared common antimony $\frac{1}{2}$ oz., sub-carbonate of soda 10 oz., distilled water 1 gallon. Boil for half an hour, filter, let it settle, wash the precipitate with cold water which has been recently boiled; dry the precipitate by a heat of 90° Fahr., folded up in glazed paper to keep the air and light from it, produces a very dark crimson powder, of a smooth velvety appearance. This preparation occupies in foreign practice the place of our James's powder, in doses of $\frac{1}{2}$ a grain to 3 grains, as a diaphoretic, cathartic and emetic.

COAL BALLS.

Pound any quantity of Welsh coal with twice its quantity of clay; mix with water into a sort of paste, and form into balls. These balls form an economical fuel for fires, which are to be left untouched for a time, for such a fire will not bear poking.

COBALT BLUE.

Wash 1 lb. of zaffre to separate as much of the sand as possible; pour on it 8 ounces of nitric acid, diluted with an equal weight of water. Digest for some hours, pour off the solution, and add fresh acid to the zaffre as long as it extracts any color from it. Mix the colored solutions, evaporate nearly to dryness, dissolve in warm water, filter the liquor, add to the filtered nitric solution a solution of phosphate of soda, as long as any

sediment falls. Wash this violet sub-phosphate of cobalt, and mix it while still wet with eight times as much alumine fresh precipitated from alum water by liquid ammonia, well washed, and still wet. Stir till the color is quite uniform, then dry, and lastly, heat it to a cherry red in a crucible.

II. Precipitate the nitric solution of cobalt with a solution of ammonia alum. This is of a paler color than the last.

III. Mix the nitric solution of cobalt at once with the alumine.

COCHINEAL, SYRUP OF.

Cochineal 1 drachm, sugar 2 lb. 1 oz., water 1 pint. Used as a coloring liquid for medicines, confectionery, &c.

COCHINEAL WASH BALLS.

Take 1 lb. of oil soap well scraped, 1 oz. of spermaceti, and 2 oz. of oil of almonds. Melt the spermaceti and oil of almonds together, and while simmering throw in a dram of carmine. When cooling, add the colored mixture with a dram of the oil of tartar to the scraped soap, and work the whole into a paste, which is to be hereafter made up into conveniently-sized balls.

COCHRANE'S COUGH MEDICINE.

A nostrum which bears the name of Major Cochrane is prepared by making a decoction of the heads of white poppies, previously freed from the seeds; strain this, boil it again with vinegar and brown sugar to the consistence of syrup, then add sulphuric acid till it is pretty sour.

COCKROACHES, TO DESTROY.

I. Mix some arsenic with honey, and lay it on scraps of paper about the floor for them to eat. If arsenic be mixed with boiled potatoes, and laid about in the same way it will answer the same purpose.

II. If they are numerous a hedge-hog may be kept; this little animal will soon destroy them all, if not otherwise fed.

III. Strew about the places they frequent, and also put into their holes, some small pieces of unslacked lime.

IV. Set a glazed baking dish, with upright sides, where the cockroaches frequent; put into it small beer sweetened with coarse brown sugar. Place a piece of board against it, as a bridge or ladder for the insects—this is an excellent remedy.

COFFEE BISCUITS.

Rub $\frac{1}{2}$ lb. of hard butter in 4 lbs. of flour crack 4 eggs, and beat them up with $\frac{1}{2}$ lb. of loaf sugar and water, a little at a time to make up a pint; mix this with the flour and butter to make a stiff paste, roll it out quite thin, and cut it into 5 or 6 pieces, and again roll till they are in sheets of not more than a $\frac{1}{16}$ of an inch in thickness; cut them into pieces about 4 inches long and $1\frac{1}{2}$ inch wide

and dock them with a docker that has three s of wires; put them on tins, and bake hot oven. They are very apt to curl in baking; the more butter that is in the ture, the flatter they remain. When first in the oven, they will often turn one way, yet before they are done, they will bend k again.

COFFEE MILK.

Boil 2 dessert spoonsful of the best coffee, ground in a pint of milk, for a quarter of an hour, then put into it a shaving or two of isinglass, and clear it. Let it boil a few minutes, and set it on the side of the fire to fine. Sweeten to taste.

COFFEE ICE.

Cream for icing 2 pints, strong coffee 2 oz. sugar 1 oz., yolk of 4 eggs.

COFFEE RATAFIA.

Add 1 lb. of ground roasted coffee to a gallon of proof spirits of wine, and 20 oz. of sugar. Let it stand for a week, and then strain.

COFFEE, SUBSTITUTES FOR.

Corsica coffee.—The seeds of the knee holly, (*Ruscus aculeatus*) roasted over a slow fire.

II. *Currant coffee.*—From the seeds washed out of the cake in making currant wine.

III. *Egyptian coffee.*—Made from chick peas.

IV. *American coffee.*—The grain of the maize or Indian wheat, roasted with a little butter; if soaked previous to roasting for a day or two in Spanish liquorice water they make an excellent substitute for real coffee.

V. *Holly coffee.*—From the berries.

VI. *Broom coffee.*—From the seeds.

VII. *Rice coffee.*—From the rice grains as we have them, that is, without their brown outer shell. This is a very common drink in India among the poor, and is esteemed by them more than the real berry, agreeing better than coffee with some constitutions.

VIII. *German coffee, Succory coffee.*—Succory roots roasted with a little butter or oil.

IX. *French coffee.*—Dandelion roots, washed, dried, and roasted with a little butter. This is sometimes sold as Taraxacum coffee, Taraxacum being the Latin name of the dandelion.

X. *Rosetta coffee.*—From the seeds of Fennagree, adding a little lemon juice.

XI. *Rye coffee.*—Rye roasted with a little butter. This is the same as Hunt's breakfast powder.

XII. *Iris coffee, Sylvester's coffee.*—The seeds of the yellow water flag, a plant growing very abundantly on the banks of the Thames and other streams of England.

XIII. *Sassafras coffee.*—The sassafras nut dried roasted and ground. This is plea-

sant, and a good purifier of the blood, particularly against cutaneous eruptions, &c.

COINDET'S PILLS.

Protiodide of mercury 1 grain, extract of liquorice 20 grains. Mix and divide into 8 pills.

COINS OF SULPHUR, MOULDS FOR.

Prepare the coin, or other body of which the mould is to be made, by slightly oiling the surface, or if the body be made of plaster of Paris, the back of it is to touch the surface of water in a saucer or other convenient vessel, until the water just appears upon the surface, which will be known by its becoming more glossy. Then having a sufficiently-long strip of thick paper, from $\frac{1}{2}$ an inch to an inch and a $\frac{1}{2}$ in width, fold this round the coin; hold the paper between the thumb and fingers of the left hand, or if the medal should be large, or if a number are to be done at once, fasten the end of the paper with paste. Then melt by a very slow and gentle heat a little roll brimstone; when in a melted state, and while quite liquid, pour it steadily upon the coin. In a few minutes it will become crystallized into a semi-transparent mass, which may be removed from the coin or plaster cast, and will be found to be a fine and very exact counterpart of the original; and having plaster of Paris afterwards poured into it, will yield a very perfect impression.

COINS OF SULPHUR, TO MAKE.

Prepare first the requisite moulds of both sides of the coin, by pouring plaster of Paris on each side alternately. Make a line, or other mark, on each mould, to show the position that they are afterwards to be placed in, that the heads and devices may be in such a position relative to each other, as they are in the original coin. Then melt the sulphur, (that is best which has been melted two or three times before, so that it has acquired a light brown color.) When ready to pour, hold the two moulds at the proper distance from each other, according to the thickness of the coin, and with the marks of both in a line with each other, and wind round the edge of the moulds a strip of card, in such a manner, that the card shall go very nearly round them; a small vacuity only being left at the top. This being prepared, hold the card between the fingers and thumb, then pour in the sulphur, and as it shrinks, pour in more, until the space between the moulds is full. It will immediately congeal, and when removed it will be found to have taken a fine impression from the moulds, and to have all the sharpness of the original coin. When taken out, it may be trimmed with a knife around the edges, for sulphur has the property of remaining soft for some considerable time after melting. To give the artificial coins clearness, and an appearance

of antiquity, they must be rubbed all over with black-lead, and then the black-lead removed from the more prominent parts with a soft damp rag. A fine metallic appearance is given to medals by varnishing over the black-lead surface, with a weak solution of dragon's blood in spirits of wine, instead of partially rubbing the black-lead off. The moulds must of course be damped previously to using.

COLCHICUM, POWDER OF.

I. Seeds of colchicum 2 grains, rhubarb 6 grains, magnesia 10 grains. Mix for one powder. The like may be taken every four hours for gout, &c.

II. Seeds of colchicum 3 grains, muriate of ammonia 5 grains. Make one powder.

COLCHICUM, TINCTURE OF.

I. Colchicum root 2 oz., spirits of wine 4 oz. Digest for a few days, and filter.

II. Take 5 oz. of the seeds of colchicum bruised. Soak them for fourteen days in a quart of spirits of wine and filter.

III. *Compound*.—Substitute for the spirits of wine, in either of the above receipts, the same quantity of the aromati spiri of ammonia.

COLCHICUM VINEGAR.

Root of colchicum sliced or bruised 1 oz., distilled vinegar 1 lb. Digest for three days and express, adding 1 oz. of proof spirit. This is a diuretic medicine, used much in rheumatism, gout, &c.

COLD OR CATARRH.

A simple cold in the head, or catarrh, is too well known to need description; it is however of two kinds.—First, simple catarrh, and which arises from exposure to cold, wet or sudden changes of the weather, and epidemic catarrh, or influenza, which is prevalent at certain seasons only, particularly in the autumn, and which is attended with more aggravated symptoms, though of the same kind as simple cold in the head. In cure, the object should be to relieve the system by promoting perspiration; the avoiding exposure and sudden changes of the atmosphere; by warm clothing and keeping to the house; and relieving the vessels of the head. The following remedies are considered efficacious:—

I. Lemon juice 1½ oz., sub-carbonate of ammonia ½ drachm, water 5 oz., tartarized antimony 1½ grain, syrup of tolu ½ oz. Give two large spoonfuls every three hours.

II. Camphor 4 grains, antimonial powder 1 grain, confection of roses, a sufficiency to form a bolus. One such to be taken every four hours, or one at bed-time.

III. Mixture of ammoniacum 5½ oz., oxymel of squills ½ oz. Two dessert spoonful now and then. (See *Cough* and *Influenza*.)

COLD CEMENT.

Take 1 lb. of old Cheshire cheese, pare off the rind and throw it by; then cut or grate the cheese very small, put it into a pot with a quart of cow's milk; let it stand all night, and in the morning take the whites of 24 or 30 eggs, and 1 lb. of the best unslacked or quick lime, and beat it in a mortar to a very fine powder; sift in a fine hair sieve, put the cheese and milk to it in a pan, and stir them well together with a trowel, or such like thing, breaking the knobs of cheese, if there be any, and then add the whites of the eggs, and temper all well together, and it will be fit for use. This cement will be of a white color; but if you will have it of the color of brick, put into it some very fine brick-dust, or some armenian bole, not too much, but just enough to give it a color.

These cements are used to bind or fix bricks or stones together for some kinds of mouldings, or in cementing a block of bricks (as they call it,) for the carving of capitals, scrolls, and the like. The cold cement was considered a great secret among bricklayers a hundred years ago.

COLD CREAM.

Take 8 oz. of fine almond, or still better, trotter oil, 3 oz. of spermaceti, and 1½ oz. of white wax, scraped fine. Melt thoroughly, but gently, in a water bath, then pour the whole into a pan; now beat it up with a wooden spatula, till it becomes one consistent and very white body, then put to it ½ a pint of clear rose water, or better, orange flower-water, with ¼ oz. of spirit of ambergris, or bergamot, or any other sweet smelling essence according to the desired scent. Beat the mixture again, until the whole be well mixed, put it in pots, and keep very cool.

In winter cold cream should be made in a warm place, and the articles afterwards added be warmed before mixing, otherwise it will congeal into knots and the whole must be melted again, to the injury of its fine odour. In summer, on the contrary, every thing must be kept cool after the melting and mixing.

COLEPRESSED'S CIDER.

The method of making and managing this excellent liquor is the same as that for cider the difference being, that the juice is obtained by mixing apples and mulberries together; ½ of mulberries being about the proportion for the best quality.

COLIC BALL FOR HORSES.

Powdered opium ½ drachm, Castile soap and camphor, of each 2 drachms, ginger 1½ drachm. Make into a ball with liquorice powder and treacle.

COLLETT'S TOOTH-ACHE DROPS.

Equal parts of creosote and poppy oil.

COLLEY'S DEPILATORY.

Sulphuret of arsenic and quicklime, 1 part of the former to 2 of the latter. This application being a most virulent poison would do injury if applied too often.

COLOCYNTH CLYSTER.

Take 2 scruples of the compound extract of colocynth, 1 oz. of soft soap, and 1 pint of water.

COLOCYNTH, MEDICINES OF.

Tincture.—Take $1\frac{1}{2}$ oz. of the pulp of colocynth, 1 drachm of anniseed, 20 oz. of proof spirit. Dose 15 drops every three or four hours, till it operates.

II. *Pills*.—Colocynth $\frac{1}{2}$ oz., aloes and scammony, each 1 oz., castor oil 2 drachms, oil of cloves 1 drachm.

COLORING FOR LIQUORS.

I. *For brandy, &c.*—Take half a peck of oak shavings, boil them for an hour over a gentle fire in 6 quarts of water. Add a pint of treacle to each gallon.

II. See *Burnt Sugar*, which is the best coloring for brandies, white wines, gravies, &c.

III. For pink liquors, such as one variety of champagne, curacao, &c., you may use either beet root cut in slices, or a little tincture of cochineal.

IV. *Yellow*.—Saffron and turmeric are both used for this purpose; be it observed, however, that both are of a very strong flavor. A solution of fustic or Persian berries are therefore sometimes to be preferred.

COMPOUND COLOCYNTH PILLS.

Take of pith of colocynth, cut small, 6 drachms, hepatic aloes $1\frac{1}{2}$ oz., scammony $\frac{1}{2}$ oz., lesser cardamom seeds husked and bruised 1 drachm, Castile soap, softened with warm water so as to have a gelatinous consistence, 3 drachms, warm water 1 pint. Digest the colocynth in the water, in a covered vessel, with a moderate heat, for four days. To the liquor, expressed and filtered, add the aloes and scammony, separately, reduced to powder; then evaporate the mixture to a proper thickness for making pills, having added, towards the end of the evaporation, the soap jelly and powdered seeds, lastly, mix all the ingredients thoroughly together.

These pills are much used as warm and stomachic laxatives; they are well suited for the costiveness so often attendant on people of sedentary habits. (See *Cathartic*.)

COMPOSITION ORNAMENTS.

1 lb. of glue, 1 lb. of crude turpentine, $\frac{1}{2}$ pint of boiled oil, $\frac{1}{2}$ pint of water, and as much finely-sifted gilder's whitening as it will absorb, mixed up much stiffer than oil putty. It is an improvement if $\frac{1}{4}$ lb. of common yellow soap and a small quantity of flour is mixed with it. Brimstone moulds are oiled and the composition pressed in with the hand, and afterwards put under a screw press. If you have no press it may be pressed in and rolled over hard with a silk roller, wetted and pressed on a board; let it remain about a quarter of an hour, then the

mould is gently raised off by means of a tool put underneath. The ornament is then cut off by means of a large carving knife, and glued on the frame.

Moulds cast in lead or brass are to be preferred to brimstone, as they last as long as carved ones, and in warm weather harden the composition sooner.

COMFITS.

These articles of confectionary are made by putting the substance, which forms the centre, and from which the comfits derive chiefly their names, such as coriander, celery, carraway, &c., in a swing pan over a stove, and rubbing it about by the hand till quite hot, add as much syrup as will wet the seed, but not too much; work and toss the pan to separate and dry the covered seeds, gradually adding syrup, from time to time, as warm as possible, until one coat after another being added, the comfits are found of a proper size. Carraway comfits will take five or six dressings in this way.

CONCRETE, FOR FOUNDATIONS, ETC.

Different mixtures of lime, gravel, &c., is so called. The proportions may be 60 parts of coarse gravel or pebbles, 15 of sand, and 20 of lime; mix altogether quickly with water, the lime being powdered and used in an unslacked state; the mixture being made very thin and thrown into the foundation from a height, if possible.

CONFECTIONARY, TEST OF POISON IN.

Many of the preparations of sugar and flour are colored with red lead, and preparations of copper and pipe-clay are sometimes employed. The presence of red lead may be detected by pouring a little water, saturated with sulphuretted hydrogen gas, on the article. If it contain lead, the liquid will become of a blackish color. Copper may be discovered by pouring on it liquid ammonia, which soon acquires a blue color if this metal be present. Clay may be detected in articles composed of sugar, such as comfits, by dissolving them in a large quantity of boiling water, and letting the mixture stand for twenty-four hours; if clay be present it will fall to the bottom, and when the clear liquid is poured off it may be had in a separate state. Expose it to a strong heat, and if it contract and become hard, the adulteration with clay is proved.

CONFECTIONARY DROPS.

Take double-refined sugar, pound and sift it through a hair sieve, not too fine; then sift it through a silk sieve, to take out all the fine dust, which would destroy the beauty of the drop. Put the sugar into a clean pan, and moisten it with any favorite aromatic; if rose water, pour it in slowly, stirring it with a paddle, which the sugar will fall from, as soon as it is moist enough, without sticking. Color it with a small quantity of liquid carmine, or any other color, ground fine. Take

a small pan with a lip, fill it three parts with paste, place it on a small stove, the half-hole being of the size of the pan, and stir the sugar with a little ivory or bone handle, until it becomes liquid. When it almost boils, take it from the fire and continue to stir it; if it be too moist, take a little of the powdered sugar, and add a spoonful to the paste, and stir it till it is of such a consistence as to run without too much extension. Have a tin plate, very clean and smooth; take the little pan in the left hand, and hold in the right a bit of iron, copper, or silver wire, 4 inches long, to take off the drop from the lip of the pan, and let it fall regularly on the tin plate; two hours afterwards, take off the drops with the blade of a knife.

CONFECTIONER'S PASTE.

Take $1\frac{1}{2}$ lb. of fine flour, to which add, 10 oz. of sifted loaf sugar, pour in the yolks and whites of eggs to make a paste. Roll it smooth in thin sheets, and bake. It is this paste which forms the foundation of ornamental pieces of confectionery, such as temples, houses, bridges, &c.

CONGREVE LUCIFERS.

These are the lucifers in common use, and may be known from those described under the word *Lucifer*, by the crackling noise made when they are ignited. Berzelius gives the following as the best composition for the matches:—30 parts of powdered chlorate of potass, 10 of powdered sulphur, 8 of sugar, 5 of gum Arabic, and a little cinnabar as a color to the whole. The sugar, gum, and salt, are first rubbed together into a paste, with a sufficiency of water; the sulphur is then added, and the whole being thoroughly beaten together, small brimstone matches are dipped in, so as to retain a thin coat of the mixture upon their sulphured points; they should be quite dry before they are used, and may be inflamed either by friction or contact with sulphuric acid. When the latter is preferred, a few drops of the acid are inclosed in a small phial along with some shreds of asbestos. Aspin and poplar are considered the best woods for matches.

CONSTANT WHITE.

This is the purified sulphate of baryte, and is usually made from the crude native carbonate, as follows:—First, having pounded the rough carbonate, roast it in a hot fire for half an hour or more to drive off the carbonic acid; then add nitric acid which will dissolve the baryte, forming of course the nitrate. This is to be filtered off from any dregs which remain. To the filtered solution then add dilute sulphuric acid, or a solution of the sulphate of soda; stir them well together, and the sulphate of baryte falls to the bottom; this, after being carefully washed with water to separate any free acid, will be the

pigment required. It is valuable to label the jars in laboratories as it is affected by few substances.

CONTRAYERVA PILLS.

Prepared chalk $\frac{1}{2}$ lb., contrayerva root 5 oz. This is diaphoretic in doses of from 1 to 2 scruples.

CONTRAYERVA POWDER.

Take 5 oz. of contrayerva root in powder, and mix it with $1\frac{1}{2}$ lb. of prepared oyster shells. This is now seldom used.

COPAIBA BALSAM, SOLUBLE.

I. Take the thick oily balsam, as imported, and boil it for half an hour in a solution of carbonate of potass; then let it stand till cold and clear. (See *Franks's Specific Solution*.)

II. Take 3 oz. of copaiba, 5 oz. of ether, 1 oz. of tincture of myrrh; heat in a sand bath, and do not remove till cold.

III. Dissolve 2 oz. of pearlash in a pint of water, add to this an equal quantity of the balsam of copaiba, adding a little only at a time, and keeping it stirred until well mixed, and clear like jelly. Let it stand two or three hours, and then add a quart of spirits of wine. It may be flavored with any of the aromatic oils. This forms an alkaline tincture.

COPAIBA, MIXTURE OF.

Mix with 2 drachms of sweet spirits of nitre, 2 oz. each of copaiba balsam, spirits of wine, syrup of tolu, orange-flower water, and peppermint water. Rub the copaiba first with the syrup, then add the spirit, and lastly the water.

COPAIBA, SALT OF.

This substance, so highly vaunted by some quacks, is of no medical value. It is obtained thus:—Let the balsam of copaiba be first distilled in a water bath; the oil, and which contains all its medical properties, is thus separated. A mixture of two rosins now remains, one of a viscid inert character, and another that is acid. This last is called a salt of copaiba, as is also any union of it with an alkali. It is separated from the mass left after distillation, by digesting the whole in spirits of wine. This will take up the acid portion and leave the viscid.

COPAL, SOLVENTS FOR.

I. Alcohol, about the strength of 64° over proof, especially when assisted by heat.

II. Sulphuric or nitric ether; this solution will, when made, bear to be diluted with spirits of wine.

III. Spirits of wine and camphor dissolves it very readily.

IV. First pour upon the powdered copal strong spirits of hartshorn, and then, when partly dissolved, add spirits of wine.

V. Boiling linseed oil, diluted with a little turpentine.

vi. One part of ammonia and 4 of spirits of turpentine.

vii. One dram of camphor, rubbed in a mortar with 1 oz. of copal, and turpentine added by degrees. (See *Copal Varnishes*.)

viii. The spirit of coal tar, pouring into it the copal in a melted state.

ix. The oils of lavender, rosemary, and many other of the essential oils. These, although recommended in the copal varnishes, are too dear for ordinary use.

x. Caoutchoucine, the best of all the solvents for this gum.

COPAL VARNISHES.

i. *Colorless*.—As all copal is not fit for this purpose, in order to ascertain such pieces as are good, each must be taken separately, and a single drop of pure essential oil of rosemary, not altered by keeping, must be let fall on it. Those pieces which soften at the part that imbibes the oil are good; reduce them to powder, which sift through a very fine hair sieve, and put it into a glass, on the bottom of which it must not lie more than a finger's breadth thick. Pour upon it essence of rosemary to a similar height; stir the whole for a few minutes, when the copal will dissolve into a viscous fluid. Let it stand for two hours, and then pour gently on it two or three drams of very pure alcohol, which distribute over the oily mass, by inclining the bottle in different directions with a very gentle motion. Repeat this operation by little and little, till the incorporation is effected, and the varnish reduced to a proper degree of fluidity. It must then be left to stand a few days, and, when very clear, be decanted off. (See *Camphorate*.)

This varnish, thus made without heat, may be applied with equal success to pasteboard, wood, and metals, and takes a better polish than any other. It may be used on paintings, the beauty of which it greatly heightens.

ii. *Gold-colorea*.—1 oz. copal in powder, 2 oz. essential oil of lavender, and 6 oz. essence of turpentine. Put the essential oil of lavender into a matrass of a proper size, placed on a sand-bath heated by an Argand's lamp, or over a moderate coal fire. Add to the oil, while very warm, and at several times, the copal powder, and stir the mixture with a stick of white wood, rounded at the end. When the copal has entirely disappeared, add at three different times the essence, almost in a state of ebullition, and keep continually stirring the mixture. When the solution is completed, the result will be a varnish of a gold color, very durable and brilliant.

iii. *Etherea*.— $\frac{3}{4}$ oz. of amerry copal, and 2 oz. of ether. Reduce the copal to a very fine powder, and introduce it by small portions into the flask which contains the ether; close the flask with a glass or cork stopper, and having shaken the mixture for

half an hour leave it at rest till the next morning. In shaking the flask, if the sides become covered with small undulations, and if the liquor be not exceedingly clear, the solution is not complete. In this case, add a little ether, and leave the mixture at rest. The varnish is of a light lemon color. The largest quantity of copal united to ether may be a fourth, and the least a fifth.

The use of copal varnish made with ether, is, by the expense attending it, confined to repairing those accidents which frequently happen to the enamel of toys, as it supplies the place of glass to the colored varnishes employed for mending fractures, or in restoring the smooth surface of paintings which have been cracked and shattered.

iv. *Turpentine*.—Pound the copal to a coarse powder, and pour upon it spirits of turpentine, with camphor added to the amount of $\frac{1}{4}$ oz. to a pint; rub them together frequently for some hours, then pour off the liquid for use.

v. *Oil*.—Roughly pound the copal, and pour it into boiling-hot linseed oil, to which a drying quality has been given by sugar of lead or litharge; stir it up from time to time, till the gum is dissolved; pour off the clear part.

vi. *Spirit*.—(a) Dissolve 4 oz. of copal, broken into pieces, with strong camphorated alcohol. (b) Dissolve 4 oz. of copal in a pint of naphtha or caoutchoucine; when dissolved, the varnish is perfect. This is used by batters.

These four varnishes are cheap, and those ordinarily employed in the arts. The oil varnish is slower in drying, and of a darker color than the others.

COPPER, TO CHOOSE FOR ENGRAVING.

Plates intended for engraving ought to be of the best copper, which should be very malleable, firm, and with some degree of hardness, free from veins or specks, or dissimilar parts. The redness of copper is a presumptive mark of its being good, but not an infallible one. Copper-plates may be had ready prepared in most large towns; but when these cannot be had, procure a pretty thick sheet of copper, rather larger than the drawing, and let the brazier planish it well; then take a piece of pumice stone, and with water rub it all one way, till it becomes tolerably smooth and level. A piece of charcoal is next used with water for polishing it still farther, and removing the deep scratches made by the pumice stone, and it is then finished with a piece of charcoal of a finer grain, with a little oil.

COPPER, TO GILD BY AMALGAM.

Immerse a very clean bright piece of copper in a diluted solution of nitrate of mercury. By the affinity of copper for nitric acid, the mercury will be precipitated: now spread the amalgam of gold rather thinly over the coat of mercury just given to the copper. This coat unites with the amalgam,

and of course will remain on the copper. Now place the piece or pieces so operated on in a clean oven or furnace, where there is no smoke. If the heat be a little greater than 660°, the mercury of the amalgam will be volatilised and the copper will be beautifully gilded the furnaces the volatilised mercury is again condensed, and preserved for further use, so that there is no loss in the operation. There is also a contrivance by which the volatile particles of mercury are prevented from injuring the gilders.

COPPER AND BRASS, TO TIN.

Boil 6 lbs. of cream of tartar, 4 gallons of water, and 8 lbs. of grain tin or tin shavings. After the materials have boiled a sufficient time, the substance to be tinned is put therein and the boiling continued, when the tin is precipitated in its metallic form.

COPPER MEDALLIONS, TO MAKE.

Let black oxyde of copper, in a fine powder, be procured by putting pieces of zinc into a boiling hot solution of sulphate of copper, the black oxyde falls down. This is to be reduced to the metallic state by exposing it to a stream of hydrogen gas, in a gun barrel, heated nearly to redness. The metallic powder thus obtained is to be sifted through crape, upon the surface of the mould, to the thickness of $\frac{1}{4}$ or $\frac{1}{2}$ of an inch, and is then to be strongly pressed upon it first with the hand, and then by percussion with a hammer. The impression thus formed is beautiful, but it acquires much more solidity by exposure to a red heat, out of contact with air.

COPPER-PLATES, TO FREE FROM GREASE.

When the plates are designed for etching, being first finished with the burnisher, they should be well washed with clean water, and then dried by the fire. After which they should be wiped dry with a linen cloth; and to be certain that there may not be any kind of grease upon them, they should be rubbed over with the crumb of very stale bread. Scraping very soft chalk over a plate, and rubbing the plate well, are very sure means of preventing either any grease, bread or other foulness whatever remaining.

COPPER-PLATE PRINTING INKS.

I. *Black*.—Frankfort black, finely ground with boiled linseed oil, or (for very fine work) fat oil.

II. *Red*.—Mineral orange red 5 oz., Chinese red 2 oz.

III. *Blue*.—Celestial blue 2 oz., marine ditto 3 oz.

IV. *Green*.—Mineral green 2 oz., chrome ditto 3 oz.

V. *Brown*.—Burnt umber 2 oz., rose pink 1 oz.

VI. *Lilac*.—Prussian blue 1 oz., Chinese red 2 oz.

VII. *Pink*.—Mineral pink 2 oz., satin white 1 oz.

VIII. *Orange*.—Orange red 2 oz., flake white 1 oz. (The last seven to be ground and mixed with Canada balsam.)

IX. *Red*.—Vermillion.

X. *Yellow*.—King's yellow.

XI. *Green*.—King's yellow, green.

XII. *Puce*.—Frankfort black and vermilion.

XIII. *Blue*.—Prussian blue and flake white, or else smalts.

XIV. *Brown*.—(a) Burnt umber.—(b) Ditto and Frankfort black.—(c) Frankfort black and drop lake. (The above to be ground and mixed with nut or linseed oil.)

XV. *Gold*.—Gold bronze mixed with dark oak and mahogany varnish.

XVI. *Silver, Copper, Ruby, &c.*—The same as for gold, merely substituting the different bronzes.

Cards printed in gold, silver, &c., should, when dry, be placed on a very smooth copper, or still better, steel plate, (not engraved,) and passed through a copper-plate press with rather a tight pressure; this would also improve the appearance of cards printed in like manner with letter-press.

COPPERAS, GREEN COPPERAS, GREEN VITRIOL.

I. Dissolve iron turnings, or other particles of iron, in dilute sulphuric acid; evaporate the water and crystallize.

II. Expose iron pyrites to the air, when they will effloresce, or throw off a whitish powder. Boil this in water along with old iron, evaporate and crystallize. This contains, besides the sulphate, a little of the muriate of iron, hence the crystals are small, greenish, and become covered with a yellowish deposit when exposed to the air. This is prevented by dipping them in weak treacle water, which covers them as with a varnish. They are made to represent the better article, (as per first receipt,) by adding in the boiling a few Turkish berries. It is used in making ink, in dyeing black, and in many of the arts.

COPPERAS, CALCINED.

Green vitriol heated in an unglazed pot, or spread upon the top of a furnace, or exposed before the fire, or to the sun, until it becomes of a reddish-white color, and powdery. It is often more useful in this state than as a salt.

COPPERAS WATER.

(a) Dissolve 3 drachms of copperas in 10 drachms of water. Keep it as a test for gold, for oxygen in water, for prussic acid, and for gallic acid. It should be made only when wanted.—(b) Calcine copperas in the open air, moistening it with a small quantity of nitric acid. Wash the powder, and keep the

red solution as a test for prussic acid, gallic acid, and boletic acid.

This last receipt is a solution of the persulphate of iron, and contains more oxygen than the former, which is a solution of the protosulphate. The first solution is greenish, the latter red.

COPYING MACHINE, SUBSTITUTE FOR.

In the common ink used, dissolve lump sugar, (1 drachm to 1 oz. of ink.) Moisten the copying paper, and then put it in soft cap paper to absorb the superfluous moisture. Put the moistened paper on the writing, place both between some soft paper, and either put the whole in the fold of a carpet, or roll upon a ruler three or four times.

CORAL FOR GROTTOS, ARTIFICIAL.

To 2 drachms of fine vermilion add 1 oz. of clear resin, and melt them together. Having the branches or twigs peeled and dried, paint them over with this mixture while hot. (The sprays from an old black-thorn are best adapted for the purpose, when an irregular branch is required; while the young shoots of the elm tree are altogether as regular. White-thorn and holly boughs are very natural in shape.) The twigs being painted, hold them over a gentle fire, turning them round till they are perfectly covered and smooth. White coral may also be made with white lead, and black with lamp black mixed with the resin, or sealing wax will do for either.

CORAL POWDER, FICTITIOUS.

Prepared chalk dried and colored with a little rose pink possesses the same medicinal properties as true coral, and is generally sold for it by the druggists. It is less gritty than the real.

CORAL SYRUP.

Red coral in powder 4 oz., Barberry juice 4 lbs. Filter, and to each pint add 1½ oz. of loaf sugar, and 4 oz. of syrup of cochineal. This is an astringent medicine, very rarely used.

CORAL TOOTH POWDER.

I. Take 4 oz. of red coral reduced to an impalpable powder, 8 oz. of very light Armenian bole, 1 oz. of Portugal snuff, 1 oz. of the ashes of good tobacco, 1 oz. of myrrh. Pound all well together, and sift twice.

II. Cream of tartar 3 oz., tincture of myrrh 3 oz., cajuput oil 10 drops, oil of cinnamon 20 drops, sugar 9 oz. Mix well together and sift.

III. Cochineal powder 2 drachms, alum 4 scruples, Florentine iris root, bistort root, flowers of red roses, and myrrh, of each 2 scruples; honey to make an electuary, or remaining dry for a tooth powder.

Both these last are very good for spongy gums.

CORDIAL MASS, IN FARRIERY.

Take equal parts of powdered ginger, and of gentian or liquorice, and form it into a mass with treacle. Dose from 1 to 2 oz.

CORIANDER CORDIAL.

For 3 gallons take 7 quarts of spirits, 2 lbs. of coriander seeds, 1 lb. of carraway seed, 6 drops of oil of orange, and 2 lbs. of sugar. Make it up to 3 gallons with water. The coriander seed must be bruised and steeped in the spirit for ten or twelve days, and well stirred two or three times a day.

CORIANDER WATER OR TINCTURE.

Steep in a gallon of water 1 lb. of coriander seeds bruised. If the tincture be required, substitute spirits of wine for the water. Let each stand a week to digest before it is strained.

CORNACHIN PILLS.

Scammony 10 drachms, diaphoretic antimony 2½ grains. This is a good cathartic febrifuge medicine in doses of 1 scruple.

CORN TO PRESERVE FROM CROWS.

Take a quart of train oil, as much turpentine and bruised gunpowder, boil them together, and when hot and well stirred dip pieces of rag in the mixture, and fix them on sticks in the field. Four or five are sufficient for an acre.

CORNELIAN, TO IMITATE.

I. *Red*.—Take flint glass 2 lbs., glass of antimony 1 lb., calcined vitriol, called scarlet ochre, 2 oz., and magnesia 1 drachm. Fuse the glass of antimony and magnesia with the other glass first together, and then powder them well, and mix them with the scarlet ochre, by grinding them together, and afterwards fuse the mixture with a gentle heat, till they are incorporated; but the heat must not be continued longer than is absolutely required to form them into a vitreous mass.

If it be desired to have the composition more transparent, part of the red ochre must be omitted.

II. *White*.—Take of flint glass 2 lbs., of yellow ochre, well washed, 2 drachms, and calcined bones 1 oz. Mix them well by grinding them together, and fuse them with a gentle heat, till the several ingredients be well incorporated into a vitreous mass.

CORNISH REDUCING FLUX.

Mix well together 10 oz. of tartar, 3 oz. and 6 drachms of nitre, and 3 oz. and 1 drachm of borax.

CORNISH REFINING FLUX.

Deflagrate, and afterwards pulverize, 2 parts of nitre, and 1 part of tartar.

The above fluxes answer the purpose very well, provided the ores be deprived of all their sulphur, or, if they contain much earthy matters; because in the latter case, they unite with them, and convert them into a thin glass; but if any quantity of sulphur remain, these fluxes unite with it, and form a live of sulphur, which has the power of destroying a portion of all the metals: consequently, the assay under such circumstances must be very inaccurate.

CORNS, TREATMENT OF.

Corns, when small, may be removed as follows:—

I. Soak the feet in warm water twice a week, afterwards cut the corn; then wetting it with a wet finger night and morning, touch it with lunar caustic, or with blue vitriol.

II. Rub together in a mortar 2 oz. of savin leaves, $\frac{1}{2}$ oz. of verdigris, and $\frac{1}{2}$ oz. of red precipitate, or nitric oxyde of mercury. Put some of this powder in a linen rag with a few drops of oil, and apply it as a small poultice to the corn at bed time, taking it off in the morning. Do this for a few nights.

III. Dissolve 1 oz. of sal ammoniac in a sufficient quantity of proof spirit.

IV. Place upon the corn a small blister of about the size of a sixpence. This must be attended with some days rest of the foot.

V. Take of white diachylon plaster 4 oz., shoe-maker's wax 4 oz., muriatic acid 50 drops. Boil these ingredients for five minutes in an earthen pipkin, and when cold, roll the mass out between the hands, or on a marble slab slightly oiled.

VI. Yellow wax 2 lbs., Burgundy pitch 12 oz., common turpentine 6 oz., verdigris 3 oz.; spread on leather

VII. Bees' wax 1 oz., rosin 2 oz., Venice turpentine and blue vitriol, of each $\frac{1}{2}$ oz., arsenic $\frac{1}{2}$ drachm. (See *Kennedy, Bunion, &c.*)

VIII. Apply an ivy leaf, bruised and soaked in vinegar; put a fresh leaf every night and take it away in the morning. This remedy is for soft corns.

IX. Potass 2 parts, salt of sorrel 1 part, each in a fine powder. Mix and lay a small quantity on the corn for four or five successive nights, binding it on with a bit of rag.

CORROSIVE SUBLIMATE.

I. Dissolve 1 lb. of quicksilver in about $1\frac{1}{2}$ lb. of nitric acid, evaporate to dryness, add dry and hot salt and calcined vitriol, of each 1 lb. Mix them and sublime or which is better, distil from a low retort.

II. Boil 2 lbs. of quicksilver in 2 lbs. of oil of vitriol to dryness, add $3\frac{1}{2}$ lbs. of common salt, and sublime.

III. Boil 2 lbs. of quicksilver with oil of vitriol 2 lbs., to dryness; weigh and add salt and black oxyde of manganese of each the same weight; sublime.

IV. Quicksilver 2 lbs., spirits of salt 2 lbs. nitric acid 1 lb. Distil.

V. Dissolve red precipitate in spirits of salt and crystallize. (See *Dutch Sublimate.*)

CORROSIVE SUBLIMATE, SOLUTION OF.

Corrosive sublimate $\frac{1}{4}$ oz., distilled water $\frac{1}{4}$ oz. Dissolve and keep in the dark.

This is a valuable test to discover albumen, and also lime and ammonia. It is used also by bird-stuffers, and by botanists, to wash different parts of the animal's skins, and the dried plants, to keep insects from preying upon them in the cabinet. A little put into flour paste prevents the production of insects in it. It is one of the most violent poisons, in some cases even more so than arsenic.

COSMETIC, SIMPLE.

Soft soap $\frac{1}{2}$ lb., melt over a slow fire with $\frac{1}{4}$ pint of sweet oil, $\frac{1}{2}$ a cup full of fine white sand; stir the mixture till cold. Ground pumice stone is far better than sand. (See *Pearl White, Pearl Powder, &c.*)

COSTORPHIN CREAM.

The milk just warm from the cow is set for cream, the vessel which contains it being put into a larger vessel containing warm water, that the cream may rise more abundantly and rapidly. The milk is drawn on by a hole in the bottom of the pan, what remains is put into an upright churn, then beaten about for some time, till by the labor of the churn it is found to be rather thick.

This half-buttered cream was once considered a great delicacy. It may be imitated by beating up fresh butter till it turns again into cream, and then adding a little milk to it. It obtains its name from the small village of Costorphin, about six miles from Edinburgh.

COTTON, TO DISTINGUISH FROM LINEN.

I. They may be distinguished readily by the microscope. The fibres of linen are straight, round, and with knots or divisions at intervals, but the fibres of cotton are flat, like ribands, and variously shrivelled and twisted.

II. Dissolve fused potass in its own weight of boiling water, into this, while still boiling, place a small piece of the cloth to be tested; after about two minutes take it out with a bit of stick, and dry it between folds of blotting paper; if of linen, it will be of a deep yellow tint—if of cotton, it will be white, or very light yellow—if of mixed materials, pull asunder the fibres, and see the proportion of each.

COTTON GOODS, BLEACHING OF.

This is performed by the aid of chlorine; it is done as follows:—The cloth, after being well washed, is boiled first in lime water, and then in caustic soda, which removes from it certain resinous matters, soluble in alkali. The bleaching process then begins;—It is steeped in a solution of chloride of lime, so dilute as just to taste distinctly, which has little or no perceptible effect in whitening it; but the cloth is afterwards thrown into water acidulated with sulphuric acid, when a minute disengagement of chlorine takes place throughout the substance of the cloth, and it immediately assumes a bleached appearance. The operation is usually repeated to procure an absolute whiteness. Finally, the goods are well washed in warm water.

COUGH

A cough always arises from some irritation or disease in the lungs, throat, or bronchial tubes, and often attends upon, and in some cases, is necessarily produced by other diseases, as consumption, inflammation of the chest, asthma, &c. and is, therefore, never

cured until they also have disappeared. Occasionally it is a disorder unattended by others, and arises from exposure to cold, from stoppage of some evacuations, from objects or irritating fumes getting into the lungs or air tubes, the glottis, &c. From relaxation of the uvula, and in old persons, from a constant mucous secretion taking place in the air passages, which requires by coughing and expectoration to be removed. The remedies are of two characters—one demulcent and soothing, as linseed tea, gruel, barley-water, gum, barley-sugar, &c. The other class of remedies is to dissolve or remove the phlegm or mucous collected, such are alkalis, acids, squills, &c.; these are often assisted by slight emetics; the following remedies are recommended.

I. Mix 1 drachm of powdered spermaceti with the yokes of 2 eggs; then add 1 drachm of tincture of opium, and 5 oz. of water. To be taken in the quantity of one wine glassful when the cough is troublesome.

II. Mix together a dessert spoonful of syrup of poppies and 15 drops of antimonial wine. To be taken as a draught, with or without a little warm water, either at bedtime, or in the middle of the night. Half this quantity may be given to a child under the same circumstances.

III. Mix together in a wine-glass, 30 drops of laudanum, 4 tea-spoonsful of vinegar, and 6 tea-spoonsful of water sweetened with a little lump sugar.

IV. Take of oil of almonds 6 drachms, milk of do. 5 oz., rose water, gum arabic, and purified sugar, of each 2 drachms. Let these be well rubbed together, and take 2 table-spoonsful four times a day, and a tea-spoonful upon coughing.

This is far preferable to the common white emulsions formed by an alkali, which uniting with the oil produces a kind of soap, and readily mingling with water forms the white appearance observed, and is commonly disgusting to patients and unpleasant to the stomach; whereas this suits every palate, and removes that tickling in the throat so very distressing to patients.

V. Take of spermaceti, dissolved in the white of an egg, 1 scruple, syrup of tolu 2 drachms, cinnamon water 3 do., milk of almonds 11 do. Make into a draught, to be taken four times a day.

VI. Take of milk of almonds 1 oz., syrup of tolu 2 drachms, rose water 2 do., tincture of squills 16 drops. Make into a draught. Four to be taken during the day.

VII. Syrup of poppies 8 drachms, spirits of nitre 6 drachms, ipecacuanha wine 1 drachm. A tea-spoonful when the cough is troublesome.

VIII. Boiling water $\frac{1}{2}$ pint, black currant jelly, a dessert spoonful, sweet spirit of nitre 1 oz. Do not add the nitre till the jellied water has become cold or nearly so. Take a

dessert spoonful when the cough is troublesome.

Burgundy pitch plaster upon the chest is always useful, as is also the wearing of flannel next the skin. If inflammation take place, and which may be known by shortness of breathing and pain in the chest, more active remedies such as blisters, leeches, and bleeding must be had recourse to as well as calomel and other searching medicines.

IX. Tincture of tolu 3 drachms, paregoric elixir $\frac{1}{4}$ oz. tincture of squills 1 drachm, 2 tea spoonsful to be taken in a tumbler of barley-water on going to bed and when the cough is troublesome.

X. Two drachms of nitric acid, diluted in half pint of water, or 2 drachms of gum ammoniac. Rub them in a mortar till the gum is dissolved. A table spoonful to be taken in sweetened water every 4 hours.

XI. Laudanum 25 drops, sweet spirit of nitre 1 drachm, antimonial wine 40 drops, water $\frac{1}{4}$ oz. To be mixed and taken at bed time.

(See Hooping Cough, Cold, Napoleon, Ratcliff, Munro, Acid Medicines, &c., &c.)

COUGH LOZENGES.

Gum arabic 8 oz., kermes mineral and anniseed, each 4 scruples, liquorice juice 2 oz., extract of opium 12 grains, white sugar 2 lbs. (See Lozenges.)

COUGH BALL FOR HORSES.

Gum ammoniacum 3 or 4 drachms, soap 2 drachms, ginger $1\frac{1}{2}$ drachm, powdered squills and camphor, of each 1 drachm, oil of anniseed 20 drops, syrup to make a ball.

COURT PLAISTER, OR BLACK STICKING PLAISTER.

Take $\frac{1}{2}$ oz. of benzoin, and 6 oz. of rectified spirit, dissolve and strain; then take 1 oz. of isinglass, and $\frac{1}{2}$ a pint of hot water; dissolve and strain separately from the former. Mix the two, and set them aside to cool, when a jelly will be formed; and this is warmed and brushed ten or twelve times over a piece of black silk, stretched smooth. When this is done enough, and dry, finish it with a solution of 4 oz. of Chian turpentine in 6 oz. of tincture of benzoin.

COWSLIP MEAD.

To 15 gallons of water put 30 lbs. of honey, and boil it till 1 gallon be wasted. Skim it, take it off the fire, and have ready 16 lemons cut in halves. Take a gallon of the liquid, and put it to the lemons. Put the rest of the liquor into a tub with 7 pecks of cowslips, and let them stand all night, then put in the liquor with the lemons, 8 spoonsful of new yeast, and a handful of sweet briar; stir them all well together, and let it work three or four days. Then strain it, put it into the cask, and after it has stood six months bottle it off.

COWSLIP WINE.

1. Boil $3\frac{1}{2}$ lbs. of loaf sugar in 4 quarts of water for an hour, skim and let it stand until

luke-warm, pour it into a pan upon 4 quarts of cowslip flowers, add a piece of toasted bread spread with yeast, and let it stand four days. Put in as many lemons, sliced, as you have gallons of wine, mix and put it into a cask, and stop close.

II. Dissolve sugar in water, allowing 2 lbs. of sugar to every gallon of water. Boil for an hour, and let it cool; add to every gallon 1 oz. of syrup of lemons. Beat it up, add a little yeast laid on a piece of toast, and let it ferment for two or three days; then add 3 quarts of cowslip flowers, 1 lemon, and 1 pint of white wine, to every gallon. After standing three days, strain it off through flannel, wringing the flowers dry, and put it into a cask; when fermentation has ceased, bung it up, and when fine, bottle.

III. Take of cold soft water 18 gallons, Smyrna raisins 40 lbs. Ferment these with a little yeast, adding before the yeast a little warm water; should the weather be cold, keep it in a warm place for three or four days, then add 3 lbs. of beet root, sliced, 2 oz. of red tartar in powder, cowslip flowers 14 lbs., cloves and mace, in powder, $\frac{1}{2}$ oz. each, brandy 1 gallon. This will make 18 gallons of a fine red wine.

IV. A white cowslip wine is made similar to the last receipt, using white tartar instead of red, omitting the mace and cloves, adding 1 lemon and $\frac{1}{2}$ lb. of sugar to each gallon of water, and substituting 35 lbs. of Malaga raisins for the 40 lbs. of Smyrna.

V. Bruise any quantity of cowslip flowers, and pour over them twice the quantity of any common white wine, (the best wines for this purpose are mountain, white Cape, Malagar and raisin,) after soaking for three days, strain through flannel and bottle.

Any of the above wines may be fined with white of egg, and those which contain sugar must be boiled.

COVENTRY CAKES, OR PUFFS.

These are common three-cornered raspberry puffs sold at the pastry-cooks. A puff paste is first made and rolled out into sheets about $\frac{1}{4}$ inch thick, then cut into square or round pieces, about 6 inches over, put a little raspberry jam in the middle of each, and fold over the edges so that they meet in the centre, keeping the whole of a triangular form. Turn the folded side downwards upon the tins upon which they are to be baked, brush the tops of each slightly with water, and dust some loaf sugar over them, being careful however not to wet them so much as to dissolve the sugar, as this will spoil the appearance of the icing.

CRACKERS.

Cut some cartridge paper into pieces 3 $\frac{1}{2}$ inches broad, and 1 foot long; 1 edge of each fold down lengthwise about $\frac{3}{4}$ of an inch broad; then fold the double edge down $\frac{1}{4}$ of an inch, and turn the single edge back half

over the double fold; then open it, and lay all along the channel which is formed by the folding of the paper some meal powder; then fold it over and over, till all the paper is doubled up, rubbing it down every turn; this done, bend it backwards and forwards, 2 $\frac{1}{2}$ inches, or thereabouts at a time, as oft as the paper will allow; then hold all these folds flat and close, and with a small pinching cord give one turn round the middle of the cracker, and pinch it close; then bind it with pack-thread, as tight as you can; then in place where it was pinched, prime one end of it, and cap it with touch-paper. When these crackers are fired, they will give a report at every turn of the paper; if you would have a great number of bounces, you must cut the paper longer, or join them after they are made; but if they are made very long before they are pinched, you must have a piece of wood with a groove in it, deep enough to let in half the cracker; this will hold it straight, while it is pinching.

CRACKNELLS.

Mix together into a paste, not too hard, 7 lbs. of flour, $\frac{3}{4}$ lb. loaf sugar, $\frac{1}{2}$ lb. of butter, 1 pint of eggs, and 1 pint of milk. Roll out into sheets about $\frac{1}{4}$ inch in thickness, make four or five holes in them with a docker and cut into the form of a vine leaf. Take each separately in the hand and with the thumb of the other hand hollow one side, lay them on a tray, and keep them covered with a damp cloth; then having ready a saucepan of boiling water, a pail of cold water and an open wire skimmer, put each cracknell into the boiling water, the cupped side upwards, and while they are being put in take care that the water continues at the full boil, let them rise to the top and remain there two or three minutes; then take them out with the skimmer, and put them into the pail of cold water. When they have all been boiled and put into the pail, pour off the water from them, and substitute fresh cold water so as to cover them for four or five inches; let them here remain as many hours, then strain off the water from them, put them so as not to touch each other upon a cloth or sack to absorb the superfluous moisture, then on tins and bake in a moderate oven, until quite smooth and of a fine brown color.

CRAMP IN BATHING.

For the cure of the cramp, when swimming, Dr. Franklin recommends a vigorous and violent shock of the part affected, by suddenly and forcibly stretching out the leg, which should be darted out of the water, into the air, if possible.

CRAMP IN THE LEG.

A garter applied tightly round the limb affected, will, in most cases, speedily remove

this complaint. When it is more obstinate, a brick should be heated, wrapped in a flannel bag, and placed at the foot of the bed, against which the person troubled may place his feet. No remedy, however, is equal to that of diligent and long-continued friction.

CRAMP IN THE STOMACH.

If the person affected has any inclination to vomit, he ought to take some draughts of warm water, or weak camomile tea, to cleanse the stomach. After this, if the body be costive, a laxative clyster may be given. But in a disorder of this nature, not a moment should be lost in procuring medical aid.

CRANBERRY JELLY.

I. Mix 2 parts of cranberry juice strained, with 1 part of strong isinglass jelly, sweetened with refined sugar, boil and strain.

II. Instead of isinglass, boil with the juice, 2 oz. of ground rice to each pint.

CRAYONS FOR DRAWING, COLORS FOR.

I. *White*.—The chief art of getting crayons to a good color is the nature of the white employed, and in this let it be a standing rule that no metallic whites are at any time to be employed, neither flake white, white lead, pearl white, nor any other of a similar description, as these all turn brown or black when exposed to fumes of sulphur, of ordinary gas, &c. The best whites to employ are whiting or prepared chalk, pipe clay, alum white or alumina, (see *Baume or Alum*.) oyster-shell white, calcined bones, &c.

II. *Carmine and Lake*.—Crayons of these colors are generally hard; when made with powdered colors, the proper way of mixing is to dissolve the color first in water or spirits of wine, and add it to nearly-dry white color, grinding the whole well together. There should be four or five shades—madder is not used.

III. *Vermillion and red lead, red ochre, Indian red, &c.*—Each of these may be well ground in water, and when wet, mixed well with the white in different shades. These will make various reds, as well as salmon color, flesh color, orange, &c. Hæmatite or crocus, of itself, ground and mixed with a little size, forms an excellent crayon.

The square chalks, or crayons, are made of the mineral red chalk, or ochre cut into slips with a saw. The same material is used in pencils for carpenters, &c.

IV. *Yellows*.—Dissolve the colors, which are Naples yellow, King's yellow, and yellow lake, in spirits of wine, and mix as for carmine. The chrome yellows are not so useful, because less durable. Gamboge, Indian yellow, and gall stone are not employed, but the various yellow ochres make good crayons.

V. *Blue*.—A good soluble color is Prussian

blue, but it is hard to grind. The best way to manage is, to dissolve it in water, then put the solution in a hole cut in a piece of chalk, this will absorb the water, and leave a great portion of the color ready for mixing. Blue verditer is a good bright color, but is so gritty as to require washing, as recommended for whiting. The same may be said of smalts, cobalt, &c. (See next article.)

VI. *Browns*.—These are Cologne earth, umber, raw and burnt; sienna, raw and burnt; treated as the former.

VII. *Greens*.—These may be either simple colors, as Scheele's or emerald green, Prussian green, green carbonate of copper, &c.; or better formed by adding the compositions of the yellow and blue crayons together. Raw and burnt sienna may also be used in combination with Prussian blue or indigo. Good green crayons are more difficult to make than those of any other color.

VIII. *Black*.—Charcoal alone, cut into strips, makes a good crayon, (see *Charcoal*.) The only powdered color to be used is lamp black, all the others are apt to get mouldy.

IX. *Mixed colors*.—It is rare that crayons of different colors are used over each other, as the colors do not thus blend well together, thus the mixed or half colors are produced by an admixture of the colors required in the paste. Thus a combination of the blue and carmine produces a purple; the yellows and red united form orange; black and carmine is a beautiful tint for shading; vermilion and black form a fine rich brown; green and brown form an olive color; and red and brown a chocolate. The artist may thus carry his taste and judgement to any extent, observing, however, that crayon drawing should be executed with boldness of outline and shading, rather than delicacy of coloring. Thus, an artist, with a piece of charcoal, will accomplish more than a drawing master with his full box of creta lævis, or, as we should say in English, "soft chalks."

CRAYONS, PASTE FOR

Preparation of the materials.—White is the foundation of most of the colors, except the darkest shades of each. The greatest object of attention is to procure the white without grit or sand; to accomplish this most of them must be washed as thus advised for whiting. Take a large vessel of water, put the whiting into it, and mix them well together; let this stand about half a minute, then pour off the top into another vessel, and throw the gritty sediment away; let what is prepared rest about a minute, and then pour it off as before, which will purify the whiting, and render it free from all dirt and grittiness. When this is done, let the whiting settle, and then pour the water from it; after which lay it on the chalk to dry, and

keep it for use, either for white crayons, or the purpose of preparing tints with other colors, for with this all other tints may be safely prepared. Pipe clay is always to be washed in the same way, as there is generally mixed with it a large proportion of sand.

Binding materials.—The white and other colored powders are not sufficient of themselves to bind the whole together; the chalk requires a small quantity of isinglass, flour paste, wax, spermaceti, shell-lac or other similar material to be united to it, to prevent the crayons being brittle.

White paste.—1. Washed pipe clay and washed chalk equal parts, mix them into a paste with sweet ale made hot, and with a chip or two of isinglass dissolved in it.

11. Take the finest powder of calcined oyster shells, sifted through muslin, mix it up with water in which a little rice and a little white sugar candy has been boiled; according to the quantity of rice, so will be the hardness of the crayon. The quantity of sugar candy should not be more than the size of a filbert-nut to a pint of water.

111. Take common pipe clay in powder, mix it up into a paste with very strong soap-suds, made thus: cut up an ounce of white soap into small shavings, dissolve it over the fire in $\frac{1}{2}$ pint of water, stir into the mixture while hot the powdered pipe clay as long as you can stir it.

Spirits of wine added before the powders to render the soap water transparent is an improvement.

1V. Take 3 oz. of spermaceti, dissolve it in 1 pint of water, stir into it a quantity of fine sifted or washed white color till of a proper consistence. If to be mixed with dark powders, a very little ox-gall is an improvement.

v. Melt 3 oz. of shell lac in 2 oz. of spirits of wine, this will form a thick liquid; to this add 6 parts of pipe-clay and one part of oil of turpentine; grind all well together.

The lighter the color of the shell-lac the better, also if colors are to be added they should be ground up with the turpentine, before this is added to the rest. This is a French receipt.

VI. Take of shell-lac 5 parts, dissolved in wood naphtha 10 parts. With this solution mix up the colors till of proper thickness. (See *Lithographic*.)

CRAYONS, METHOD OF MAKING.

I. The compositions for white crayons and the requisite colors being prepared, and that chosen made up into a stiff paste, it is to be placed upon a smooth slab of marble slightly oiled. The paste is rolled out with a rolling pin, then cut into strips and these rolled into cylinders by the aid of a little flat piece of wood, then cut to the length of 3 inches each, and placed in a slow oven or drying stove to become hard.

11. Instead of rolling the composition, force it through the nozzle of a tin funnel, this is better for the delicate colors than rolling them; when dry they may be pointed.

It will always happen that except in black or white crayons, the color alters very much in drying, so that in mixing an allowance must be made for this effect.

CRAYON MARKS, TO ERASE.

This is much more difficult than those of black lead pencil—Indian rubber smearing instead of cleaning. A piece of the crumb of bread is the best material to erase crayon marks, water will occasionally clear a paper thus marked though rarely with certainty.

CRAYON DRAWINGS, TO FIX.

This is extremely difficult, because they will not bear washing over with a brush. The only method is the previous preparation of the paper, by washing it with a strong solution of isinglass. When quite dry, the surface is in a good state for making the drawing, after which it should be inverted, and held horizontally over steam. The steam melts the size, which absorbs the charcoal or crayon, and when it has again become dry, the drawing is fixed. This process may be repeated several times during the progress of a drawing, the effect being increased each time.

CRAYONS FOR DRAWING ON GLASS.

Melt together equal quantities of asphaltum and yellow wax; add lamp black, and pour the mixture into moulds for crayons. The glass should be well wiped with leather, and in drawing be careful not to soil the glass with the fingers. In trimming these crayons, if the edge be bevelled, like scissors the point may easily be rendered very fine.

CREAM, ICED.

Take 2 pints of new milk, the yolk of 4 eggs, and $\frac{1}{4}$ lb. of white sugar. Rub them together, strain, heat gently, and cool gradually. Put 1 quart into a covered iceing pot, capable of holding twice as much, keep cool in a pail of ice. Bruise 6 lbs. of ice, and mix it with 2 lbs. of salt in a deep pan, throw this into the pail around the iceing pot, and every five or six minutes open the pot and break down the ice from the sides, that the whole may be equally congealed. It may be mixed with lemon juice, almond emulsion, vanilla, or any other desired flavor.

CREAM OF TARTAR.

I. Pound to a powder the crystals of tartar, and they will be cream of tartar.

11. *Soluble.*—Borax 2 lbs., cream of tartar 5 lbs. Dissolve in water, and then evaporate to dryness. This compound salt is soluble in its own weight of water.

CREAM BALLS.

White curd soap 7 lbs., starch 1 lb., add a little water, beat altogether, weigh into ounce balls, and dust over with starch powder.

CREAM OF ROSES.

Put over a gentle fire, in a well-glazed pipkin, 1 lb. of oil of sweet almonds, 1 oz. of spermaceti, and 1 oz. of white wax; when melted, add carefully 1 pint of rose water. Keep beating the compound till it becomes like pomatum, and then add 2 drams of Malta rose essence. Pour it into pots for use.

CREAM, SUBSTITUTE FOR.

Beat the white of an egg to a froth. Put to it a small lump of butter, and turn the coffee to it gradually, so that it may not curdle. It is difficult to distinguish the taste from fresh cream.

CRESPIGNY'S PILLS, LADY.

Take 6 drachms of aloes in powder, 3 drachms of extract of bark, and 1 drachm of cinnamon; make into a mass with syrup of wormwood, and divide into four-grain pills. Two pills taken three hours before dinner are a good stomachic. Called also, Lady Webster's pills, dinner pills and stomachic pills.

CRICKETS, TO POISON.

I. Take 1 pint of oatmeal and 2 oz. of arsenic, together with a little ground anise and caraway seed mixed with it. This should be laid on pieces of paper in convenient places for the crickets to partake of it. Arsenic and honey mixed together and spread on paper will have the same effect.

II. Mix some roasted apples with a little powdered white arsenic, strew it where they frequent. (See *Cockroaches*.)

CRIMSON, TO DYE SILK.

Take about a table spoonful of cutbear, put it into a small pan, pour boiling water upon it, stir and let it stand a few minutes, then put in the silk, and turn it over a short time, and when the color is full enough, take it out: but if it should require more violet or crimson, add a spoonful or two of purple archil to some warm water, and dry it within doors. To finish it, it must be mangled, and ought to be pressed if possible.

CROCUS.

Crocus is a name given to certain oxydes of metals, the following are the principal of them:—

I. *Crocus of gold*.—Dissolve gold in aqua regia, then add subcarbonate of soda while a precipitate is thrown down. This is the crocus, it is of a purplish black color and is used to tinge glass purple, and in medicine in certain venereal and scrophulous disorders.

II. *Crocus of iron*.—(a) Calcine iron or steel filings till they become of a red color—(b) Melt together equal parts of steel filings and sulphur, and keep the mixture exposed to the heat till all the sulphur is driven off.—(c) Calcine washed colcothar in a violent heat until it becomes purplish or bluish.—(d) Take of green vitriol and salt

each 1 lb., grind them together, then heat them for some hours, and wash; this is of a violet brown and soft to the touch.

These are all useful in medicine as tonics or astringents, also for polishing metals—the third kind is very hard—the last is much softer and is used for razor straps, being spread on with soap or grease. (See also *Jeweller's Rouge*.)

Crocus of Antimony, or *Crocus metallorum*.—(a) Mix together common metallic antimony and saltpetre of each equal parts, melt in the fire until properly calcined, then pound—(b) Common antimony and saltpetre of each 1 lb., common salt 1 oz., mix, melt, and pound into a powder—(c) Common antimony and saltpetre of each equal weights, mix, melt, let them cool and then separate the reddish part from the whitish crust, reduce the former to powder, and wash it as long as it communicates any taste to the water.

These preparations of antimony are all emetic, uncertain in their action but sometimes very violent.

CROSS BUNS, TO MAKE.

Put 2½ lbs. of fine flour into a wooden bowl, and set it before the fire to warm; then add half a pound of sifted sugar, some coriander seed, cinnamon, and mace powdered fine; melt half a pound of butter in half a pint of milk: when it is as warm as it can bear the finger, mix with it three table spoonful of very thick yeast, and a little salt; put it to the flour, and mix it to a paste. Put a cross on the top, not very deep.

CROTON, TINCTURE OF.

Mix 2 drops of croton oil to 1 drachm of rectified spirits; half of this is a dose.

CROWN GLASS, COMPOSITION OF.

This is the glass used for windows, &c. and is blown in round sheets; no lead or metallic oxyde is used as a flux, but a minute quantity of the black oxyde of manganese or oxyde of cobalt is sometimes added for the sake of color. This kind is therefore much harder than flint glass and more difficult to fuse.

I. *French*.—Loysel gives the following receipt as that used at the extensive glass-works at St. Gobain:—Fine white sand 100 parts; carbonate of lime 12 parts; carbonate of soda calcined 45 to 48; clippings of crown glass (technically called cullet), 100 parts; together with a requisite quantity of manganese.

II. White sand 100 parts; 50 to 65 potash; 6 to 12 parts dry slacked lime in powder; and from 10 to 100 parts of broken glass, of similar quantity. This composition is frequently employed in France for drinking vessels as well as for window glass.

I. *English*.—Fine sand 5 bushels, or 200 lbs. weight; ground kelp 11 bushels, or 330 lbs.; slacked lime 15 lbs. weight, with

half their weight when roasted of broken glass.

II. White sand 120 parts; purified pearl-ash 60; saltpetre 30; borax 2; arsenic 1 part.

III. White sand 120 parts; common pearl-ash 50; common salt 30; saltpetre 10; arsenic 4; and 3 drachms of manganese. This is cheaper than the foregoing, and is much used for apothecaries phials.

IV. Sand 100 parts; dry sulphate of soda 50; quicklime in powder 17 to 20; charcoal 4 parts.

CROWS FROM A FIELD, TO BANISH.

Machinery of various kinds, such as wind-mills in miniature, horse-rattles, &c. to be put in motion by the wind, are often employed to frighten crows; but with all these, they soon become familiar, when they cease to be of any use whatever. The most effectual method of banishing them from a field, as far as experience goes, is to combine with one or other of the scare-crows in vogue, the frequent use of the musket. Nothing strikes such terror into these sagacious animals, as the sight of a fowling piece, and the explosion of gunpowder, which they have known so often to be fatal to their race. Such is their dread of a fowling-piece, that if one is placed upon a dyke, or other eminence, it will for a long time prevent them from alighting on the adjacent grounds.

CRUCIBLES, COMPOSITION OF.

Fire clay or Stourbridge clay 1 part, coarse but pure sand 3 parts. There being no flux, they require a very strong heat in the baking, and will afterwards bear an intense temperature, unchanged by acid or even metallic substances placed within them, unless such metallic bodies act as fluxes; such as those of lead, antimony, or arsenic, when they will vitrify, or when saline fluxes are used to assist in the fusion of their contents. The strongest crucibles contain no sand, coarse black lead in powder, or brick-dust being used instead of it.

CRUMPETS.

Mix a quart of good milk with water to make a batter, add a little salt, an egg, and a table spoonful of good yeast, beat well, cover it up, and let it stand half an hour in a warm place to rise. Clean the muffin plate, or not having this, a frying pan, while warm over the fire, and rub it with a greased cloth, or a little butter tied up in a piece of muslin, pour a cup full of the batter into the pan or on the plate; as it begins to bake, raise the edge all round with a sharp knife. When one side is done, turn and bake the other side. Crumpets are generally now poured into proper-sized rings of tin, which makes them all of the same size and thickness. A little rye-flour is an improvement.

CRYSTAL GLASS.

I. Mix 60 lbs. of purified potass, 120 of sand, 24 of chalk, 2 of saltpetre, 2 of arsenious acid, $\frac{1}{10}$ of manganese.

II. Mix 70 lbs. of purified pearl-ash, 120 of white sand, 10 of saltpetre, $\frac{1}{2}$ of arsenious acid, $\frac{1}{2}$ manganese.

III. Mix 67 lbs. of sand, 23 of pearl-ash, 10 of sifted slacked lime. $\frac{1}{2}$ of manganese, from 5 to 8 of red lead.

IV. Mix 120 of white sand, 50 of red lead, 40 of purified pearl-ash, 20 of saltpetre, and $\frac{1}{2}$ of manganese.

V. Mix 120 lbs. of white sand, 40 of pearl-ash, 35 of red lead 13 of saltpetre, and $\frac{1}{12}$ of manganese.

VI. Mix 30 lbs. of the finest sand, 20 of red lead, 8 of purified pearl-ash, 2 of saltpetre, $\frac{1}{2}$ of arsenious acid, and $\frac{1}{2}$ of manganese.

VII. Mix 100 lbs. of sand, 45 of red lead, 35 of purified pearl-ash $\frac{1}{2}$ of manganese, $\frac{1}{2}$ of arsenious acid.

Cullet or broken glass, equal in weight to all the other ingredients, must be added to each receipt.

CRYSTAL POWDER.

Bring to a red heat in a clear fire pieces of rock crystal; quench them in cold water pound in an iron mortar, and sift.

CRYSTALS OF TARTAR.

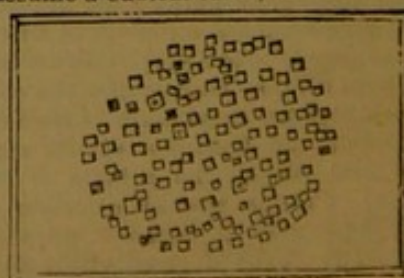
Boil white argol, or the crude tartar of white wine in water, with some white clay, or with charcoal powder; let it subside, and if boiled enough, crystals will be deposited.

CRYSTALLIZED MICROSCOPIC OBJECTS.

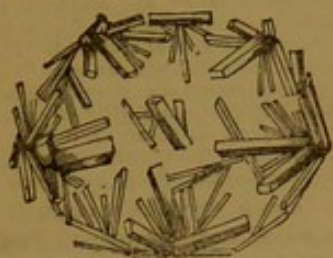
I. Wash over the surface of a slip of glass, a hot saturated solution of the required salt, as in the last experiment. It will crystallize in its normal and natural form, and present a most beautiful figure of crystallization, when examined by a pocket lens or a microscope. Sal ammoniac will give an aggregation of crystals of the following character.



II. Another method is to put a single drop of the solution on a slip of glass, and let it slowly or quickly evaporate: thus several specimens may be preserved on the same slip; if common salt be used, the crystals will assume a cubical form, as under.



III. Instead of common salt, use Epsom salts, the crystals will be very beautiful, representing four-sided prisms, with flat ends.



IV. If either nitre or Glauber's salts be used in lieu of the above, the result will be six-sided prisms with pointed ends. And to vary the experiment, the drop of the solution may be put upon a hot piece of glass, and immediately placed under examination; when, as the evaporation proceeds, the crystallization may be witnessed.



V. A small quantity of blood or of skim milk added to the saline solution will materially alter the form of the crystals. Any other salts may thus be examined; among the most interesting are boracic acid, nitromuriate of gold, corrosive sublimate, acetate of morphia, and of copper, Rochelle salt, prussiate of potass, sulphate of quinine, borax, sulphate of copper, deutioduret of mercury, chloride of copper, nitrate of silver, chromate of potass, nitrate of nickel, phosphates of lead and of copper, sulphate of cobalt, and chlorate of potass.

CRYSTALLIZED WINDOWS.

This is very easy to accomplish; all that is necessary to be done is to dissolve any kind of salt in hot water, so as to make a saturated solution, that is to have it as strong as possible; then wash it while hot with a brush, it will soon cool, and deposit the salt in a crystalline form upon the glass, and when the water has evaporated, the window will be beautifully frosted. You may use for this purpose sal ammoniac, Glauber's salts, Epsom salts, or blue stone; but you should not use any of the salts which are apt to deliquesce or dissolve in a damp atmosphere.

CRYSTALS OF SALTS, TO OBTAIN.

To obtain large artificial crystals, of a regular shape requires considerable address,

and much patient attention, but the result fully recompenses the trouble. The method of M. Leblanc is as follows:—The salt to be crystallized is to be dissolved in water, and evaporated to such a consistency that it shall crystallize on cooling. Set it by, and when quite cold pour the liquid part off the mass of crystals at the bottom, and put it into a flat-bottomed vessel. Solitary crystals form at some distance from each other, and these may be observed gradually increasing. Pick out the most regular of these, put them into a flat-bottomed vessel, at some distance from each other, and pour over them a quantity of liquid obtained in the same way, by evaporating a solution of salt, till it crystallizes on cooling. Alter the position of every crystal, once at least every day, with a glass rod, that all the faces may be alternately exposed to the action of the liquid; for the face on which the crystal rests never receives any increase. By this process the crystals gradually increase in size. When they have acquired such a magnitude that their forms can easily be distinguished, the most regular are to be chosen, or those which have the exact shape which we wish to obtain; and each of them is to be put separately into a vessel filled with a portion of the same liquid, and turned in the same manner several times a day. By this treatment they may be obtained of almost any size we think proper. Whenever it is observed that the angles and edges of the crystal become blunted, the liquid must immediately be poured off, and a portion of new liquid put in its place; otherwise the crystal is infallibly destroyed.

CRYSTAL VARNISH.

I. Mix together equal parts of pure Canada balsam and spirits of turpentine, leave the phial which contains the mixture, and which should be corked, in a warm place for a few days, shaking it occasionally, then strain for use.

This is a very easily prepared varnish, and is used for a variety of purposes; for the varnishing of toys—for transferring engravings to wood, hence called transfer varnish—for varnishing maps, prints, and other paper works—for the making of transparent tracing paper, &c.

II. Mastic 3 oz., spirits of wine 1 pint; made in the same way, and used for the same purposes. This is more apt to turn white than the last but dries faster.

CUBEBS, TINCTURE OF.

Take 5 oz. of cubebs, bruised, to every quart of rectified spirit; digest for fourteen days and filter.

CUCUMBERS, TO PICKLE.

Let them be as free from spots as possible; take the smallest that can be got, put them into strong salt and water for nine days, till they become yellow; stir them at least twice a day; should they become perfectly yellow,

pour the water off and cover them with plenty of vine leaves. Set the water over the fire, and when it boils, pour it over them, and set them upon the hearth to keep warm. When the water is almost cold, make it boil again, and pour it upon them; proceed thus till they are of a fine green, which they will be in four or five times; keep them well covered with vine leaves, with a cloth and dish over the top to keep in the steam, which will help to green them. When they are greened, put them in a hair sieve to drain, and then to every 2 quarts of white wine vinegar put $\frac{1}{2}$ oz. of mace, 10 or 12 cloves, 1 oz. of ginger cut into slices in 1 oz. of black pepper, and a handful of salt. Boil them all together for five minutes; pour it hot on the pickles, and tie them down for use.

CUCUMBER VINEGAR.

Pare 8 or 10 large cucumbers, cut in thin slices, and put them into an earthenware bowl, with 2 onions sliced, a few eschalots, a little salt, white pepper and cayenne. Pour a quart of cold vinegar upon the mixture in the bowl, cover close, let it stand three days and bottle it.

CULLEY'S SALVE FOR ROT IN SHEEP.

Mix 4 oz. of the best honey with 2 oz. of burnt alum, reduced to powder, and $\frac{1}{2}$ lb. of Armenian bole, with as much fish or train oil as will convert these ingredients into a salve. The honey must first be thoroughly dissolved in the oil made hot, then the Armenian bole must be stirred in, and lastly the alum.

CUMIN PLASTER.

Take 3 drachms each of cumin seeds, carraway seeds, and laurel berries, 3 lbs. of dry pitch, 3 drachms of yellow wax. This is applied to the chest as a stimulant, on the stomach for flatulence, and on languid tumours as a discutient; in either case with or without a little opium.

CUMIN WATER.

Take 1 oz. of cumin seed, and add to it a pint of water, let them soak for a week, and then strain off clear.

CUP CAKES.

Rub a little butter over the inside of some tea cups, sift a little loaf sugar over the butter, and put at the bottom of each cup a few currants; then make a paste of equal proportions of egg, sugar, and flour; half fill each cup with this paste, and bake till the top is of a full brown.

CURD FOR CHEESE, ETC.

Put milk into a pan and while it is yet warm from the cow, or when it has been made of about the same degree of warmth, add to it a table spoonful of rennet to each quart of milk; in a few minutes, it being

kept warm, the milk will change into curd and whey, the latter of which may be poured off.

Rennet is made of the first stomach of calves—washed, salted, and afterwards boiled in water; this water constitutes the rennet required. If too much rennet be used, the curd will be very hard, and the whey salt; many substances besides rennet may be used, such as a little alum, a little vinegar and other acids and salts, but as these spoil the whey and even flavor the curd, the rennet is far superior, and is invariably used in the cheese countries.

CURD CHEESE-CAKES.

To the warm curd produced from a quart of milk, strained from the whey, and rubbed through a sieve, put 3 oz. of butter, 2 or 3 eggs, a little grated nutmeg and sugar to flavor. Simmer the whole together till well mixed and put in the centre of paste cases. These are the common cheese cakes sold at fairs, inferior shops, &c. They may be flavored with lemon peel, almonds, &c.

CURD SOAP.

The fat of this soap may be either tallow or coarse oil. The crude soda or barilla is ground, and placed in cylindrical vats, with alternate layers of quicklime. Water being poured upon the whole, it passes through the mass, and dissolves the soda, at the same time that the lime absorbs the carbonic acid. This caustic liquid being drawn off, 200 gallons of it, of the specific gravity of 1.040, are added to a ton of tallow; heat is applied, and after a very gentle ebullition of about four hours, the fat will be found to be completely saponified, by immersing in it a knife, for the fluid lye will be seen to separate at once upon the steel blade from the soapy paste. When thus perfected it is poured into square frames, where it is suffered to cool; when cool, it is cut in the required and usual form of long square cakes, and is ready for sale as soon as the cakes have been exposed to the air for a few days to harden.

CURLING FLUID.

Melt a bit of white bees'-wax, about the size of a filbert kernel, in 1 oz. of olive oil, to this add 1 or 2 drops of ottar of roses.

CURAÇOA.

To 5 gallons of strong and clear spirits of wine, put 4 lbs. of fresh peel of Seville oranges, 1 drachm of the oil of bitter almonds, 1 drachm of the oil of cassia, 2 oz. of pulverized Brazil wood, and 2 quarts of syrup. Let them be well stirred up every day for a fortnight, then add 1 gallon of water, color it slightly with saffron or burnt sugar, let it stand to settle, or filter it through flannel and bottle.

CURRENT CLEAR CAKES.

Draw and filter the juice of the fruit as for jelly. To each pint of juice use 1 lb. 2 oz. of powdered loaf sugar. Put them together into a preserving pan over the fire, keeping them well stirred, until the sugar is dissolved,

when the mixture should be clear; but be sure not to let it boil. Then skim it clean, and put it into clear cake glasses, or into small pots or moulds, which are smaller at the bottom than the top, and pour in sufficient to make cakes about half an inch thick. Put the glasses or pots, when filled, into a stove or hot closet, where they can be kept at a moderate heat, but not too hot, or the cakes will melt, instead of becoming a jelly; if kept in the sun on a clear day, it will be quite hot enough. When the upper sides are crusted, or jellied, turn them out of the pots or glasses upon small sheets of tin, pewter, or glass, in rows, or on dishes, which is done by running a knife round the sides, when the cakes will fall out of the glasses or pots, when they are turned up. Put them in the stove or sun again, to become firm and dry, after which take them from the sheets and put them on a sieve covered with white paper. Turn them over with a knife with care, that the part which was underneath may not break in removing them. Put them into the stove again to finish drying. When perfectly dry, pack them in boxes in layers, with white paper between, and keep them in a dry place.

CURRENT JAM.

Pick the currants from their stalks, and to every pound of fruit allow about $\frac{3}{4}$ lb. of loaf-sugar, broken small. Set in a preserving pan over a clear fire, let it simmer for from half to three-quarters of an hour, carefully stirring it very frequently while on the fire. To try if it is done, put a drop or two on a cold plate, if it settles in the course of a minute or two into a jelly, it has been boiled sufficiently, if not, the boiling must be continued longer. A few raspberries improve the flavor.

CURRENT JELLY.

Take of red or black currant juice 1 lb., sugar 6 oz. Boil them down to a jelly; it will want two hours boiling with the above quantity of sugar. The liquor poured off when making jam will settle into a jelly. To try it, put a drop on a cold plate, and see if it congeal.

CURRENT SHRUB.

Take white currants when quite ripe, pick them off the stalks and bruise them. Strain out the juice through a cloth, and to 2 quarts of the juice put 2 lbs. of loaf-sugar; when it is dissolved, add to it a gallon of rum, then strain it through a flannel bag that will keep in the jelly, and it will run off clear. Bottle it for use.

CURRENT WINE.

I. *Red*.—Bruise perfectly 3 gallons of red currants, ripe, and picked from the stalks. Press out the juice. Infuse the residual cake of fruit in $\frac{1}{2}$ gallons of cold water for twenty-

four hours; frequently mixing, so as to obtain equal diffusion. Press out the liquor—mix it with the juice—add 14 lbs. of loaf-sugar. Dissolve—transfer the whole into a cask which the liquor does not entirely fill—put in a bung with a gimlet-hole through it—and keep it in the temperature of 70° for a month. In that time the fermentation will have greatly abated. Add 3 lbs. of sugar, dissolved in 2 quarts of warm water—shake the cask well, and put in the same bung. The fermentation will go on for another month, or perhaps two. When it has totally ceased, which will be known by listening at the bung-hole, the clear liquor is to be racked from the sediment, by a cock or syphon; mix with 2 quarts of best French brandy, and set by in a cellar for two months. The liquor is to be again racked off clear, transferred into a clean (not new) cask which it fills, bunged down air-tight, and left in a cool cellar for at least three years, but five years will be much better. There will be six gallons. During the whole fermentation, the temperature of 70° must be maintained; keeping the cask beside the fire when necessary.

II. *White*.—May be made according to the same formula, from white currants. Two ounces of bitter almonds, bruised, may be mixed in the fermenting liquor.

CURRY POWDER, IMITATIVE.

Dry and pulverize very finely 3 oz. each of coriander seed and turmeric, 1 oz. each of black pepper, mustard, and ginger, $\frac{1}{2}$ oz. of cardamon seeds, freed from the husks, $\frac{1}{4}$ oz. each of cayenne pepper, and cumin seed. It must be kept in a bottle closely stopped.

CURRY WINE.

Currie powder 6 oz., sherry wine 1 gallon. Infuse for ten days and strain.

CURRY POWDER.

I. Coriander seed 18 oz., black pepper 2 oz., cayenne pepper 1 oz., turmeric and cumin seed of each 3 oz., fenugreek seed 4 oz.

II. Coriander seed 16 oz., black pepper 3 oz., turmeric 8 oz., ginger 6 oz., cumin seed and long pepper, each 4 oz., cinnamon and the smaller cardamon seed 1 oz.

III. Turmeric root and coriander seed, of each 4 oz., allspice, cayenne pepper, and capsicum pods, of each 1 lb., smaller cardamon seed 4 oz., mace, cloves and cinnamon, of each 1 oz.

CURRY, LORD CLIVE'S.

Slice 6 onions, 1 green apple, and 1 clove of garlic; stew them in a little good stock till they will pulp, then add 1 tea-spoonful of curry powder, a few table-spoonsful of stock, a little salt, and a little cayenne pepper, half a salt-spoonful of each; stew in

this gravy any kind of meat, cut into small pieces, adding a piece of butter the size of a walnut.

CUTLER'S CEMENT.

I. Rosin 4 parts, to 1 part bees'-wax and 1 part of brick-dust, or plaster of Paris.

II. Sixteen parts rosin, 16 hot whiting, and 1 wax.

III. Pitch 4 parts, rosin 4, tallow 2, and brick-dust 2.

CUSTARDS.

Almond, baked.—Put a pint of cream, a pint of milk, 4 bay leaves, and a piece of cinnamon, into a saucepan over a slow fire, until they boil, and flavor with lemon peel. While these are heating, break 8 eggs into a pan, and grate into it 12 bitter and 24 sweet almonds, sweeten with powdered loaf sugar, pour in the cream and milk, and whisk all well together; strain through a hair sieve, if there should be any froth on the top, skim it off, put it into cups, grate a little nutmeg on the top, and bake in a warm oven until set.

Boiled custards.—These are made in the same way, the only difference is, that after the eggs are added, they are to be simmered very gently on the fire for a few minutes, stirring them all the time, to prevent curdling. Also, they must be stirred till nearly cold; lastly, they are poured into glasses, a little nutmeg being grated on the top. A little arrow-root or rice-flour saves eggs, but thus made, they will not keep so well. Plain custards are without the almonds. Custards are also flavored occasionally with orange peel, and also made without the almonds.

CUTS.

In treating ordinary cuts, cleanliness and care are generally more requisite than skill. If the cut be extensive, or an artery, vein, or any other important part be injured, it becomes a more important matter. Accidental cuts from knives, cutting tools, scythes, &c. are more likely to occur on the face and limbs than on the body. All that is requisite in general, is to bring the parts together as accurately as possible, and to bind them thus, this is usually done by adhesive plaister, when the cut ceases to bleed. Nothing is so good for this purpose as paper previously washed over on one side with

thick gum-water, and then dried; when used, it is only to be slightly wetted with the tongue. When the cut bleeds but little, it is as well to soak the part in warm water for a few minutes, or to keep a wet cloth on it. This removes inflammation and pain, and also a tendency to fainting, which a cut gives some persons. If the bleeding be too copious, dab the part with a rag wetted with creosote. If the wound be large, it should be sewed up. If the blood that issues be very scarlet, it may be concluded that an artery has been touched, and then, whenever the bleeding cannot be stopped, medical aid must be procured; the best method to pursue, is to bind up the wound tightly, or to hold a finger strongly against the part that bleeds.

CYPRESS POWDER, GROSS.

Take 2½ lbs. of fine dry scraped orrice root, 1 lb. of rhodium wood in chips, ½ lb. of calamus root, ½ lb. of yellow sanders, 1 lb. of gum benzoin, 1 lb. of storax, ½ lb. of cassia, ½ lb. of coriander seeds, ½ lb. of red rose leaves, ½ oz. of cloves, ½ lb. of dried orange and lemon peel, 1 lb. of gum labdanum, 2 oz. of nutmegs, 1 drachm of musk, ½ lb. of dried marjoram. Pound or cut the whole separately, so as to reduce to a coarse powder; put it into square packets for sale, as a scent for drawers, clothing, &c.

CYPRUS WINE, TO IMITATE.

To 4 gallons of water, put 1 gallon of the juice of white elderberries, pressed gently from the fruit and passed through a sieve, without bruising the kernels of the berries. Then add 20 lbs. of loaf-sugar, ¾ oz. of sliced ginger, and ½ oz. of cloves. Let the whole boil together for half an hour, taking off the scum as it rises, pour it into a pan or tub to cool, and ferment it with ale yeast on a toast for three days; afterwards put it into a cask, which will just hold the quantity, and add to it 1 lb. of raisins, stoned, and when the fermentation ceases, add 5 pints of French brandy. In three or four months it will be fit to bottle, and will then much resemble, both in flavor and color, the rich wine brought from Cyprus.

CYRILLO POMATUM.

Take 4 parts of calomel, and 32 parts of hog's lard, washed from its salt; unite them well together in a mortar.

DAFFY'S ELIXIR.

Take 4 oz. of senna leaves, 2 oz. each of rasped guaiac wood, dried elecampane root, coriander-seeds, anise-seeds, caraway-seeds, and liquorice-root, 8 oz. of stoned raisins, 6 pints of proof spirit. Digest for a week, strain through bibulous paper, and add half a pound of treacle. Sometimes given to horses.

DAGUERRE'S PHOTOGENIC PAPER.

Immerse a sheet of thin paper in hydrochloric (or as it is commonly called muriatic) ether, which has been kept sufficiently long to have become acid; the paper is then carefully and completely dried, as this is stated to be essential to its proper preparation. The paper is then dipped into a solution of nitrate of silver (the degree of concentration of which is not mentioned), and dried without artificial heat, in a room from which every ray of light is carefully excluded. By this process it acquires a very remarkable facility, it being blackened on a very slight exposure to light, even when the latter is by no means intense. This paper rapidly loses its extreme sensitiveness to light, and finally becomes not more readily acted upon by the solar beams, than paper dipped in nitrate of silver only.

DAMASK POWDERS.

I. *Gross*.—Take 3 or 4 lbs. of cypress powder, 2 lbs. of orrice root, 1 lb. of calamus root, 1 lb. of winter bark, 1 lb. of rhodium chips, $\frac{1}{2}$ lb. each of yellow saunders, orange and lemon peel, coriander seeds, and red roses. Mix all well together.

II. *Fine*.—Take 3 lbs. of gross cypress powder, add to it dry damask rose leaves, in equal quantity; dry, pound, and sift thoroughly.

III. *For the hair*.—Take 16 lbs. of fine starch powder, and $\frac{1}{2}$ lb. of each of the above. Sift it once or twice, and then put it up in a box or glass for use.

DAMPNESS IN BEDS, TO DETECT.

Let the bed be well warmed, and immediately after the warming-pan is taken out, introduce between the sheets, in an inverted position, a clean glass goblet: after it has remained in that situation a few minutes, examine it; if found dry and not tarnished with steam, the bed is perfectly safe, and *vice versa*.

DAMP WALLS.

When damp walls proceed from deliquescence in the case of muriate of soda, &c., an intimate combination with the sand used for the mortar, it is merely necessary to wash the wall with a strong solution of alum. This converts the deliquescent salt into an efflorescent one, and the cure is complete. Or, alum may be added to the plaster in the first instance.

DAMSONS TO BOTTLE.

Put damsons, before they are too ripe, into wide-mouthed bottles, and cork them down tight; put them into a moderately heated oven, and about three hours more will do them; observe that the oven is not too hot, otherwise it will make the fruit fly. All kinds of fruit that are bottled may be done in the same way, and they will keep two years; after they are done, they must be put away with the mouth downward, in a cool place, to keep them from fermenting.

DAMSON CHEESE.

Boil the fruit in a sufficient quantity of water to cover it, strain the pulp through a very coarse sieve, to each pound put 4 oz. of sugar, boil it till it begins to candy on the sides, then pour it into tin moulds. Other kinds of plums may be treated in the same manner, as also cherries and other fruit.

DAMSON WINE.

I. Gather the fruit dry, weigh them and bruise them with the hand; upon every 8 lbs. of fruit pour a gallon of boiling water, afterwards let it stand 2 days; then draw it off into a clean cask and to every gallon of liquor add $2\frac{1}{2}$ lbs. of sugar. Let it ferment, keeping the cask quite full that the wine may clear itself; when the fermentation is apparently over, bung the cask tight, the longer it is now kept before being bottled the better, and when bottled it will be better to put a lump of sugar into each bottle. You may boil in the water in the first instance a little approved spice together with an ounce of coriander-seed bruised to each gallon of wine. Some persons prefer to ferment the wine with yeast in a tub previous to committing it to the cask.

II. Take of cold soft water 11 gallons, damsons 8 gallons, mix raw sugar 30 lbs. and let it ferment, then add red tartar, in fine powder, 6 oz., and brandy 1 gallon. This will make 18 gallons. "When the must," says Mr. Carnell, "has fermented two days, (during which time it should be stirred up two or three times) take out of the vat about 2 or 3 quarts of the stones, and break them and the kernels, and then return them into the vat again."

III. Take a considerable quantity of damsons and common plums inclining to ripeness: slit them in halves, so that the stones may be taken out, then mash them gently, and then add a little water and honey. Add to every gallon of the pulp a gallon of spring water, with a few bay-leaves and cloves; boil the mixture, and add as much sugar as will sweeten it; skim off the froth, and let it cool. Now press the fruit, squeezing out the liquid part; strain all through a fine strainer, and put the water and juice together in a cask. Having allowed the whole

to stand and ferment for three or four days, fine it with white sugar, flour, and whites of eggs; draw it off into bottles, then cork it well. In twelve days it will be ripe, and will taste like weak port, having the flavor of canary.

D'ARCEY'S DIGESTIVE LOZENGES.

Take 5 parts of bicarbonate of soda, 95 parts of white sugar, 3 parts of essential oil of mint, and gum water to make into a paste, this is to be cut into lozenges of 18 grains each. Dose, 2 to 4 several times a day.

DAWSON'S LOZENGES.

Take $\frac{1}{2}$ oz. of Spanish liquorice, 2 oz. of gum arabic and 1 lb. of loaf sugar, make them into a paste with hot water, and cut them into round lozenges of about 16 grains each. They are good for a cough, yet not better than common Spanish liquorice alone.

DEAD FIRE FOR FIREWORKS.

Mix together very intimately $1\frac{1}{2}$ oz. of saltpetre, $\frac{1}{4}$ oz. of sulphur, $\frac{1}{4}$ oz. of lapis calaminaris, and 2 drams of antimony

DEAFNESS.

Deafness may arise from various causes, some curable, others incurable; of the latter kind is the deafness of many old persons and which arises either from paralysis of the auditory nerve, or from absorption of the fluids around it. Deafness may also arise from want of sensibility of the drum of the ear, either from a diseased condition of it, or from relaxation. It is not unfrequently caused by an accumulation of wax. Relaxation is often cured by frequent injections by a squirt of cold water, to which a little alum may be added. Port wine is a still better remedy for this purpose; when the wax is too abundant, the ears may be syringed with soap and water, and when the ear is cleaned, there may be dropped into it 3 or 4 drops of sweet oil, mixed with a quarter the quantity of spirits of hartshorn, or else the following liniment, which is to be applied on a piece of cotton wool into the ear. Take equal parts of oil of sweet almonds, spirits of lavender and tincture of castor, mix them together.

DE BRUN'S EYE-WATER.

Mix together hepatic aloes 1 drachm, white wine and rose-water of each $1\frac{1}{2}$ oz.—used for ulcerated eye-lashes.

DECANTERS, TO CLEAN.

Cut some brown paper into very small bits, so as to go with ease into the decanter; then cut a few pieces of soap very small, and put some water milk-warm into the decanter upon the soap and paper: put in also a little pearl-ash; by well working this about, it will take off the crust of the wine and give the glass a fine polish. Where the glass has been scratched, and the wine left to stand a long time, have a small

cane with a piece of sponge tied tightly at one end: by inserting this, any crust of the wine may be removed. After being properly washed, let the decanter be thoroughly dried, and turned down in a proper rack. If the decanters have wine in them when put by, have some good corks always at hand to put in instead of stoppers; this will keep the wine much better.

DE LA MOTTE'S GOLDEN DROPS.

These are a solution of iron, prepared by mixing one part of hydrochlorate of iron with two parts of spirits of wine, and exposing the mixture to the sun. It is a popular nostrum in nervous disorders.

DELCROIX'S POWDRE SUBTILE.

Mix together 11 parts each of starch and powdered quicklime with 1 part of orpiment. Keep this powder in a dried state in a stoppered bottle, mixing a little of it for use with warm water, when wanted. It is used to take off superfluous hairs, and is to be applied upon the part, after the hairs having been shaved off clean. Put it on wet, and there let it dry. When dry, brush it off.

DELESCOTT'S MYRTLE OPIATE.

Simmer 2 lbs. of honey with $\frac{1}{2}$ pint of rose water in an earthen vessel over a slow fire, for a few minutes, and then mix, it with a tooth-powder prepared from myrrh and Armenian bole, into a soft paste. It is laid on with a brush and is good for sweetening the breath.

DEMULCENT ELECTUARY.

Spermaceti 2 drachms, powdered tragacanth 1 drachm, syrup of poppies and of tolu each 2 drachms, conserve of roses 6 drachms, sal prunella $\frac{1}{2}$ drachm. A dose is the size of a nutmeg occasionally.

DENTIFRICE ELECTUARY.

Take 4 oz. of prepared red coral, 1 oz. each of cuttle-fish bone and cinnamon, $\frac{1}{2}$ oz. of cochineal, 10 oz. of Narbonne honey, $\frac{1}{2}$ drachm of alum. Pulverize the three first substances, and bruise the two last, with a small quantity of water, till of a purple color; then add the honey. Scent it with 1 drop of any volatile oil to the drachm of the mixture.

DEPILATORIES.

I. Take of quicklime 1 oz., orpiment 3 drachms, orris root 2 drachms, saltpetre 1 drachm, sulphur 1 drachm, soap-lees half a pint; evaporate to a proper consistence.

II. *Strong.*—Take 1 oz. of gum ivy and 1 drachm each of orpiment, ant's eggs, and gum arabic; reduce to powder and make into paste with vinegar.

It is to be remarked that the use of all depilatories is attended with danger, as it is by the absorption of the very poisonous sulphuret of arsenic that they produce the effect expected from them. (See Colley, Boyle, Turkish, Delcroix, Roseate Powder, &c. Plenck, Rayer, Rusma.)

DERBYSHIRE SPAR, CEMENT FOR.

A cement for this purpose may be made with about 7 or 8 parts of resin and 1 of bees'-wax, melted together with a small quantity of plaster of Paris. If it is wished to make the cement fill up the place of any small chips that may have been lost, the quantity of plaster must be increased a little. When the ingredients are well mixed, and the whole is nearly cold, the mass should be well kneaded together. The pieces of spar that are to be joined must be heated until they will melt the cement, and then pressed together; some of the cement being previously interposed. Melted sulphur applied to fragments of stones previously heated (by placing them before a fire) to at least the melting point of sulphur, and then joined with the sulphur between, makes a pretty firm and durable joining. Little deficiencies in the stone, as chips out of corners, &c. may be also filled up with melted sulphur, in which some of the powder of the stone has been melted.

DETERGENT MEDICINES.

Detergents are such medicines or applications as tend to cleanse, and the term is more especially applied to such as are used to wounds, abscesses, &c., as the following:—

I. *Ointment*.—Yellow basilicon 2 lbs., Venice turpentine 4 oz., red precipitate, verdigris, and enphorbium of each oz. Mix well.

II. *Wash*.—Liquor of potass 2 drachms, rose-water 5½ oz., spirits of rosemary ¼ oz. Used to free the head from scurf.

DEVIL'S ELIXIR.

Pods of capsicums, bruised, ½ oz., ginger, bruised, 1½ oz., Spanish flies 2½ drachms, saffron 1½ oz., cloves, bruised, ½ oz., proof spirit 3½ pints. Dose ½ a drachm to 3 drachms, in impotentia, &c.

DEVONSHIRE CIDER, TO MAKE.

Prefer the bitter sweet apples, mixed with mild sour, in the proportion of one-third. Gather them when ripe, and lay them in heaps in the orchard. Then take them to the crushing engine, made of iron rollers at top and of stone beneath; after passing through which, they are received in large tubs, and are then called pommage. They are afterwards laid on the vat in alternate layers of the pommage and clean straw, called reeds. They are then pressed, the juice running through a hair sieve. After the cider is pressed out, it is put into hogsheads, where it remains for two or three days previously to fermenting. To stop the fermentation, it is drawn off into a clean vessel; but if the fermentation be very strong, 2 or 3 cans of cider are put into a clean vessel, and a match of brimstone burnt in it; it is then agitated, by which the fermentation

of that quantity is completely stopped. The vessel is then nearly filled, the fermentation of the whole is checked, and the cider becomes fine; but if, on the first operation, the fermentation is not checked, it is repeated till it is so, and continued from time to time till the cider is in a quiet state for drinking. Some persons, instead of deadening a small quantity with a match, as above directed, put from 1 to 2 pints of an article, called *stum*, (bought of the wine coopers) into each hogshead; but the system of racking as often as the fermentation appears is generally preferred by the cider manufacturers of Devonshire. About 6 sacks, or 24 bushels of apples, are used for a hogshead of 63 gallons. During the process, if the weather is warm, it will be necessary to carry it on in the shade, in the open air, and by every means to keep it as cool as possible. In nine months it will be in condition for bottling or drinking; if it continue thick, use some isinglass finings, and if at any time it ferments and threatens acidity, the cure is to rack it and leave the head and sediment.

DEXTRINE.

This is starch altered in its properties by heat or other means. When heat alone is applied, it is called British starch, and is of a brown color; when wanted lighter colored, as for a dressing for calico and muslin, or as a plaister to support and press over broken limbs, as it often is by the French, it may be made as follows:—Moisten 2 cwt. of starch with water rendered slightly acid with 8 oz. of strong nitric acid, making the whole of about the consistence of stiff bread paste. Form it into lumps like small bricks, and dry them in a stove. Now rub them down into a coarse powder, and expose to a stream of hot air, at a temperature of about 160°, increasing it up to a little more than the heat of boiling water, or about 230° Fahr. It requires now only finely powdering and sifting.

DIACHYLON PLAISTER.

I. *Compound*.—Gum ammoniacum ½ lb., common turpentine 2 oz. Melt them together, then add yellow wax 40 oz., previously melted with mucilaginous oil 8 oz. (See *Mucilage and Strengthening*.)

II. *Simple or White*.—Litharge 5 lbs., olive oil 8 lbs., (1 gallon and ½ pint,) water about 2 pints. The same as litharge plaster and the vitreous lead plaster, except that the latter is made without the addition of water.

III. *Yellow*.—Simple white diachylon 3 lbs., galbanum 8 oz., common turpentine and frankincense, of each 3 oz. The litharge and gum plaister is the same as this would be without the frankincense, and with 10 oz. of turpentine instead of 3 oz. (See *Galbanum Plaister*, which is very similar.)

DIAGRYDIUM.

Scammony 1 lb., juice of quinces 8 oz. Infuse for twelve hours, and evaporate to dryness.

DIAMONDS, PASTE FOR.

I. Rock crystal 4056 grains, red lead 6300, pure potass 2154, borax 276, arsenic 12.

II. Rock crystal 3600 grains, pure carbonate of lead 8508, potash 1260, borax 360.

III. White sand, purified by being washed first in hydrochloric and then in water, till the whole of the acid is removed, 100 parts, red lead 150, calcined potass 30 to 35, calcined borax 10, oxyde of arsenic 1 part. It is necessary to keep the whole of these compounds in a state of fusion for three or four days before they will have attained their greatest perfection.

IV. *Yellow*.—To 1 oz. of paste, as above, add 24 grains of the chloride of silver, or 10 grains of the glass of antimony.

DIAPHŒNIX ELECTUARY.

Take $\frac{1}{2}$ lb. of date pulp, $3\frac{1}{2}$ oz. of sweet almonds, blanched, $\frac{1}{2}$ lb. of sugar in powder; mix, and add 2 lbs. of clarified honey, and the following powders, separately prepared: namely, 2 drachms each of ginger, black pepper, mace, cinnamon, and flowers of rue, 6 grains of saffron, 2 drachms each of fennel and carrot seed, 4 oz. of the root of convolvulus turpethum, and $1\frac{1}{2}$ oz. of Aleppo scammony. Used as a purgative in doses of from half a drachm to half an ounce.

DIAPHORETIC ANTIMONY.

Common antimony 1 lb., purified nitre 3 lbs. Throw by spoonful at a time into a red hot crucible. Separate the powder which adheres to the sides of the crucible. The remaining mass is the diaphoretic antimony, which must be pounded and washed. The magistery of diaphoretic antimony is procured from the water with which the above is washed, by adding to it the oil of vitriol while any precipitate falls down. The precipitate washed in water is the magistery sought for.

DIAPHORETICS.

These medicines act upon the skin, so as to produce a copious perspiration. The chief of them are the emetic medicines administered in small doses. The following are diaphoretic preparations.

I. *Decoction*.—Decoction of Peruvian bark 10 drachms, liquid ammonia and tincture of bark each 2 drachms, aromatic confection $\frac{1}{2}$ a drachm, for a dose every three hours. (See *Lovor's Powder*.)

II. *Draught*.—(a) Infusion of serpentry 1 $\frac{1}{2}$ ounce, tincture of ditto 1 fluid drachm.—(b) Sesqui-carbonate of soda 20 grains, fresh lemon juice 4 fluid drachms, tar-

trate of antimony $\frac{1}{8}$ grain, water 11 drachms, syrup of poppies 1 drachm.—(c) Liquor of acetate of ammonia, 6 drachms, camphor mixture 10 drachms, nitrate of potass 10 grains, syrup of tolu $\frac{1}{2}$ a drachm.

III. *Pills*.—(a) Sulphuret of potass 15 grains, hard soap 1 drachm, Peruvian balsam enough to make into 30 pills. Dose, 3 every 4 hours in juniper-berry tea; useful in eruptions.—(b) Pulverized antimony $\frac{1}{2}$ drachm, opium $1\frac{1}{2}$ scruple, calomel 5 grains, confection of opium enough to make up into 10 pills. Dose, 1 every night.—(c) Guaiacum 10 grains, compound powder of ipecacuanha 5 grains, confection of roses to make up into 4 pills for 1 dose.—(d) Guaiacum 10 grains, tartar emetic and opium each 1 grain, simple syrup to make up into a bolus or 3 pills.—(e) Camphor and pulverized antimony of each 3 grains, opium 1 grain, aromatic confection to form a bolus.

DIARRHŒA OR LOOSENESS, TO CHECK.

I. Take of soft extract of bark 15 grains, alum in powder 5 grains, tincture of opium 6 drops, make into bolus, one of such may be taken every 8 hours. Will relieved.

II. Tincture of opium 15 drops, chalk mixture 6 oz., cinnamon water 1 oz., make into a mixture and take a spoonful every 4 hours.

III. Powder of rhubarb 10 grains, powder of chalk with opium 1 scruple, make into 4 powders of which take 1 night and morning.

IV. Take of laudanum 20 drops, chalk mixture $4\frac{1}{2}$ oz., tincture of cinnamon $\frac{1}{2}$ oz., cinnamon water 2 oz., make a mixture, of which take 2 table spoonful after every liquid motion.

V. Tincture of opium 2 drachms, vitriolated zinc 8 grains, rose water 4 oz., take 2 spoonful in a wine glassful of weak chamomile-tea every 4 hours.

VI. Take every three hours 3 grains each of rhubarb powder and colombo root powder.

VII. Take every four hours 3 grains of rhubarb in powder, and 6 grains of opiate confection.

VIII. Compound tincture of rhubarb 2 drachms, tincture of catechu 1 drachm, tincture of opium 10 drops. Take the above quantity as a draught 3 times a day.

IX. Take of catechu in powder 15 grains, alum 3 grains, conserve of roses $\frac{1}{2}$ drachm, syrup of white poppies enough to make a bolus which may be taken at bed time.

X. Catechu in powder $\frac{1}{2}$ drachm, syrup of cloves to make up into a bolus or pills for a dose at bed time.

XI. Take 4 drachms each of catechu in powder and compound mixture of chalk, mix into an electuary with syrup of poppies, of which take the size of a hazel nut 3 or 4 times a day.

XII. Take of bark in powder 2 scruples, compound powder of chalk with opium 10 grains, form into a powder. This quantity is to be taken three or four times a day. (See *Flux and Dysentery*.)

DIET DRINKS.

I. Guaiacum wood $1\frac{1}{2}$ oz., China root and sarsaparilla root each 2 oz., sassafras wood 3 drachms, Spanish liquorice $\frac{1}{2}$ oz., boil them in 3 quarts of water.

II. Guaiacum wood, sarsaparilla root, China root each 1 oz., electuary of senna $\frac{1}{2}$ oz., rhubarb 2 drachms for 4 quarts of water, to which add before it is boiled 1 drachm of subcarbonate of potass and 4 oz. of crude antimony.

DIGESTIVE LOZENGES.

Take 5 parts of bicarbonate of soda, 95 parts of white sugar, 3 parts of essential oil of mint. Make up into lozenges of 18 grains each, with the mucilage of gum tragacanth.

DIGESTIVE MEDICINES.

Medicines so called are of two kinds, one kind includes those preparations which assist digestion, by removing flatulence and acidity from the stomach; such are the alkaline carbonates of soda, magnesia, and lime. (See *Crespigny, D'Arcey, Digestive Lozenges, &c.*) These of course are taken as pills, draughts, powders, &c. The other class of digestives is applied externally in the form of embrocation, poultice, or ointment, to promote the suppuration of ulcers, &c. such as the following:—

Ointment.—(a) Venice turpentine 2 oz., yolks of 2 eggs, oil of St. John's wort $\frac{1}{2}$ oz.; Mix.—(b) Mix the above with an equal quantity of mercurial ointment.—(c) Yellow resin, bees'-wax, and elemi of each 1 oz., green oil 6 oz., melt them together and when nearly cold add 2 drachms of oil of turpentine.—(d) *For horses.*—Lard, Venice turpentine and yellow basilicon of each 5 oz., finely powdered verdigris 2 oz.—(e) *Also for horses.*—Yellow basilicon of each 15 oz., red precipitate 1 oz.

DINNER PILLS.

I. Take 2 drachms of extract of quassia, essential oil of peppermint 1 or 2 drops; make into 12 pills, and take 2 or 3 before dinner.

II. Aloes 6 drachms, gum mastic and red roses, each 2 drachms; make up with syrup of wormwood.

DIPPEL'S OIL OF HARTSHORN.

Obtained from hartshorn, distilled without addition, rectifying the oil, either by a slow distillation, in a retort, &c. no bigger than is necessary, and saving only the first portion that comes over, or with water in a common still; it is very fine and thin, and must be kept in an opaque vessel, or in a drawer, or dark place, as it is quickly dis-

colored by light. It is antispasmodic, anodyne, and diaphoretic, taken in doses of from 10 to 30 drops in water.

DIPPEL'S ACID ELIXIR.

Take $\frac{1}{2}$ oz. of sulphuric acid, 1 pint of rectified spirits of wine. Mix, and add $\frac{1}{2}$ drachm each of kermes grains, and saffron.

DISCHARGE, COLORS TO.

The dyers generally put all colored silks which are to be discharged into a copper in which half a pound or a pound of white soap has been dissolved. They are then boiled off, and when the copper begins to be too full of color, the silks are taken out and rinsed in warm water. In the interim a fresh solution of soap is to be added to the copper, and then proceed as before till all the color is discharged. For those colors that are wanted to be effectually discharged, such as greys, cinnamon, &c. when soap does not do, tartar must be used. For slate colors, greenish drabs, olive drabs, &c. oil of vitriol in warm water must be used; if other colors, roche alum must be boiled in the copper, then cooled down, and the silks entered and boiled off, recollecting to rinse them before they are again dyed. A small quantity of muriatic acid, diluted in warm water, must be used to discharge some fast colors; the goods must be afterwards well rinsed in warm and cold water, to prevent any injury to the material.

DISTEMPER IN DOGS.

The following prescriptions are each about a dose for a full-grown pointer. They must, of course, be increased or diminished in proportion to the size and strength of the dog.

I. Take of opium 3 grains, emetic tartar 5 grains. To be given at night. Repeat the dose every third night, till the dog is recovered; taking care to keep him in a warm place, and always fed with a warm liquid diet, such as broth, gruel, &c. If the nostrils should discharge, have them washed or syringed twice a day, with a lotion of alum, or sugar of lead; putting about $\frac{1}{2}$ oz. of either to a pint of water.

II. Take of jalap powder 30 grains, calomel 8 grains. Made into a pill with a little gum water. One of these doses, mixed with butter, or in a small piece of meat, should be given to the dog every morning, on an empty stomach. The food should be light, and easy to digest; and the lotion, if required for the nostrils, should be observed here, as before mentioned.

DISTEMPER AMONG CATTLE.

Examine the cow's mouth, though she appears very well; and if you find any pimple in it, or on the tongue, or if you perceive any within the skin ready to come out, immediately house her, keep her warm, and give her warm tar-water. To a large

beast give a gallon; to a small one, 3 quarts. Give it four times every day, but not every time the quantity you first gave. Lessen the dose by degrees; but never give less than 2 quarts to a large beast, nor less than 3 pints to a small one; and house her every night for some time, and give her warm gruel and malt mash.

DISTILLATION OF SIMPLE WATERS, RULES FOR.

Plants and their parts ought to be fresh gathered. When they are directed fresh, such only must be employed; but some are allowed to be used dry, as being easily procurable in this state at all times of the year, though rather more elegant waters might be obtained from them whilst green.

Having bruised the subjects a little, pour thereon thrice its quantity of spring water. This quantity is to be diminished or increased, according as the plants are more or less juicy than ordinary. When fresh and juicy herbs are to be distilled, thrice their weight of water will be fully sufficient, but dry ones require a much larger quantity. In general, there should be so much water, that after all intended to be distilled has come over, there may be liquor enough to prevent the matter from burning to the still.

Formerly, some vegetables were slightly fermented with the addition of yeast, previous to the distillation.

If any drops of oil swim on the surface of the water, they are to be carefully taken off.

That the waters may be kept the better, about $\frac{1}{10}$ part of their weight of proof spirits may be added to each, after they are distilled.

DISTILLATION TO PRESERVE FLOWERS FOR.

Rub 3 lbs. of rose-leaves for two or three minutes with 1 lb. of common salt. The flowers being bruised by the friction of the grains of salt form a paste, which is to be put into an earthen jar, or into a water-tight barrel. The same process is to be repeated until the vessel is filled, so that all the roses may be equally salted. The vessel is then to be shut up and kept in a cool place until wanted. For distillation, this aromatic paste is, at any season, to be put into the body of the still with twice its weight of water; and when the heat is applied, the oil, or essential water, is to be obtained in the common way. Both the oil and water are in this way produced in greater quantity than by using the leaves without the salt; besides, the preserved paste will keep its flavor and strength unimpaired for several years.

DIURETIC MEDICINES.

The diuretic medicines promote the formation and passage of urine, gin is well known to have this property in a remarkable degree, as have also turpentine, and many of the

resins and balsams, some of the salts of potash, &c. The following medicines are of this class, and they are all valuable in dropsy or other disorders, wherein the fluids of the body are too abundant. These medicines act upon the kidneys.

I. *Draughts*.—(a) Tincture of jalap 2 fluid drachms, vinegar of squills 1 fluid drachm, peppermint-water 10 fluid drachms.—(b) Acetate of potass $\frac{1}{2}$ drachm, infusion of quassia and cinnamon-water, of each 6 fluid drachms, vinegar of squills and sweet spirits of nitre, of each $\frac{1}{2}$ drachm.—(c) Nitre 8 grains, tincture of digitalis 16 drops, infusion of roses 13 fluid drachms, syrup of roses 1 drachm. Mix.

II. *Infusions*.—(a) Juniper berries 2 oz., aniseed 2 drachms, hot water 1 pint. To $\frac{3}{4}$ of a pint of the strained liquid add compound spirit of juniper 2 oz., tincture of squills 1 drachm, sal prunella 2 scruples. Dose a tea cup-ful frequently.—(b) Infusion of digitalis 4 oz., tincture of digitalis $\frac{1}{2}$ drachm, acetate of potass 1 drachm, tincture of opium 5 drops. Dose a large spoon-ful twice a day.—(c) Tops of the shoots of the broom plant (*spartium*) 1 oz., boiled in a pint of water to one half. Take 1 oz. every two hours, adding to each dose equal drops of dulcified spirits of nitre.

III. *Liniment*.—Tinctures of digitalis, squills, and colchicum seed, of each $\frac{1}{2}$ oz., liquor of ammonia $\frac{1}{2}$ oz., camphorated oil 1 oz.

IV. *Pills*.—(a) Dried squills root 4 grains, leaves of the foxglove 10 grains, calomel 6 grains, myrrh 1 scruple, assafoetida $\frac{1}{2}$ drachm. Make up into 15 pills with extract of gentian. Dose 1 night and morning.—(b) Dried carbonate of soda 1 drachm, hard soap 4 scruples, oil of juniper 15 drops. Make up into 30 pills with syrup of ginger. Dose 3 a day in stone.—(c) Dried squills 2 grains, blue pill 5 grains, opium $\frac{1}{2}$ grain. Make up into 1 or 2 pills for a dose.

V. *Powders*.—(a) Squills 3 grains, opium $\frac{1}{2}$ grain, cinnamon 10 grains; for a dose twice a day.—(b) Dried squills 12 grains, sal prunella 1 drachm, white sugar and cinnamon, each 1 drachm. Make into 6 powders, and take 1 each night and morning.—(c) Cream of tartar 3 drachms, dried squills 3 grains, ginger 5 grains. The same for a dose every six hours.

DIURETIC BALLS FOR HORSES.

I. Castile soap 4 oz., nitre and rosin, of each 2 oz., oil of juniper $\frac{1}{2}$ oz., linseed meal and syrup, enough to make 6 or 8 balls.

II. Castile soap 4 oz., Venice turpentine 2 oz., powdered aniseed to make 6 balls.

III. Castile soap, Strasburg turpentine, of each 3 drachms. Make into a ball with liquorice powder.

iv. Hard soap and common turpentine, of each $\frac{1}{2}$ oz. Make into a ball with carraway seed, powdered.

v. Yellow rosin 4 oz., Castile soap 3 oz., Venice turpentine 2 oz., carraway seeds, powdered, to form into 6 balls.

vi. Saltpetre 4 oz., rosin and flour, of each 2 oz., oil of juniper $\frac{1}{2}$ oz. Make into 6 or 8 balls with treacle.

DIURETIC SALT.

Saturate subcarbonate of potass with distilled vinegar, and evaporate to dryness. Re-dissolve the salt in distilled water, and evaporate, until it concretes on cooling. Dose of $\frac{1}{2}$ scruple is diuretic, of $\frac{1}{4}$ oz. cathartic.

DIXON'S ANTIBILIOUS PILLS.

nostrum, composed of equal parts of aloes, scammony, rhubarb, and a little potassio-tartrate of antimony, made up with Castile soap, and, of course, a powerful cathartic, and deobstruent.

DOLFUSS' ACETOUS ACID.

Sugar of lead 12 oz., oil of vitriol 6 oz. Distil off 7 oz. from a glass still. It is used to make aromatic vinegar.

DOLICHOS, ELECTUARY OF.

Scrape the hairy pods of the *Dolichos pruriens*, or cowage, into syrup, until as thick as honey. Take a tea-spoonful as a dose in the morning fasting; to be followed by opening medicine. This is a good remedy for worms.

DONOVAN'S MERCURIAL OINTMENT.

I. Rub calomel with aqua-potassæ, (carbonate of potass dissolved in water.) This will give the protoxyde of mercury. To each drachm of this protoxyde add $2\frac{1}{2}$ oz. of lard, rub them together for the space of two hours, keeping them at a heat of about 300° . Each ounce of lard takes up about 21 grains of the oxyde, and becomes of a grey color. There must not be any salt in the lard, or a decomposition of the salt takes place, and its hydrochloric acid uniting with the oxyde, calomel is formed, and the strength of the ointment is weakened. It is, if properly made, much stronger than common mercurial ointment.

II. Melt common mercurial ointment in a water bath, let it cool slowly, and then separate the upper grey portion.

DORCHESTER ALE, TO BREW.

Boil the water, and let it stand till the face can be seen in it; then put the malt in by degrees, and stir it; let it stand two hours; then turn on the proper complement. Boil the wort and hops thirty minutes; cool it as soon as possible, stirring it so that the bottoms may be mingled; then set it in the gyle-tun, until it gathers a head, which must be skimmed off; then put in the yeast, and

work it till the head falls; then cleanse it, keeping the cask filled up so long as it will work. The malts used are $\frac{1}{3}$ pale and $\frac{2}{3}$ amber, with 6 or 7 lbs. of hops to the quarter. By the thermometer, the heat of the first liquor is 170° , and of the second 180° , and the produce is 2 barrels per quarter.

DOSES, TO REGULATE.

It is evident that the doses of medicines must, all times, be proportioned to the age and strength of the individual, no less than to the nature of the disorder to be cured. In all medical books, the prescriptions are written as if the patient were of mature age, (unless otherwise expressed or implied.) Should the non-medical person take into his own hands the duty of the physician, he must, above all things, be careful not to administer too great a dose. To regulate his family practice with children, the following proportions may be observed, always remembering, that, with very young children especially, an error may be fatal, and the more so, as it is always difficult to learn properly the symptoms of many of their disorders, and which are the more fatal, on account of their generally acute, rapid, and inflammatory character. A dose for an adult, at 21 years of age, is to be reduced for younger persons, as follows:—

At 14 years of age, give two-thirds the quantity.

" 7	"	one-half	"
" 5	"	one-third	"
" 1	"	one-sixth	"
" 6 months	"	one-twelfth	"
" 2	"	one-fifteenth	"

Example:—If the dose for an adult be 1 drachm, or 60 grains, at the age of 14, the dose would be 40 grains; at the age of 7, it would be 30 grains; at the age of 5, it should be reduced to 20 grains; at the age of 1 year, to 10 grains; at 6 months, to 5 grains; and under 3 months, to 4 grains.

It is necessary to observe, that in medicines there are many exceptions to the above rules, thus emetics may be given in larger proportions; also, children will take nearly as large a dose of calomel as an adult. In the narcotic medicines, great care is requisite, hence, the great number of children that in the manufacturing districts are drugged and killed by laudanum.

DOVER'S POWDER.

I. Take 1 drachm each of ipecacuanha and of hard opium in powder, 1 oz. of sulphate of potass in powder. Mix and powder it very finely. This contains $\frac{1}{10}$ of opium. Dose 5 to 10 grains.

II. Take 4 parts each of sulphate of potass and nitrate of potass, powder these and throw them into a hot crucible to melt; turn the mass into an iron mortar, and when almost cold, add 1 part each of opium, ipecacuanha and liquorice. Pound all together and sift. Dose 40 to 70 grains.

This powder is one of the most certain sudorifics, and, as such, was recommended by Dr. Dover as an effectual remedy in rheumatism. Modern practice

confirms its reputation, not only in rheumatism, but also in dropsy, and several other diseases, where it is often difficult, by other means, to procure copious perspiration. The dose is from 2 to 5 grains, repeated according as the patient's stomach and strength can bear it. It is proper to avoid much drinking immediately after taking it, otherwise it is very apt to be rejected by vomiting, before any other effects are produced. Perspiration should be kept up by diluents.

DRAGON'S BLOOD, FICTITIOUS.

Melt 4 lbs. of shell-lac; when removed from the fire, add 5 oz. of Canada balsam, and 2 oz. of coarsely-powdered gum benzoin, when cool, stir in 1 lb. each of Venetian red and red sanders wood, both in fine powder; blend the whole well together, and form into sticks.

DROWNING, RECOVERY FROM.

Physicians differ considerably in prescribing the methods to be followed in attempting the recovery of drowned persons. For every practical purpose, the plan of recovery distributed by the Royal Humane Society is sufficient. It is as follows:—

I. *Stripping*.—As soon as the patient is taken out of the water, the wet clothes, if the person be not naked at the time of the accident, should be taken off with all possible expedition on the spot, (unless some convenient house is very near,) and a great coat or two, or some blankets, if convenient, should be wrapped round the body.

II. *Removal of the body*.—The patient is to be then carefully conveyed in the arms of three or four men to the nearest public or other house, where a good fire, if in the winter season, and a warm bed, can be ready for its reception. As the body is conveying to this place, great attention is to be paid to the position of the head; it must be supported in a natural and easy posture, and not suffered to hang down.

III. *Warmth*.—In cold or moist weather, the patient is to be laid on a mattress or bed before the fire, but not too near, or in a moderately-heated room; in warm and sultry weather, on a bed only. The body is then to be wrapped as expeditiously as possible in a blanket, and thoroughly dried with warm coarse cloths or flannels. Friction with the hand, or with warm flannel or coarse cloth, so as not to injure the skin, should also be tried with perseverance, until more efficacious means can be tried.

IV. *Fresh Air*.—In summer, or sultry weather, too much air cannot be admitted. For this reason it will be necessary to set open the windows and doors, as cool refreshing air is of the greatest importance in the process of resuscitation.

V. *Inflation*.—It will be proper for one of the assistants, with a pair of bellows of the common size, applying the pipe a little way up one nostril, to blow with some force,

in order to introduce air into the lungs; at the same time, the other nostril and the mouth are to be closed by another assistant, while a third person gently presses the chest with his hands, after the lungs are observed to be inflated.

VI. *Fomentations*.—Fomentations of hot brandy are to be applied to the pit of the stomach, loins, &c. and often renewed. Bottles filled with hot water, heated tiles covered with flannel, or hot bricks, may be efficaciously applied to the soles of the feet, palms of the hands, and other parts of the body. The temples may be rubbed with spirits of hartshorn, and the nostrils now and then tickled with a feather; and snuff, or eau de luce, should be occasionally applied.

VII. *Cordials*.—If there are any signs of returning life, such as sighing, gasping, or convulsive motions, a spoonful of any warm liquid may be given; and if the act of swallowing can be performed, a cordial or warm brandy or wine may be given in small quantities, and frequently repeated.

VIII. *Bleeding, &c.*—The methods which have been described are to be employed with vigour for three hours or upwards, although no favorable circumstances should arise; for it is a vulgar and dangerous error to suppose that persons are irrecoverable because life does not soon make its appearance; an opinion that has consigned to the grave an immense number of the seemingly dead, who might have been restored to life by resolution and perseverance.

DRUNKENNESS, RECOVERY FROM.

A person having taken too much liquor is relieved and restored very quickly to a state of sobriety by either of the following recipes.

I. Produce vomiting either by an emetic powder or by tickling the throat with the finger or with a feather.

II. Suffer a person to pump or dash cold water upon the head for one or two minutes, also swallow $\frac{1}{2}$ a pint of the same cold water.

III. Take a teaspoonful of spirits of sal volatile, or a like quantity of spirits of mindererus (acetate of ammonia) mixed with a wine glassful of water. This is said to be very powerful in its action.

IV. Take a wine glassful, or a small teacupful of vinegar. Next to this acid in efficacy is the tartaric acid, the citric, and the carbonic acid.

Vinegar is generally used by drunken soldiers before their return to barracks. In the West Indies they employ lemon juice with the same object. Carbonic acid being also good for this purpose is the reason that soda water is so often taken to remove drunken headache.

DRYING OILS FOR THE PAINTERS.

I. Nut or linseed oil 1 gallon, white lead dried, sugar of lead dried, and white vitriol dried, of each 1 oz., litharge 12 oz. boil

slightly and skim until a pellicle is formed, then cool and let it settle, pour off the clear part for use.

II. Linseed or nut oil 1 pint, litharge $1\frac{1}{2}$ oz., white vitriol 3 drachms, boil.

III. Linseed or nut oil 1 pint, litharge 3 or 4 oz., boil, or else let it stand some days shaking it frequently.

IV. Linseed or nut oil 2 lbs., water 3 lbs., white vitriol 2 oz., boil till nearly all the water is consumed, then expose to the sun for some time.

V. Linseed oil, mix with snow or pounded ice, and keep it from thawing as long as possible. In two months the oil will have acquired the drying property.

DUPUYTREN'S EYE SALVE.

Red oxyde of mercury 10 grains, sulphate of zinc 20 grains, pork lard to make an ointment.

DURIETZ'S ANTI-HYSTERIC ELIXIR.

Take 2 drachms of assafoetida, $\frac{1}{2}$ drachm each of opium and hydrochlorate of ammonia, 3 oz. of castor. Mix, digest, and strain.

DUTCH CINNABAR.

Made by grinding 170 lbs. of quicksilver and 50 lbs. of brimstone together, then throwing the mixture by laddlesful into heated earthen sublimers, where it takes fire; the superfluous sulphur being consumed, the mouths of the vessels are covered with tiles, which stops the conflagration, and the sublimation commences, which is continued till the whole is sublimed.

DUTCH DROPS.

A nostrum obtained by distilling oil of turpentine in a glass retort till a red balsam remains, which has also been called Balsam of Turpentine. Or by distilling resin till a thick red oil comes over. Or by dissolving 4 drachms of flower of sulphur in 8 oz. of oil of turpentine.

DUTCH PINK.

Take 1 lb. French berries, $\frac{1}{2}$ lb. of turmeric, pearl ashes 1 lb., water $1\frac{1}{2}$ gallon, boil together in a tin or pewter saucepan, strain through flannel while hot, then dissolve $1\frac{1}{2}$ lb. of alum, pour it into the strained tincture while any sediment falls, wash this sediment and drain it on paper or cloth to dry. To bring it to the required color, which should be a fine golden yellow, it may be mixed with whiting, starch, or white lead.

DUTCH PINK, TO PREPARE FROM WELD.

Boil the stems of weld in alum water; and then mix the liquor with clay, marl, or chalk, which will become charged with the color of the decoction. When the earthy matter has acquired consistence, form it into small cakes, and expose them to dry. It is

under this form that the Dutch pinks are sold in the color shops.

DUTCH PINK FROM YELLOW BERRIES.

The small blackthorn produces a fruit which, when collected green, are called yellow berries. These seeds, when boiled in alum water, form a Dutch pink superior to the former. A certain quantity of clay, or marl, is mixed with the decoction, by which means, the coloring part of the berries unites with the earthy matter, and communicates to it a beautiful yellow color.

DUTCH TERRAS.

This is composed of basalt ground to a fine powder, and blue argillaceous lime, mixed up with water, and well beaten together.

DYER'S AQUAFORTIS.

Nitric acid perfectly free from nitrous gas 100 lbs., muriatic acid 5 lbs., this dissolves tin without oxidating it, and is therefore used in scarlet dyeing to brighten cochineal and lac colors.

DYER'S SPIRIT.

I. Dyer's aquafortis 28 lbs., tin 4 lbs., dissolve it gradually and stir it frequently. Used for dyeing with lac dye.

II. Nitric acid 20 lbs., sal ammoniac 10 lbs. Dissolve, add 2 lbs. of tin. This is used in dyeing with cochineal.

DYSENTERY.

This disorder which carries off great numbers of the inhabitants of the tropical regions differs from simple diarrhoea in the violent, the bloody, slimy and painful character of the motions. It is accompanied by fever, foul tongue, loss of appetite and strength, &c. It differs from cholera in being of prolonged duration and in not being attended by spasms. The causes are cold and chill after warmth, or by night after hot days. Other causes are putrid meats, bad wine, and marshy atmosphere. The most active remedies accompanied by bleeding and warm emollient fomentations are necessary. Until medical aid can be procured any of the remedies prescribed for diarrhoea will be found serviceable. The following also may be used:—

Mixture.—Take of catechu in powder, simarouba bark and cinnamon each 2 drachms, boiling water 1 pint, macerate for 4 hours in a covered vessel and then strain. Now take of the strained liquor 7 oz., compound tincture of cardamoms 1 oz., opiate confection 1 drachm. Make into a mixture of which take 2 table spoonsful four times a day. An opiate enema of starch with 30 or 40 drops of laudanum is also useful.

EAR-ACHE.

This distressing disorder is occasioned by something getting into the ear, by an abscess being formed there, or more frequently by a casual exposure to cold. If this latter case, warmth is the chief remedy. The following are often beneficial:—

I. Put into the ear a piece of cotton dipped in a mixture of equal parts of opium and ether.

II. Drop into the ear a little camphor liniment diluted with an equal quantity of sweet oil.

III. Boil a fig for five minutes, wrap it in a piece of rag and put it to the ear, binding it on with a handkerchief round the head.

IV. If very severe or long continued, put a small blister behind the ear in addition to one of the above remedies, or a leech may be applied to the same part.

EARTHENWARE, ENAMEL FOR.

I. Take of tin any quantity, inclose it in clay or loam and put it in a crucible, place the crucible in the fire, that the tin may calcine and then break it; there will be a quantity of calx or oxyde of a very white color, even whiter than the ordinary color of earthenware.

II. Mix together equal parts of white enamel, glass, and soda, finely pulverized, and carefully sifted.

EAR-WIGS, TO DISLodge FROM THE EAR.

Ear-wigs may be destroyed by dropping into the ear a little olive-oil, sweet-oil, or oil of almonds; or, they may be enticed out alive, by applying a piece of apple (for which that insect has a peculiar fondness) on the outside of the ear.

EAR-WIGS, TRAPS FOR.

These insects which are very troublesome in gardens in the autumn of the year may be easily caught. It is usual to put upon the tops of the stakes to which dahlias and other flowers are tied, either lobster claws or little earthen cups; but what is far better than this is a stalk of rhubarb, cut open at one end and closed up by a joint at the other. It may have three or four side-holes cut in it, and is to be placed mouth downwards among the branches of the plants, for carnations a broad bean stalk will look neater and be equally efficacious. Previous to fixing the stalk it may have a little piece of mellow apple fastened near to the upper end, by a peg which runs through the stalk and apple; each morning the stalk is to be taken down, and the ear-wigs collected in it shaken out into a pan of hot water. We have thus seen more than 100 caught in a single trap. When little earthen pots are used as traps they should have a little moss placed in them.

EAST INDIA PILLS, TANJORE PILLS.

White arsenic 1 drachm, black pepper 6 drachms. Mix and make into 4-grain pills; 1 is a dose. Used in elephantiasis, confirmed lues, &c. A most dangerous remedy, especially if often repeated. Each pill contains about $\frac{3}{4}$ grain of arsenic.

EAST INDIA POMATUM.

Suet 9 lbs., lard 8 lbs., bees' wax, 1 lb., essence of lemons 8 oz., gum benzoin 10 oz. musk 4 scruples.

EATON'S STYPTIC WASH.

Green vitriol, calcined, 1 drachm, proof spirit, tinged yellow with a little oak bark, 2 lbs.

EAU D'ARGUEBUSADE.

Tops of yarrow $1\frac{1}{2}$ lb., flowers or tops of rosemary and thyme, of each $\frac{1}{2}$ lb., proof spirit 2 gallons; distil off one half.

EAU DE BOUQUET.

Take of sweet scented honey water 1 oz., eau sans-pareille $1\frac{1}{2}$ oz., essence de jasmin 5 drachms, syrup of cloves and spirit of violets, each 4 drachms, calamus aromaticus, long-rooted cyperus, and lavender, each 2 drachms, essence of neroli 1 scruple. Mix. Some add a few grains of musk and ambergris; it is sweet scented, and also made into a ratafia with sugar.

EAU DE COLOGNE.

I. Strong spirits of wine 4 pints, neroli, essences of cedrat, orange, citron, bergamot, and rosemary, of each 24 drops, lesser cardamom seeds 2 drachms. Distil off 3 pints in a glass retort and receiver.

II. Spirits of wine 2 pints, essence of citron and bergamot 2 drachms, essence of cedrat 1 drachm, essence of lavender $\frac{1}{2}$ drachm, essence of orange flowers and tincture of ambergris, of each 10 drops, tincture of musk $\frac{1}{2}$ drachm, tincture of benzoin 3 drachms, essence of roses 2 drops. Mix and filter.

III. Take of essence of bergamot 3 oz., neroli $1\frac{1}{2}$ drachm, cedrat 2 drachms, lemon 3 drachms, oil of rosemary 1 drachm, spirit of wine 12 lbs., rosemary $3\frac{1}{2}$ lbs., eau de melisse de Carmes $2\frac{1}{2}$ lbs. Mix. Distil in a water bath, and keep it in a cold cellar or ice house for some time. It is used as a cosmetic, and made with sugar into a ratafia.

EAU DE LUCE.

I. Ten or twelve grains of white soap are dissolved in 4 oz. of rectified spirits of wine; after which the solution is strained. A drachm of rectified oil of amber is then added, and the whole filtered; with this solution should be mixed such a proportion of the strongest volatile spirit of ammonia, in a clear glass bottle, as will, when sufficiently shaken, produce a beautiful milk-white liquor. If a kind of cream should settle on the surface, it will be requisite to add a small quan-

tity of the spirituous solution of soap. Those who may wish to have this liquor or water perfumed may employ lavender or Hungary water, instead of the spirits of wine.

II. Scio turpentine or mastic 2 oz., spirits of wine 2 lbs., add when wanted a few drops of spirits of hartshorn.

III. Liquid ammonia 1 lb., oils of lavender, rosemary, and amber, of each 2 oz.

IV. Prepared kali 3 drachms, oil of amber $1\frac{1}{2}$ drachm; rub together, and add by degrees 4 oz. of spirits of wine; digest for fifteen minutes and decant 40 drops of this liquor; poured into $\frac{1}{2}$ oz. of pure liquid ammonia, forms eau de luce of the true milky appearance, and not settling.

EAU DE MARECHALE.

I. Musk 20 grains, essence of bergamot, oil of lavender, oil of cloves, of each 1 oz., essence of ambergris 2 oz., oil of sassafras 15 drops, oil of marjoram 20 drops, spirits of wine 4 pints.

II. Spirits of wine $1\frac{1}{2}$ lb., essence of violets 1 oz., essences of bergamot and pinks, of each 2 drachms, orange-flower water 8 oz.

EAU DE MELISSE DES CARMES.

I. Take of dried balm leaves 4 oz., dried lemon peel 2 oz., nutmegs and coriander seeds, each 1 oz., cloves, cinnamon, and dried angelica roots, each 4 drachms, spirits of wine 2 lbs., brandy 2 lbs. Steep and distil in a water bath, re-distil, and keep for some time in a cold cellar.

II. Take of spirit of balm 8 pints, lemon peel 4 pints, nutmegs and coriander seeds, each 2 pints, rosemary, marjoram, thyme, hyssop, cinnamon, sage, anniseed, cloves, angelica roots, each 1 pint. Mix, distil, and keep it for a year in an ice-house.

This is the original receipt of the barefooted Carmelites, now in possession of the company of apothecaries of Paris, who sell a vast quantity of this celebrated water.

EAU DE MILLE-FLEURS.

I. Angel water 2 pints, musk from 20 grains, with a little essence of ambergris.

II. Spirits of wine 8 oz., spirit of jasmin 2 drachms, essence of lavender $\frac{1}{2}$ drachm, essence of bergamot 2 drachms, orange-flower water 8 oz.

III. Spirits of wine 4 pints, musk 10 grains, essence of lemons $1\frac{1}{2}$ oz., oil of cloves and English oil of lavender each 1 oz.

EAU DIVINE.

Take of spirits of wine 1 gallon, essence of lemons and essence of bergamot, each 1 drachm. Distil in a bath heat. Add 4 lbs. of sugar dissolved in 2 gallons of pure water, and lastly orange-flower water 5 oz.

EAU SANSPAREIL.

Take 2 gallons of fine old honey-water, put it into a still capable of holding 4 gallons,

and add the thinly-pared rinds of 6 or 8 fresh citrons, neither green nor mellow ripe; then add 60 or 70 drops of fine Roman bergamot; and having luted the apparatus well, let the whole digest in a moderate heat for twenty-four hours. Draw off, by a water-bath heat, about 1 gallon.

ECCLES CAKES.

Roll out upon a sheet of tin some puff paste, until it is about the eighth of an inch in thickness, and let there be enough of it to cover the tin, trimming it round the edges, so that the sheet of paste may agree with the tin in shape and size. Put on to this a layer of Banbury meat, about $\frac{1}{2}$ an inch in thickness. Roll out another sheet of paste, about twice as thick as the lower piece, and lay it over the top, trim the paste from the sides, and cut it into squares of about 2 inches on the side. Bake in a moderate oven; as soon as it is baked sufficiently, dust the top thickly over with powdered loaf-sugar.

EDINBURGH ALE.

I. Mash 2 barrels per quarter, at 183° ; mash three quarters of an hour; let it stand one hour, and allow half an hour to run off the wort.

II. Mash 1 barrel per quarter, at 190° ; mash three quarters of an hour, let it stand three quarters of an hour, and tap as before.

III. Mash 1 barrel per quarter, at 160° ; mash half an hour; let it stand half an hour, and tap as before. The first and second wort may be mixed together, boiling them about an hour or an hour and a quarter, with a quantity of hops proportioned to the time the beer is intended to be kept. The two first may be mixed at the heat of 60 or 65° in the gyle tun, and the second should be fermented separately for small beer.

EDINBURGH ITCH OINTMENT.

Black pitch 1 lb., flowers of sulphur, or sulphur heated until of a dark red color, and hog's lard, each 2 lbs. Mix all together while warm. If too stiff, add a little oil. This is an unnecessarily dark, dirty, and disagreeable application.

EFFERVESCENT EMULSION.

Take 1 drachm and 10 grains of sub-carbonate of potass, 1 drachm of syrup of red poppies, 3 drachms of lemon juice, 1 oz. of almond emulsion. Mix, and take while it effervesces.

EFFERVESCENT POULTICE.

Wheat-flour 1 lb., yeast $\frac{1}{2}$ lb. Mix together, and apply it when it has commenced to ferment. Applied to gangrene, &c.

EGGS, PICKLED.

In the counties of Hants and Dorset, pickled eggs constitute a very prominent feature in the farm-house and store rooms, insomuch that they would be considered by

the industrious housewife but indifferently furnished without them. The mode in which the good dames pickle them is simply thus:—At the season of the year when their stock of eggs is plentiful, they cause some 4 or 6 dozen to be boiled in a capacious saucepan until they become quite hard. They then, after removing the shells, lay them carefully in large-mouthed jars, and pour over them scalding vinegar, well seasoned with whole pepper, allspice, a few pieces of ginger, and a few cloves of garlic. When cold, they are bunged down close, and in a month are fit for use. Where eggs are plentiful, the above pickle is by no means expensive, and as an ascetic accompaniment to cold meat, it cannot be outrivalled for piquancy.

EGGS, TO PRESERVE.

I. Hang them by hooks in strong cabbage or lemon nets, and if the net be large and many eggs are contained in it, hook it every day on a different mesh, so that the eggs may be turned and exposed on every side to the action of the air.

II. Keep the eggs buried up in common salt.

III. Put into a tub or vessel 1 bushel of quicklime, 3 lbs. of salt, $\frac{1}{2}$ lb. of cream of tartar, mix all together with water until of that consistence that an egg will float with its top just above the liquid. Eggs floating in this way will keep more than two years.

IV. Fill any vessel with eggs, and pour upon them some lime white, made by mixing quicklime with water till of the consistence of thick treacle. Let the lime-water fill up all the interstices and cover over the eggs: the eggs when taken out are to be washed in cold water.

V. *Scotch method.*—Dip them during one or two minutes in boiling water. The white of the egg then forms a kind of membrane, which envelopes the interior, and defends it from the air.

EGG FLIP.

Take two eggs, and break them into a basin; add about 3 oz. of sugar, and beat these together. In the mean time make 1 pint of table-beer or mild porter hot, but do not let it boil, otherwise the eggs will be curdled, in which state they are termed by many "hen and chickens." When the beer is near boiling, take it off, and mix the eggs and sugar already prepared and the hot beer together, by pouring them backwards and forwards from the pot to the basin. Add a wine glass of gin, or any other spirit; but gin is the liquor generally used. Grate a little nutmeg or ginger on the top, and it will be ready for drinking.

EGYPTIAN AZURE.

A beautiful sky blue imperishable color, obtained by mixing and heating together for two hours 15 oz. of carbonate of soda, 20 oz. of calcined flints, and 3 oz. of copper filings.

ELDER BRANDY.

In making elder brandy, let the berries be fully ripe, and all the stalks be cleanly picked from them; then, have a press ready for drawing off all the juice, and four hair cloths, somewhat broader than the press; lay one layer above another, having a hair cloth betwixt every layer, which must be laid very thin and pressed a little at first, and then more till the press be drawn as close as possible. Now take out the berries, and press all the rest in the like manner: then take the pressed berries, break out all the lumps, put them into an open-headed vessel, and add as much liquor as will just cover them. Let them infuse so for seven or eight days; then put the best juice into a cask proper for it to be kept in, and add 2 gallons of malt spirits to every 20 gallons of elder juice, which will effectually preserve it from becoming sour for 2 years at least; a little sugar and a few cloves are a great improvement.

ELDER-FLOWER WINE.

Boil 18 lbs. of white powdered sugar in 6 gallons of water, and 2 whites of eggs well beaten; skim it, and put in a $\frac{1}{4}$ of a peck of elder flowers; do not keep them on the fire. When cool, stir it, and put in 6 spoonsful of lemon-juice, 4 or 5 of yeast, and beat well into the liquor; stir it well every day; put 6 lbs. of the best raisins, stoned, into the cask, and tun the wine. Stop it close, and bottle in six months. (See *Frontinac*.)

ELDER OINTMENT.

I. Elder flowers 4 lbs., pork lard 3 lbs., olive oil 1 lb.

II. Elder flowers and pork lard of each 2 lbs.

III. Add to the first receipt 4 oz. of white wax, and oil of lavender $\frac{1}{2}$ oz.

ELDER WINE.

Pick the berries when quite ripe, boil them for a few minutes, then strain them through a coarse sieve and squeeze the berries. To every quart of juice put 1 lb. of sugar, boil the whole together for an hour and skim it well. When clear and fine pour into a cask along with a little yeast, which may be added when at about the heat of new milk. Let it ferment and then rack it off into a clean cask and bung it down; previous to which, to fine it, add for every 10 gallons of wine 1 oz. of isinglass dissolved in cider and 6 whole eggs; in three or four months it will be fit to tap.

ELECAMPANE, OR CANDY CAKE.

Take clarified loaf sugar, and boil to candy height, rub it a little about the sides of the pan till it begins to grain or turn white, then throw it out on a warm slab, divide it into squares. The sugar should be colored with cochineal, by adding some to the syrup while

oiling, sufficient to give it the desired tint. This used to be made from the decoction of the roots of elecampane, whence it derives its name.

ELECTRICAL CEMENT.

Melt 1 lb. of resin in a pot or pan over a slow fire; add thereto as much plaster of Paris, in fine powder, as will make it hard enough; then add a spoonful of linseed oil, stirring it all the while, and try if it be hard and tough enough for the purpose; if it is not sufficiently hard, add more plaster of Paris; and if not tough enough, a little more linseed oil. This is as good a cement as possible for fixing the necks of globes or cylinders, or any thing else that requires to be strongly fixed; for it is not easily melted again when cold.

ELECTRICAL VARNISH.

The beautiful red varnish with which parts of philosophical instruments are ornamented is made by dissolving red sealing wax in spirits of wine; apply three or four coats of this.

ELEPHANT'S MILK.

Take of gum benzoin 2 oz., spirits of wine 1 pint, boiling water $2\frac{1}{2}$ pints, when cold, strain; and add sugar $1\frac{1}{2}$ lbs.

ELIXIR OF VITRIOL.

I. To water add oil of vitriol, so as to give it an agreeable acidity. It is used as a gargle, to stop salivation; by workmen, and servants to clean copper ware; and to give strength to poor vinegar.

2. *Sweet*.—Spirit of sulphuric ether 2 lbs., oil of peppermint $\frac{1}{2}$ oz., essence of lemons, and oil of nutmegs of each 2 drachms. Also called the aromatic spirit of ether.

EMBROCATION, COMMON.

Sesqui-carbonate of ammonia, 4 oz., distilled vinegar $6\frac{1}{2}$ pints, mix, and add 3 pints of proof spirits. (See *Bruises, Roche, Lynch, &c.*)

EMERALDS, IMITATIVE.

I. Take of paste for gems 9612 grains, acetate of copper 72 grains, peroxyde of iron $1\frac{1}{2}$ grain.

II. Paste 4608 grains, green oxyde of copper 42 grains, oxyde of chrome 2 grains.

III. Paste 1 oz., glass of antimony 20 grains, oxyde of cobalt 3 grains.

IV. Paste 15 oz., carbonate of copper 1 drachm, glass of antimony 6 grains.

EMETICS.

Such medicines as excite vomiting, they also have some of them the effect of promoting perspiration from the pores of the skin. (See *Diaphoretics* and *Sudorifics*.) Emetics are always to be administered immediately to remove poison from the stomach, and generally to relieve it when overcharged with food or with bile, as well as occasionally

in hooping and other coughs. Emetics produce a more violent action upon adults than upon children, thus they more frequently occur in medicines for the latter than in those for grown persons. Some emetics are very simple, others require the greatest care.

I. Diffuse a tea-spoonful of fresh-made mustard in a cup-ful of warm water, and drink.

II. Dissolve 3 or 4 grains, or from that to 20 grains of sulphate of zinc in water.

III. Dissolve a piece of blue stone, the size of a large pea, in water, and drink. The effect of these two poisonous medicines is instantaneous and very violent, they are therefore only to be used in extreme cases, as of poisoning.

IV. Dissolve 4 grains of tartrate of antimony in half a wine glass-ful of water, and take a fourth part; every ten minutes afterwards take a sixth of the remainder, till vomiting is excited. The first dose will therefore be 1 grain, the succeeding doses $\frac{1}{2}$ a grain each. In cases of poisoning by laudanum, on account of the torpidity of the action of the stomach, each dose may be increased by $\frac{1}{2}$ a grain.

V. Take of ipecacuanha wine 7 drachms, antimonial wine 1 drachm, syrup of violets 1 drachm, rose water 3 drachms. Make into a draught, to be taken in the evening; or for an infant give a tea-spoonful till it operates, and half of it for a child of ten or twelve years old. It has very little taste.

VI. Ipecacuanha wine 1 drachm, tartar emetic 1 grain, water a wine-glassful.

VII. Ipecacuanha wine $\frac{1}{2}$ drachm, tartar emetic 1 grain, tincture of squills 1 drachm, water $7\frac{1}{2}$ oz. Dose 4 table-spoonsful at first, and 2 table-spoonsful every fifteen minutes afterwards, till it operates.

VIII. *Bolus*.—White vitriol 10 grains, conserve of hips, enough to make into a bolus. This is for one dose, to be washed down with chamomile tea.

EMOLLIENT ENEMA.

Decoction of linseed, barley, or starch, 1 pint, linseed or olive oil 1 oz.

EMOLLIENT POULTICE.

Linseed meal made into a poultice by pouring boiling water on it, when cold add a little lard or oil to prevent its growing hard and dry.

ENAMEL FOR SAUCEPANS, ETC.

I. The coating or lining of iron vessels, by fusion with an enamel, is composed of 6 parts of calcined flints, 2 parts of Cornish stone, 9 parts of litharge, 6 of borax, 1 part of argillaceous earth, 1 part of nitre, 6 parts of calx of tin, and 1 of purified potash.

II. Calcined flints 8 parts, 8 parts of red lead, 6 parts of borax, 5 parts of calx of

tin, and 1 part of nitre. This composition is painted or smeared over the inside of the vessel and baked, it being first pounded and finely ground into a paste with gum water.

ENAMELS.

I. *General material for.*—(a) Calcine 30 parts of lead with 33 of tin, keeping the whole calcined mass red hot, till no more flame arise from it, and until it is of a greyish white uniform color.—(b) Take of the above calcined mixed oxyde 50 lbs., as much of calcined flints, and 8 oz. of salt of tartar; melt the mixture in a strong fire, kept up for ten hours, after which, reduce the mass to powder.

II. *White.*—Mix 6 lbs. of the material with 48 grains of the black oxyde of manganese, and melt in a clear fire. When fully fused, throw it into cold water, then re-melt, and cool as before three or four times.

III. *Purple.*—Mix with the material a little of any of the salts or the oxyde of gold; for example, the nitro-muriate of gold, the fulminate of gold, and especially the purple precipitate.

IV. *Black.*—(a) Take of calcined iron and cobalt, of each 1 oz., and material 2 oz.—(b) Zaffre 2 oz., manganese 1 oz., material 2 oz.

V. *Green.*—(a) Take of copper dust 1 oz. sand 2 oz., litharge 1 oz., and nitre $\frac{1}{2}$ oz.—(b) Copper 2 oz., sand 1 oz., litharge 2 oz., nitre $\frac{1}{2}$ oz., with equal parts of flux.

VI. *Dark red.*—Sulphate of iron, calcined, 7 oz., colcothar 1 oz., flux 18 oz.

VII. *Light red.*—Red sulphate of iron 2 oz., flux 6 oz., white lead 3 oz.

VIII. *Brown.*—Manganese 10 oz., red lead 32 oz., flint powder 16 oz.

IX. *Orange.*—Red lead 12 oz., red sulphate of iron 1 oz., oxyde of antimony 1 oz., flint powder 3 oz. Calcine and melt with 50 oz. of flux.

X. *Blue.*—Add to white enamel a very small quantity of the oxyde of cobalt, or still better the arseniate of cobalt.

XI. *Olive.*—Good blue enamel 2 parts, black and yellow ditto of each 1 part, melt them together.

XII. *Rose-colored.*—Purple enamel or its elements 3 parts, flux 90 parts; mix and add silver leaf or oxyde of silver 1 part, or less.

XIII. *Yellow.*—(a) Red lead 8 oz., oxyde or antimony and tin calcined together of each 1 oz.; mix and add flux 15 oz., fuse them together.—(b) White oxyde of antimony, alum and sal ammoniac of each 1 part, pure carbonate of lead 1 to 3 parts, mix and expose to a heat sufficiently high to decompose the sal ammoniac.

ENCAUSTIC PAINTING, MEDIUM FOR.

I. Gum arabic 9 oz., water 1 pint; dissolve and add mastic in fine powder 14 oz., boil to a paste, add white wax 10 oz. in small pieces, and while hot add by degrees 2 pints of cold spring water, then strain the composition which will be like cream.

II. Mix 24 oz. of mastic with the gum water, as above, leaving out the wax, and when sufficiently heated and mixed over the fire, add by degrees $1\frac{1}{2}$ pint of cold water.

III. Dissolve 2 oz. of gum arabic in $1\frac{1}{2}$ pint of water, add 1 lb. of white wax, boil over a slow fire, pour it into a cold vessel, beat it well together; when this is mixed with the colors, it will require more water than the others. Used with colors in painting instead of oil, adding water, if necessary; when the painting is finished, melt some white wax, add to it a little turpentine, and with a hard brush varnish the painting with it; finally, when cold, rub it all to a smooth and glossy face.

ENEMA, COMMON.

I. Dissolve 1 oz. of salt in a pint of warm water. This is a purgative.

II. Milk $\frac{1}{2}$ pint, sugar or honey or olive oil, of each 1 oz. This is laxative and nutritive.

III. Mutton broth and oil, of each 4 oz., brown sugar 1 oz.

ENGINEER'S CEMENT.

I. Mix ground white lead with a quarter of its weight of red lead.

II. Mix equal parts of red lead and white lead in powder, with as much boiled linseed oil as will make it of the consistence of soft putty.

III. Iron borings or filings 50 lbs.; let this be pounded and sifted, and then mixed with 1 lb. of sal ammoniac. When to be used, this compound powder is to be mixed with as much water as will make it of a soft pasty consistence.

IV. Boiled linseed oil and red lead, mixed to the consistence required. Litharge mixed with it much improves it for many purposes.

These various cements are used to render the joints of different machinery air and water-tight. No. 3 is that employed to fill cracks in boilers, &c. as is also copper-smith's cement. The following is excellent for out-door iron work, water tanks, &c.

V. Borings of iron 4 lbs., potter's clay, dried, 2 lbs., powdered potsherds 1 lb. Made into a paste with salt and water.

ENGLISH VERDIGRIS.

Blue vitriol 24 lbs., white vitriol 16 lbs., sugar of lead 12 lbs., alum 2 lbs., all coarsely powdered, put in a pot over the fire, and stirred, until they are all united into a mass.

ENGRAVINGS, CLEANING OF.

Put the engraving on a smooth board. cover it thinly with common salt, finely pounded; pour or squeeze lemon-juice upon

the salt, so as to dissolve a considerable portion of it; elevate one end of the board, so that it may form an angle of about 45 or 50° with the horizon. Pour on the engraving boiling water from a tea kettle, until the salt and lemon-juice be all washed off; the engraving will then be perfectly clean, and free from stains. It must be dried on the board, or on some smooth surface gradually. If dried by the fire or the sun it will be tinged with a yellow color. Any one may satisfy himself of the perfect efficacy of this method by trying it on an engraving of small value.

ENGRAVINGS, TO TRANSFER TO PLASTER.

Cover the plate with ink, and polish its surface in the usual way, then put a wall of paper round it, and when completed, pour in some finely powdered plaster of Paris, mixed in water; jerk the plate repeatedly, to allow the air bubbles to fly upwards, and let it stand one hour, then take the cast off the plate, and a very perfect impression will be the result.

EPILEPSY, ELECTUARY FOR.

Powdered cinchona 1 oz. valerian and tin both in powder of each $\frac{1}{2}$ oz., syrup to mix.

ERGOT, ESSENTIAL SOLUTION OF.

Ergot coarsely powdered 4 oz., ether 4 fluid oz., digest for seven days, submit to spontaneous evaporation, and dissolve the residuum in 2 fluid oz. of ether. Dose, 15 to 20 drops on sugar. It exercises a similar action on the uterus to the crude ergot.

ESCHAROTICS.

Escharotics are mild caustics, applied to gangrenous wounds, fungous ulcers, &c. being either sprinkled upon them in a state of powder, or made into and applied as a lotion.

I. *Liniment*.—Take 4 oz. of honey, 1 oz. each of verdigris and muriatic acid. Mix over a slow fire.

II. *Powder*.—(a) Take 2 scruples of burnt alum, $\frac{1}{2}$ oz. of nitric oxyde of mercury. —(b) Take equal parts of sulphate of copper and Armenian bole.—(c) Take 1 oz. of acetate of copper, 2 drachms of Armenian bole, and mix.

III. *Solution*.—Camphor 6 grains, corrosive-sublimate 92 grains, spirits of wine 90 grains.

ESSENTIA BINA.

A coloring matter, sold by brewers' druggists, to color brandy, porter, &c. It is prepared by boiling coarse sugar till it is quite black, and of a bitter taste. It is made into a syrup with lime water.

ESSEX ALE, TO BREW.

Procure two mashing tubs, one that will mash 4 bushels, and the other 2, and a copper that holds $\frac{1}{2}$ a hogshead. The water, when boiled, is put into the largest tub, and

a pail of cold water immediately on that; then put the malt in by a hand-bowlful at a time, stirring it all the while, and so on in a greater quantity by degrees; (for the danger of balling is mostly at first,) till at last $\frac{1}{2}$ a bushel of dry malt is left for a top-cover: thus let it stand three hours. In the meanwhile, another copper of water is directly heated, and put as before into the other mash-tub, for mashing 2 bushels of malt, which stands that time. Then after the wort of the 4 bushels is run off, let that also of the 2 bushels run, and ladle it over the 4 bushels, the cock running all the while, and it will make in all a copper and a half of wort, which is boiled at twice; that is, when the first copper is boiled an hour, or till it breaks into large flakes, then take half out, and put the remaining raw wort to it, and boil it about half an hour till it is broke. Now, while the two worts are running off, a copper of water almost scalding hot is made ready, and put over the goods or grains of both tubs; after an hour's standing, the cock is turned, and this second wort is boiled away, and put over the grains of both tubs, to stand an hour; when off, it is put into the copper and boiled again, and then serves hot, instead of the first water for mashing 4 bushels of fresh malt; after it has again lain three hours, and is spent off, it is boiled; but while in the mash-tub, a copper of water is heated to put over the goods or grains which stand an hour, and is then boiled for small-beer. And thus may be brewed 10 bushels of malt with 2 $\frac{1}{2}$ lbs. of hops for the whole.

ETCHING ACIDS, FOR BITING IN.

I. *For Steel*.—Acetic acid 4 parts by measure, with this mix 1 part of spirits of wine, and then add 1 part nitric acid. This being poured upon the plate will bite in sufficiently for the lightest tints in a minute, and the darkest in 5 to 15 minutes.

II. *For Copper*.—Nitric acid 1 part, water 4 parts. To be applied from a quarter of an hour to an hour.

III. *For Glass*.—Fluoric acid diluted with four or five times its quantity of water. This being poured upon the plate will make the drawing or etching transparent. If wanted to be opaque it must be exposed to the fumes of the same acid in a leaden vessel.

IV. *For Marble and Stone*.—Use muriatic acid diluted with six or seven times its quantity of water. This will also do for etching on eggs, shells of fish, &c.

V. Take 8 parts of strong French vinegar, 4 parts of verdigris, 4 parts of common salt, 4 parts of sal ammoniac, 1 do. of alum, 16 do. water. The solid substances are to be well ground, dissolved in the vinegar and diluted with the water. This is recommended by Callot, the engraver.

ETCHING GROUND.

Take of virgin wax and asphaltum of each 2 oz., of black pitch and Burgundy pitch, each $\frac{1}{2}$ an oz., melt the wax and pitch in a new earthenware glazed pot, and add to them by degrees the asphaltum finely powdered. Let the whole boil till such time that taking a drop upon the plate, it will break when it is cold upon being doubled two or three times between the fingers. The varnish when boiled enough is to be a little cooled and then poured into slightly warm water, and there made up by the hand into balls about as big as walnuts; one of these tied up in a piece of silk is fit for use.

ETCHING GROUND, TO LAY.

Having provided a plate of the size of the drawing intended to be copied, rub it well with an oil-rubber made of swan-skin flannel, till all the marks of the charcoal used in polishing it entirely disappear; then wipe off the dirty oil with a linen rag, dip the finger in some clean oil, and touch it over every part of the plate; after which, with the burnisher, polish the plate; and in case any sand-holes or flaws appear, the scraper will assist in taking them out. The marks left by the scraper are to be taken out by the burnisher, till nothing appear. Having fixed the hand-vice at one end of the plate, with a rag and whiting, clean the plate carefully from grease; then heat it over a charcoal fire, or lighted paper, lay the ground on thinly, and dab it all over with the dabber, till it is perfectly smooth and even; then warm the plate again, and holding it up with the ground downwards, smoke it all over with a wax candle, taking care that the snuff of it does not touch the ground, and wave the candle continually over every part, so that the ground may not be burnt by heating it more in one place than another. If the plate be large, bind four wax-tapers together.

ETCHING ON GLASS, A VARNISH FOR COVERING PREPARATORY TO.

Take 2 oz. of bees' wax, 1 oz. of tallow, and $\frac{1}{2}$ oz. of common rosin, melt and mix them well together in an earthen pipkin over the fire; lay a sufficient quantity of this on the glass to form a coating on its surface, the thickness of a sheet of good writing-paper. This you will easily do by holding the glass during the operation over a clear fire sufficiently near to melt the varnish, and make it float regularly over the whole surface, but not near enough to cause the varnish to boil, or crack the glass. When cold, it is ready for etching.

EXCHEQUER INK.

To 40 oz. of galls add 10 oz. of gum arabic, 9 oz. of copperas, and $3\frac{1}{2}$ gallons of water. Let them soak for a fortnight, then strain off, and put into bottles.

EXETER OIL.

Green oil 16 lbs., of euphorbium, mustard, castor, and feverfew, each 1 oz.

EXTEMPORE SMELLING SALTS.

I. Sal ammoniac 1 scruple, prepared kali 1 drachm, essence of lemon 5 drops.

II. Pound or beat together equal parts of quicklime and sal ammoniac. A decomposition of the latter will take place and the ammonia in it escape.

EYE SALVE.

Melt together 12 oz. of fresh butter and 2 oz. of white wax, and stir in, while hot, 6 drachms each of calamine and tutty, 2 drachms each of white lead and camphor, and 1 drachm each of myrrh, aloes, sulphate of zinc, and sarcocolla. (See *Singleton*.)

EYE SNUFF.

Triturate and mix well in a marble mortar 5 grains of sulphate of mercury, 2 scruples of liquorice root, powdered. It is a powerful errhine in producing a discharge from the nose, when snuffed up in small pinches, and in this manner may act on the eyes by stimulating the surrounding glands, but it is not very safe. (See *Asarabacca*, *Cephalic*, and *Grimstone*.)

EYE WATERS.

I. White vitriol $\frac{1}{2}$ drachm, camphor 2 oz., boiling water 2 lbs. Dissolve and filter.

II. White vitriol $\frac{1}{2}$ drachm, spirits of camphor $\frac{1}{2}$ drachm, boiling water 1 quart.

III. Liquor of sugar of lead $\frac{1}{2}$ oz., rose water 2 oz., distilled water $\frac{1}{2}$ pint.

IV. Take of extract of lead 10 drops, rose water 6 oz.

V. Take of opium 10 grains, camphor 6 grains, boiling water $\frac{3}{4}$ of a pint. Rub the opium and camphor with the boiling water, and strain.

VI. Dissolve 10 grains of the soft extract of opium in 6 oz. of distilled water; strain through fine linen, and then add 2 oz. of liquor of acetate of ammonia.

VII. Make a lotion for inflamed eyes with 20 drops of tincture of camphor, 10 drops of solution of sugar of lead, 1 of Goulard extract, and 7 oz. of distilled water.

VIII. Mix together 1 oz. of the liquor of ammonia with 7 oz. of distilled rose water. (See *Acid* and *Alum*.)

FACE, TO TAKE A CAST FROM.

This is often done as a mould for a bust, or to preserve the likeness of a person—the art requires only a little care. Let the person, a mould of whose face is to be taken, lay down upon his back, let the hair be tied back, or otherwise kept back by grease, or by flour-dough placed on it; grease the eyebrows, and if necessary, the beard and whiskers, also anoint the rest of the face with sweet oil. Then place a quill in each nostril, keeping it there with dough. Tie a towel round the face and make it fit tight with dough also. The patient being thus prepared, mix up the required quantity of plaster of Paris, with warm water, and just as it is ready to set, pour it upon the face, taking care that the eyes and mouth are closed, and the outer ends of the quills above the plaster. Use a pallet-knife to spread the plaster evenly over all parts of the face, until a coat is formed half an inch or more in thickness. In about two minutes it will set sufficiently hard to be removed. When dry and well greased, a cast in plaster may be taken from the mould, or if wetted, a cast in wax may be taken with equal facility. A little warm water will remove the dough, &c. from the face. In this manner casts are often taken of tumours and skin diseases, the wax casts being afterwards colored. For wax casts, a good composition is white wax 1 lb., turpentine in lumps 2 oz., flake white 2 oz., and vermilion to color the whole.

FAINTING FITS, TO RECOVER FROM.

In warm weather and in crowded assemblies, fainting fits are not unfrequent. When a case of this kind occurs, let the person be removed as soon as possible to the open air, and laid in a horizontal position with nothing tight remaining about him. Should the powers of life not have been previously exhausted by disease, fatigue, or want of food, a recovery generally takes place after a short interval, and often without any thing being done; but should this not be the case, the feet and legs may be immersed in warm water, and the nostrils stimulated by applying spirits of hartshorn, a few drops of which may be afterwards drank in a glass of water. If these fail, inflation of the lungs, and the means resorted to in cases of drowning should be had recourse to.

FANCY BISCUITS, TO MAKE.

Take 1 lb. of almonds, 1 lb. of sugar, and some orange-flower water. Pound the almonds very fine, and sprinkle them with the orange-flower water; when they are perfectly smooth to the touch, put them in a small pan, with flour sifted through a silk sieve; put the pan on a slow fire, and dry the paste till it does not stick to the fingers, move it well from the bottom to prevent its burning; then take it off, and roll it into small round

fillets, to make knots, rings, &c., and cut it into various shapes; make an icing of different colors, dip one side of them in it, and set them on wire gratings to drain. They may be varied by strewing over them colored pistachios, or colored almonds, according to fancy.

FARCY BALLS FOR HORSES.

I. Corrosive-sublimate from 10 to 20 grains, powdered aniseed $\frac{1}{2}$ oz., syrup enough to make it into a ball. If sickness, much purging, or staling is produced, diminish the sublimate.

II. The same, with from 1 to $\frac{1}{2}$ a drachm of opium.

III. Blue vitriol 1 drachm, corrosive sublimate 10 grains, liquorice powder 3 drachms, with syrup.

IV. Blue vitriol 1 drachm, liquorice powder 3 drachms, with syrup.

V. Blue vitriol 1 drachm, white arsenic and corrosive-sublimate, of each 10 grains, liquorice powder 3 drachms, with syrup.

If either of these occasion purging it must be discontinued immediately.

FEATHERS FOR BEDDING, TO CLEANSE.

Mix well with a gallon of clear water 1 lb. of quicklime; and when the lime is precipitated in fine powder, pour off the clear lime-water for use at the time it is wanted. Put the feathers to be cleaned in a tub, and add to them a sufficient quantity of the clear lime-water, so as to cover them about three inches. The feathers, when thoroughly moistened, will sink down, and should remain in the lime-water for three or four days; after which, the foul liquor should be separated from them by laying them on a sieve. Afterwards, well wash them in clean water, and dry them on nets, about the same fineness as cabbage nets. Shake them from time to time on the nets; as they dry, they will fall through the meshes, when collect them for use. The admission of air will be serviceable in the drying, and the whole process may be completed in about three weeks. The feathers, thus prepared, want nothing further than beating, to be used either for beds, bolsters, pillows, &c.

FEATHERS FOR ORNAMENTS, TO PREPARE.

The process of preparing ostrich and other feathers for head dresses, and other ornamental purposes, is divided into the scouring or cleaning. The bleaching of those which are to be white, or to be tinged of a delicate color;—the scraping of the ribs, to render them pliable, and, where necessary, the dyeing of them black, or of some other tint. These operations are performed as follows:—

Scouring.—4 oz. white soap, cut small, are dissolved in 4 lbs. of water, moderately hot, in a large basin; and the solution is made into a lather by beating with rods. Two bundles of the feathers, tied with pack-

ing thread, are then introduced, and are rubbed well with the hands for five or six minutes. After this soaping they are washed in clear water as hot as the hand can bear.

Whitening or bleaching.—They are first immersed in hot water mixed with Spanish white, and well agitated in it; after which they are washed in three waters in succession. The feathers are azured in cold water containing a little indigo tied up in a fine cloth. They should be passed quickly through this bath. They are sulphured in the same way as straw hats are; they are then dried by hanging upon cords, when they must be well shaken from time to time to open the fibres.

Scraping.—The ribs are scraped with a bit of glass, cut circularly, in order to render them more pliant. By drawing the edge of a blunt knife over the filaments they assume the curly form so much admired.

Dyeing.—The hairs of a dingy color are dyed black. For 20 lbs. of feathers a strong decoction is made of 25 lbs. of logwood in a proper quantity of water. After boiling it for six hours, the wood is taken out, 3 lbs. of copperas are thrown in; and after continuing the ebullition for fifteen or twenty minutes, the copper is taken from the fire. The feathers are then immersed by handfuls, thoroughly soaked, and worked about; and left in for two or three days. They are next cleansed in a very weak alkaline lye, and soaped three several times. When they feel very soft to the touch, they must be rinsed in cold water, and afterwards dried. White feathers are very difficult to dye a beautiful black. The acetate of iron is said to answer better than the sulphate, as a mordant. For dyeing other colors the feathers should be previously well bleached by the action of the sun and the dew; the end of the tube being cut sharp like a tooth-pick, and the feathers being planted singly in the grass. After fifteen days' exposure they are cleared with soap, as above described.

Rose color, or pink, is given with safflower and lemon juice.

Deep red, by a boiling hot bath of Brazil wood, after aluming.

Crimson.—The above deep red feathers are passed through a bath of cudbear.

Prune du Monsieur.—The deep red is passed through an alkaline bath.

Blues of every shade are dyed with the indigo vat.

Yellow—after aluming, with a bath of turmeric or weld.

Other tints may be obtained by a mixture of the above dyes.

FENOUILLETTE.

A French cordial liquor made by steeping 2 oz. of fennel seeds in first 2 pints of spirits of wine, after a few days, add 4 pints of water and 10 oz. of sugar; filter the whole.

A good carminative to expel flatulency, &c. but not agreeable to English palates as a cordial.

PETID PILLS FOR HYSTERIC.

I. Galbanum, myrrh, opoponax and sagapenum, each 1 oz., assafoetida 1 oz., syrup of crocus to make into pills.

II. Omit the opoponax, and put in an extra ½ oz. of myrrh and sagapenum. The quantity of from 10 grains to 30 grains may be taken two or three times a day.

FEVER BALL FOR HORSES.

Emetic tartar 2 drachms, nitre 1 oz., liquorice powder 3 drachms, with syrup to make a ball.

FEVER POWDER FOR HORSES.

I. Nitre ½ oz. to 1 oz., camphor and emetic tartar 1 drachm. Used after opening medicine

II. Nitre ½ oz. to 1 oz., antimonial powder 2 drachms, camphor 1 drachm.

III. Powdered rosin 3 drachms, emetic tartar 1 drachm, nitre ½ oz.

FERMENTATION, TO MANAGE.

A proportion of the yeast should be added to the first wort as soon as it is let down from the coolers, and the remainder as soon as the second wort is let down. The commencement of fermentation is indicated by a line of small bubbles round the sides of the tun, which in a short time extends over the surface. A crusty head follows, and then a fine rocky one, followed by a light frothy head. In the last stage, the head assumes a yeasty appearance, and the color is yellow or brown, the smell of the tun becoming strongly vinous. As soon as this head begins to fall the tun should be skimmed and the skimming continued every two hours till no more yeast appears; this closes the operation, and it should then be put into casks, or, in technical language, cleansed. A minute attention to every stage of this process is necessary to secure a fine flavored and brilliant beverage. Should the fermentation be unusually slow, it should be accelerated by stirring or rousing the whole. After the first skimming, a small quantity of salt and flour, well mixed, should be stirred in the tun. The fermentation will proceed in the casks, to encourage which, the bung-hole should be placed a little aside, and the casks kept full by being filled up from time to time with old beer. When this fermentation has ceased, the casks may be bunged up.

FERMENTATION, ACCELERATORS OF.

I. Spread some flour or bran with the hand over the surface, and it will form a crust which will keep the liquor warm and give the rising yeast something to feed upon.

II. Throw in an ounce or two of powdered ginger.

III. Put in the proportion of a wine glassful of spirit to each 2 gallons, mixing it first with warm water. Pour it in gently.

IV. Damp some bran with spirit and sprinkle it into the working tun.

V. Fill a bottle with boiling water and sink it into the tun.

VI. Beat up the whites of 2 eggs with some brandy, then add some of the liquor and pour it into the tun.

VII. Tie up some bran in a coarse linen cloth and put it into the vat.

Which ever receipt is chosen, be careful not to disturb the fermenting liquor more than necessary.

FERMENTATION, TO CHECK OR STOP.

I. Mix some raw wort in the tun, or agitate the liquor and divide it into two vessels.

II. Open the door and windows to promote cold, and if necessary sprinkle a little cold water into the liquor.

III. If liquor frets or ferments in the cask, put in a mixture of $\frac{1}{4}$ lb. of sugar, and a handful of salt to the hogshead.

IV. Distillers who carry fermentation as far as possible, when they perceive the liquor or mash becoming sour, put in a little grease from a candle; a little oil is more cleanly and is as efficacious, it stops fermentation instantly.

V. Skimming off the head of yeast; racking off the liquor from the yeast lying in the bottom of the containing vessel, and precipitating the yeast, which remains.

VI. Caustic alkalies or lime extinguish the vinous fermentation at once: but this fact is of no use, as the liquor is rendered worthless, and it shortly runs into putrefaction.

VII. The fumes of burning sulphur have been long known to counteract the vinous fermentation. All that is required to be done is to burn a quantity of sulphur in the vessel which contains the fermenting liquor, keeping its mouth covered, until the oxygen of the air present is converted into sulphurous acid gas. If the fermentation be conducted on a small scale, as in a cask, sulphur matches may be burned in the cask until the air contained in it is sufficiently polluted.

The chief advantage of this anti-ferment is, that being volatile it escapes from the liquor, and then it is as fit as ever for continuing its fermentation. Hence it suspends but does not extinguish fermentation, which is a great advantage.

VIII. Sulphurous acid obtained by any other process may be used; or it may be condensed in water, as a stock, and kept well stopped in bottles.

IX. Introduce a little of the black oxide of manganese, the properties of which in precipitating the leaven are similar to those of sulphurous acid.

X. But a more ready, and perhaps the most convenient process of all, is the use of the sulphite of potash; a salt not difficult to prepare, but, for want of a demand, not now to be procured from the trading chemists. A very small quantity of this salt, which possesses the advantages both of convenience and durability, is sufficient to answer this purpose. A drachm, for example, will be enough for a pipe of liquor. It communicates no taste, and can readily be managed with the greatest accuracy, by proportioning the quantity to the particular circumstances. By the use of the same substance the fermentation of syrups and preserves may also be effectually prevented.

XI. This object may also be attained by the use of chloride of potash; a salt absolutely tasteless, and easily procured.

FEVER.

Fevers are very different in their characters and uncertain in their symptoms we must therefore refer to their various names of *Ague or Intermittent, Scarlet, Typhus, &c.* Ordinary or common fever arises from exposure to sudden changes of temperature, insufficient or improper food, foul air, and other causes; its most usual effect is to continue for a certain period in intensity, and then a crisis having arisen at the 7th or 9th day, either to carry off the patient or finally to cease, leaving him in the greatest degree emaciated and weak. The symptoms by which the approach and attack of a fever may in general be known are whiteness and dryness of the tongue, dryness and heat of the skin preceded by a shivering. The pulse at first full and variable, afterwards languid. The appetite very weak, but attended with great thirst. The treatment now recommended is to keep the patient quietly in bed, with fresh but not cool air, to promote perspiration with Dover's powder, or James' powder, to keep the bowels open with calomel, to take cooling drinks, &c. The following medicines are valuable in different cases—

1. *Electuary.*—Powdered cinchona 1 oz., sal ammoniac 1 drachm, syrup of lemon juice to make an electuary about the consistence of thick honey.

2. *Draught.*—Nearly fill a 2 oz. phial with water, sweeten with syrup of roses, and add 5 drops of sulphuric acid. A draught of this kind may be taken every six hours till the symptoms abate, when the above electuary is more proper.

The food of a patient in a fever should be light and farinaceous, such as gruel, arrow root, &c., avoiding all animal food, spices, fermented liquors, &c. The drinks may be lemonade, tamarind-tea, barley-water, &c. Oranges and strawberries also are good, but not unripe fruits of any kind.

FIELD'S EXTRACT OF VERMILLION.

When vermilion is ground up with water

and allowed to stand for a few minutes, it separates into two distinct portions, the one floating over the other forming a kind of cream, of a fine orange color. Mr. Field has ingeniously separated the two, the latter of which he has introduced as a pigment under the above name.

FIGURES, OF VARNISHING.

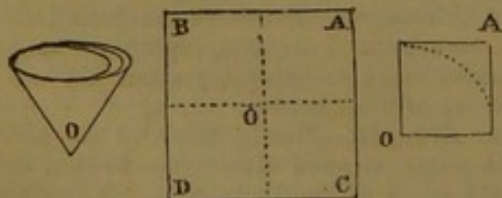
Fuse $\frac{1}{2}$ oz. of tin, with the same quantity of bismuth, in a crucible; when melted, add $\frac{1}{2}$ oz. of mercury. When perfectly combined, take the mixture from the fire, and cool it. This substance, mixed with the white of an egg, forms a very beautiful varnish for plaster figures, &c.

FILBERTS, TO PRESERVE.

Let them remain on the trees till the husks turn yellow; then gather them when dry, and spread them out on a table or floor in a warm dry place; but they should not be exposed to much light, air, or draught. Examine them every two or three days, to see that neither damp nor mould attacks them; if it does, they must be removed to a still drier place, until the husks have become brown, and all the moisture has evaporated; then put them in jars, and keep them in a close dry room till wanted. They will keep in this way for twelve months, and look as fresh as when first gathered, if care is taken in drying them.

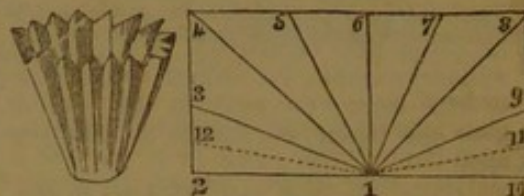
FILTERS, TO MAKE.

Common filter.—Take a piece of clean thin blotting paper, about 3 inches square, fold it in half, so as to bring the corners C D upon A B; then fold it again so as to bring the four corners together at A; cut off the corners so as to form a quadrant, in the manner shown by the dotted lines in the figure A O; and finally open the first fold, by separating the quadrant B from the other three quadrants, so as to produce an inverted cone like O. The letter O points out the position of the centre of the paper in all the figures.



Ribbed filter.—Take a square piece of paper, and fold it in two as before; then make the folds shown in the annexed diagram, and let them all bend on the same side of the paper. Then make a fold between each of the above folds, so as to rise on the other side of the paper. When folded up it looks like a child's fan. Cut off the projecting corners, so that each fold may be of the same

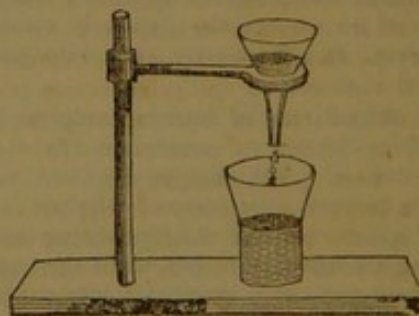
length. Gently separate the two sides of the filter, and form with it a little cup; put your finger into the cup, and gently push the bottom till it is round. In rubbing down the folds, do not rub them near the centre of the paper, for fear of making a hole; this filter is used when the solution only is wanted. If the precipitate be required, the former kind is to be preferred, because of its being smoother, so that there are no corners in which the powder can rest. A ribbed filter is more rapid than a plain one.



The filters, if very small, may be supported by the glass itself, or by a glass hoop placed over the vessel, as in the following cut:—



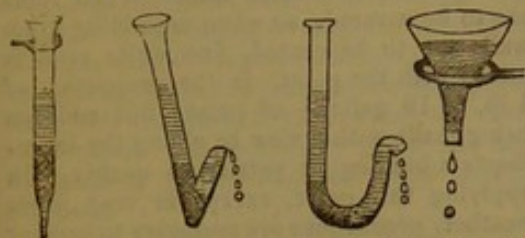
Or it may be rested in a funnel, suspended in the glass; or, still better, supported over it on one of the rings of a retort stand, as may be seen beneath:—



If a flannel filtering bag is used, it is generally tied to a hoop, and suspended by a string. Slow filtrations of alcoholic tinctures and solutions should be covered over with a saucer or basin. Many substances may be filtered hot but not cold—cocoa-nut oil for example.

Tube filter.—Procure a glass tube, of a bent form, as shown beneath. According to the nature of the substance to be purified, so must be the nature of the filtering material. It may be filled with a piece of sponge, with raw cotton, (wadding,) with hemp, or other loose fibrous materials, or various powders, sand, &c. One of powdered charcoal may

be made thus:—Put into the tube enough charcoal to fill the bend at the bottom, and to rise an inch in each of the legs of the tube, then press into each leg, upon the charcoal, a small piece of tow; this is merely to prevent the charcoal being disturbed when the liquid is poured in or out.



Powder filter.—Press gently into the tube of a glass funnel a piece of tow or cotton. Put upon the tow the powder; it may be charcoal, sand, glass dust, (for acids,) or other material, to the depth of 1 or 2 inches. Lay a coarse powder over all, to prevent disturbance. In these two last filters, it is needless to say that the precipitate is disregarded.

FILTERING BAG, TO MAKE A.

This bag is made of a yard of either of linen or flannel, not too fine or close, and sloping, so as to have the bottom of it run to a point, and the top as broad as the cloth will allow. It must be well sewed up the side, and the upper part of it folded round a wooden hoop, and well fastened to it; then tie the hoop in three or four places with a cord to support it; and when used, put a can or pail under it to receive the liquor, filling the bag with the sediment; after it has ceased to run, wash out the bag in three or four clear waters, then hang it up to dry in an airy place, that it may not get musty. A wine dealer should always have two bags by him, one for red, and the other for white wines.

FILTERING MACHINE.

Take a large flower-pot, and put either a piece of sponge or some cleanly washed moss (Sphagnum is to be preferred) over the hole at the bottom. Fill the pot $\frac{3}{4}$ full with a mixture of equal parts of clean sharp sand and charcoal broken into pieces about the size of peas. On this lay a piece of linen or woollen cloth, large enough to hang over the sides of the pot. Pour the water to be filtered into the basin formed by the cloth, and it will come out pure through the sponge in the bottom. The cloth must be frequently taken out and washed, as must the sand and charcoal, and the piece of sponge or moss in the bottom. The larger the pot, the more complete will be the filtration.

FINCHAM'S PURIFYING AND DISINFECTING LIQUID.

A solution of chloride of lime, requiring to be diluted for use with 40 parts of water.

FININGS.

Finings are the substances employed to carry down the thick parts of beer, spirits, wines, &c. that they may be clear when drawn, and not so apt to ferment or to become musty in the cask. For several kinds see the various articles to be clarified, to which add the following:—

I. *For beer or ale.*—Take $\frac{1}{4}$ lb. of isinglass, and dissolve it in 2 quarts of stale beer; simmer it over the fire till it becomes about the thickness of a syrup, put into it a handful of salt, and $\frac{1}{2}$ a pint of pulverized oyster-shells, mix them together with 1 gallon of strong beer or ale, stir it well up till it ferments, then cover it up close. This quantity will be sufficient for a butt of beer.

II. Take 4 oz. of isinglass, 2 quarts of stale beer, and when dissolved over the fire add 2 lbs. of sugar, stir it well together and put 6 quarts of beer to it; then mix it up and it will be fit for use.

III. Boil 3 pints of new wheat in 6 quarts of water, strain through a fine sieve, and add the liquor to the beer; the gluten which is in it will clarify the whole.

IV. Take $\frac{1}{4}$ lb. of hops, and boil them for a quarter of an hour in the first wort, (tied up during this time in a cloth,) then spread them loose into a barrel of ale, and they will subside and carry down impurities with them.

V. Take for a butt of beer, 6 good handfuls or 2 quarts of silver sand, washed clean, put it into the butt, stir and rummage it well up, leave out the bung three hours, and it will be quite bright. This is better than any other finings in hot weather.

VI. Take 2 lbs. of calcined oyster-shells, pulverized, and a pint of baker's raspings, this will fine down a butt of beer and is good for hot weather.

VII. Take $1\frac{1}{2}$ pint of water, and 2 oz. of unslaked lime, mixed well together, let them stand four hours, and when the sediment is settled at the bottom, pour it off clear, and mix 2 oz. of isinglass cut small, in $\frac{1}{2}$ a pint of water, when dissolved put it into a barrel of beer. (See *Gin*.)

For various wines, and for British wines in general, either of the following may be used; remembering that although many wines require fining before they are racked, yet the operation of fining is not always necessary. Most wines, well made, do not want fining; this may be ascertained, by drawing a little into a glass, from a peg-hole. The best finings are as follows:—

I. Take 1 lb. of fresh marsh-mallow roots washed clean, and cut into small pieces, macerate them in 2 quarts of soft water for twenty-four hours, then gently boil the liquor down to 3 half-pints, strain it, and when cold, mix with it $\frac{1}{2}$ oz. of pipe-clay or chalk, in powder, then pour the mucilage into the

cask, and stir up the wine so as not to disturb the lees, and leave the vent-peg out for some days after.

II. Take boiled rice 2 table-spoonsful, the white of 1 new egg, and $\frac{1}{2}$ oz. of burnt alum in powder. Mix with a pint or more of the wine, then pour the mucilage into the cask, and stir the wine with a stout stick, but not to agitate the lees.

III. Dissolve, in a gentle heat, $\frac{1}{2}$ oz. of isinglass in a pint or more of wine, then mix with it $\frac{1}{2}$ oz. of chalk in powder; when the two are well incorporated, pour it into the cask, and stir the wine, so as not to disturb the lees. As soon as wines are clear and bright, after being fined down, they ought to be racked into a sweet and clean cask, the cask filled up and bunged tight.

FIRE, TO ESCAPE FROM.

Creep or crawl with your face near the ground, and although the room be full of smoke to suffocation, yet near the floor the air is pure, and may be breathed with safety. The best escape from upper windows is a knotted rope, but if a leap is unavoidable, then the bed should be thrown out first.

FIRE AND WATER-PROOF CEMENT.

Pour a pint of vinegar into a pint of milk; when the latter has fully coagulated, clear it off the lumps, and let it settle, then mix the whole well together; now sift into the liquid quicklime, till upon stirring the whole you obtain a thick paste. This cement will permanently unite marble, earthenware, china, &c.

FIRE-PROOF, TO RENDER PAPER.

Whether the paper be plain, written, or printed on, or even marbled, stained, or painted, for hangings, dip it in a strong solution of alum water, and thoroughly dry it. In this state it will be fire-proof. This will be readily known by holding a slip, thus prepared, over a candle. Some paper requires to imbibe more of the solution than by a single immersion; in which case the dipping and drying must be repeated, till it becomes fully saturated. Neither the color nor quality of the paper will be in the least affected by this process, but, on the contrary, will be improved.

FIRE-PROOF PAINT.

A quantity of the best quicklime is selected, and then slacked with water in a covered vessel; when the slacking is complete, water, or skimmed milk, or a mixture of both, is added to the lime, and mixed up with it to the consistence of cream. When milk is not used, a solution of rice paste is employed, which may be obtained by boiling 8 lbs. of rice to every 100 gallons of paint. When the creamy liquor is prepared, alum, potash, and common salt are added, in the proportion of 20 lbs. of alum, 15 lbs. of potash, and a

bushel of salt, to every 100 gallons of the paint. If the paint is to be white, 6 lbs. of prepared plaster of Paris, and the same quantity of fine white clay, are added to the above proportions of the other ingredients. All these ingredients being mingled, the mixture is strained through a fine sieve, and then ground in a color mill. When roofs are to be covered, or when crumbling brick walls are to be coated, fine white sand is mixed with the paint, in the proportion of 1 lb. to 10 gallons of paint; this addition being made with a view to giving the ingredients a binding or petrifying quality. In applying this paint, except in very warm weather, precautions are necessary to prevent it from freezing. Three coats of this paint are deemed, in most cases, sufficient. In another variety of this paint, oil is the chief liquid ingredient. To prepare it, 40 gallons of boiled linseed oil are mixed with slacked lime to the consistence of a paint; and to this are added 2 lbs. of alum, 1 lb. of potash, and 8 lbs. of common salt; or good wood ashes may be substituted for the potash. This paint is used in the same manner as any other paint; and any color may be obtained by adding the usual pigments to the composition. The above is the invention of a Mr. Louis Pamboeuf, who first made it known in America.

FIRE-PROOF STUCCO.

Moist gravelly earth previously washed and made into stucco with a liquid composition of clay 1 part, water 5 parts, and pearl-ashes 2 parts.

FISH, TO PRESERVE.

There are various ways of preserving fish, as drying, salting, smoking, &c. the following methods are less known.

I. *With Oil.*—Put the fish in jars and pour upon them salad oil until they are covered, then tie them up air-tight. This is rather an expensive method in this country, but for fish that is to be afterwards fried it is very excellent.

II. *With Acid.*—Dip them into or brush them over with pyroligneous acid, and then dry them, by exposure to the air. This gives a smoky flavor, but if strong vinegar or pure acetic acid be used, no taste will be imparted. It may be applied by means of a painter's clean brush, or even a stiff feather. A table spoonful is sufficient to brush over a large surface. Fish and flesh so prepared will bear a voyage to the East Indies and back.

III. *With Creosote.*—Clean the fish and soak them for a few minutes in water containing creosote to the amount of 2 or 3 drops to 1 pint of water. This gives the flavor of smoke to the fish.

IV. *With Sugar.*—Fish may be preserved in a dry state, and perfectly fresh, by means

of sugar alone, and even with a very small quantity of it. Fresh fish may be kept in that state for some days, so as to be as good when boiled as if just caught. If dried, and kept free from mouldiness, there seems no limit to their preservation; and they are much better in this way than when salted. The sugar gives no disagreeable taste. The process is particularly valuable in making what is called kippered salmon; and the fish preserved in this manner are far superior in quality and flavor to those which are salted or smoked. If desired, as much salt may be used as to give the taste that may be required.

FISH, TO PRESERVE ALIVE.

Many fish, particularly those peculiar to fresh water, may be preserved alive for some days without water, by stopping their mouths with crumbs of bread steeped in brandy, pouring a little brandy upon the crumbs when in their mouths, and then laying the fish in straw in a moderately cool situation. Carp and tench may be carried thus crammed to a great distance.

FISH OIL PAINTS.

The oil for grinding white is made by putting litharge and white vitriol of each 12 lbs. into 32 gallons of vinegar, adding after some time a tun of whale, seal, or cod oil, the next day the clear part is poured off, and linseed oil 12 gallons, oil of turpentine 2 gallons, are added. The sediment left when the clear oil is poured off, mixed with half its quantity of lime water, is also used under the name of prepared residue oil for common colors.

FIT DROPS.

I. Sal ammoniac 1 lb., prepared kali $1\frac{1}{2}$ lb., proof spirit 6 lbs., assafoetida 4 oz. Distil 5 lb.

II. Spirits of ammonia 1 lb., tincture of assafoetida $\frac{1}{2}$ oz.

III. Sal ammoniac 1 lb., potash 2 lbs., assafoetida 6 oz., spirits of wine 1 gallon, water $\frac{1}{2}$ gallon; distil off 10 pints. Used for hysterical fits.

FIXTURE FOR THE HAIR.

Under the word *Bandoline* are many receipts for this material. The following are still more simple, and equally efficacious in strengthening curls and making the hair glossy.

I. Rice-flour boiled in water, till of a thick jelly when cold.

II. Gum arabic dissolved in water, to which put a little spirit of any kind, such as eau de Cologne.

III. White sugar candy dissolved in water so as to make a syrup. This is much used by the French.

IV. White of egg and water well beaten together with a little lavender water.

FLAKE WHITE

Is prepared by exposing plates of lead to the action of vinegar steam and carbonic acid. For this purpose, earthen vessels, either glazed or hard baked, are employed; slips of wood are laid across these, and the lead in plates, or spiral forms, is placed upon them, so as not to touch the liquid which fills to the bottoms of the vessels. These pots are then ranged in lines, close together, upon a bed of stable dung. Other lead being placed as tiles upon those pots, some planks are laid over them; on these is placed another layer of dung, and on this another range of pots is placed, covered with lead in like manner; and thus it proceeds until the pile is 6 or 8 feet high, as the localities may permit. To prevent the heat from becoming too powerful, openings are reserved in the layers, at proper distances, through the mass. These are usually close, but opened occasionally to examine the temperature; when that is too high, a current of air is allowed to pass through, until the heat is brought down to the standard required, which should not exceed 100 or 112° Fahr. at the most, unless it may be towards the close of the operation, when it is only required to dry the carbonate which has been formed. In about six weeks the pots are removed, and the laminæ which cover them have become hard flakes, which, without further preparation, is the flake white of commerce.

FLASH.

A preparation sold by brewers' druggists, to color brandy and rum, and to give them fictitious strength. It is prepared by making an extract of cayenne pepper or capsicum, and adding to it burnt sugar.

FLATULENCE, REMEDY FOR.

I. Take of carbonate of soda 1 drachm, compound tincture of rhatany 1 oz., compound tincture of chamomile and ginger, of each 3 scruples, camphorated julep 7 oz. Mix and take 3 table-spoonsful three times a day.

II. Magnesia and carbonate of soda, of each 2 drachms, spirits of sal volatile 4 drachms, and distilled or pure water 1 pint. Take $\frac{1}{2}$ a wine-glassful when necessary, as before dinner or at bed-time.

III. Take of bay berries 6 drachms, grains of Paradise 2 drachms, socotrine aloes, and filings of iron, each 2 scruples, oil of turpentine 2 drachms, with simple syrup to form an electuary.

IV. Take prepared chalk 12 grains, peppermint water $\frac{1}{2}$ oz., pure water 1 oz., tincture of allspice 2 drachms, tincture of opium 12 drops. Mix them. This draught is to be repeated three times a day. (See *Indigestion*.)

V. Infants are much afflicted with flatulency. A little aniseed water, mint water, or dill water, is all in general that is suffi-

cient; a little calcined magnesia may be added in extreme cases, or when relief to the bowels is advisable.

FLEMISH GLUE.

This superior kind of glue is used by cabinet makers for fine-work, particularly for veneering. It differs only from ordinary glue in being made from the better and fresher parts of skins, which are first rinsed in several waters, then left to soak in cold water for three or four days, that they may require less boiling to reduce them to the proper glutinous consistence. When dissolved, the liquor is carefully strained, and being somewhat dried, so that when cold, it may cut like a jelly; it is made up into thin small cakes.

FLEXIBLE PAINT.

To each hundred weight of oil-paint is to be added 1 lb. of yellow soap, dissolved in 6 lbs. of water, and mixed while still hot. This is used for painting canvas tents, &c.

FLINT GLASS, COMPOSITION OF.

I. White sand 100 parts by weight, red lead 80 to 85, pearlash 35 to 40, nitre 2 to 3, oxyde of manganese $\frac{1}{2}$. This and the next are very soft glasses from containing so much lead. (M. Loysel's.)

II. White sand 100 parts, red lead 50 to 60, pearlash 30 to 40, oxyde of arsenic $\frac{3}{4}$ to 1. The specific gravity of this glass will not be so great as the former, in the proportion of 29 to 32, and its refractive power will evidently be smaller also. (M. Loysel's.)

III. White sand 120 parts, 40 well-purified pearlash, 35 litharge or red lead, 13 nitre, and a small quantity of the black oxyde of manganese. (Mr. Aikin's.)

FLORENTINE LAKE, TO PREPARE.

The sediment of cochineal that remains in the bottom of the kettle in which carmine is made may be boiled with about 4 quarts of water, and the red liquor left after the preparation of the carmine, mixed with it, and the whole precipitated with the solution of tin. The red precipitate must be frequently washed over with water. Exclusively of this, 2 oz. of fresh cochineal, and 1 of crystals of tartar, are to be boiled with a sufficient quantity of water, poured off clear, and precipitated with the solution of tin, and the precipitate washed. At the same time, 2 lbs. of alum are also to be dissolved in water, precipitated with a lixivium of potash, and the white earth repeatedly washed with boiling water. Finally, both precipitates are to be mixed together in their liquid state, put upon a filter and dried. For the preparation of a cheaper sort, instead of cochineal, 1 lb. of Brazil wood may be employed in the preceding manner.

FLOORS, CEMENT FOR.

I. Earthen floors are commonly made of loam, and sometimes, especially to make malt on, of lime and brook sand, and gun dust or anvil dust from the forge. The manner of making earthen floors for plain country habitations is as follows:—Take $\frac{2}{3}$ lime, and 1 of coal ashes well sifted, with a small quantity of loam clay; mix the whole together, and temper it well with water, making it up into a heap; let it lie a week or ten days, and then temper it over again. After this, heap it up for three or four days, and repeat the tempering very high till it become smooth, yielding, tough, and gluey. The ground being then levelled, lay the floor therewith about $2\frac{1}{2}$ or 3 inches thick, making it smooth with a trowel: the hotter the season is, the better; and when it is thoroughly dried, it will make the best floor for malt-houses. If any one would have their floors look better, let them take lime of rag-stones, well-tempered with whites o. eggs, covering the floor about $\frac{1}{2}$ an inch thick with it, before the under flooring is too dry. If this be well done, and thoroughly dried, it will look, when rubbed with a little oil, as transparent as metal or glass. In elegant houses, floors of this nature are made of stucco, or of plaster of Paris beaten and sifted, and mixed with other ingredients.

II. *Hard floors.*—Ox blood and fine clay well-tempered together makes the finest floor in the world; this mixture laid in any floor will become a very strong and binding substance.

III. In Persia, and many other places in the East, the roofs of the houses being made flat, are covered with the following composition, which is impervious to all rain, and dries nearly as hard as stone, without cracking. The composition is nothing more than shell-lime, well burnt, and mixed with molasses, of each an equal quantity, mixed or worked up into a stiff mortar or paste with oil, and spread on the roof with a smoothing wooden instrument, not much unlike a plasterer's trowel, but it must be pressed down hard and smooth as possible.

IV. Where the molasses is not to be had, they use some other but similar substance. They also use, sometimes, an acid impressed from plants, and added to the shell-lime, and mixed with tar into the consistency o. dough for bread, laid on and pressed down close as before.

FLOREY BLACK.

The dried scum of the dyer's woad bath, which is prepared by diluting woad with water, adding some slacked lime, and keeping the liquor warm, when it ferments and throws up a blue froth.

It is remarkable, that although the fermented bath is red, yet the articles come out of a green color, which turns as it dries to blue.

FLOUR, TO DETECT ADULTERATIONS IN.

Wheat flour is often adulterated or mixed with the flour of potatoes, or of inferior grain, as well as bone dust, plaster of Paris, &c. These admixtures may be detected as follows:—

I. Wheat flour is distinguished by its greater cohesiveness to others, so that being squeezed in the hand, the lump will be some time before it falls to pieces.

II. When burnt bones, plaster of Paris, &c. are added, it may be known by the greater weight of the compound. Thus supposing a pint of pure wheat flour weighs so much, when adulterated with the above it will weigh more in proportion. Even potatoe flour is so much heavier, that a sack that will hold 2 cwt. of wheat flour, will hold 3 cwt. of potatoe flour.

III. On the sample of flour pour a little pure spirits of hartshorn; if wholly of wheat, it will be of a yellow color; if of any other corn, it will be pale brown; or if of peas or beans, of a darker brown.

IV. On the sample put a little nitric acid; if of wheat, this will change it of an orange yellow; if of potatoe flour, the color will not be altered, but it will be changed into a tenacious jelly. (See *Arrow Root*.)

V. On the sample pour a little muriatic acid; if the sample be of wheat, it will be changed to a deep violet color, but without odour; if poured upon potatoe flour, there will be an odour as if of rushes.

VI. If bean or pea flour be mixed with the flour of grain, it may, if in any quantity, be detected by pouring boiling water upon the sample, or by toasting a piece of bread made of it, and toasting the bread, in either case, the odour of the beans or peas will become apparent.

FLOUR PASTE, TO MAKE.

Paste is formed principally of wheaten flour, boiled in water till it be of a glutinous or viscid consistence. It may be prepared with those ingredients simply for common purposes; but when it is used by book-binders, or for paper hangings to rooms, it is usual to mix a fourth, fifth, or sixth of the weight of the flour of powdered resin; and where it is wanted still more tenacious, gum arabic, or any kind of size, may be added. (See *Imperishable*.)

FLOWER OF OINTMENTS.

I. Yellow resin, common turpentine, yellow wax, and mutton suet, of each $\frac{1}{2}$ lb., olibanum 4 oz., chian turpentine $2\frac{1}{2}$ oz., of myrrh and mastic, each 1 oz., camphor 2 drachms, white wine $1\frac{1}{2}$ lb. Boil together to a plaister.

II. Yellow resin 16 lbs., yellow wax and suet, each 6 lbs., Burgundy pitch 2 lbs.

FLOWERS, TO RESTORE.

Most flowers begin to droop and fade after being kept during twenty-four hours in water; a few may be revived by substituting fresh water; but all (the most fugacious, such as poppy, and perhaps one or two others excepted,) may be restored by the use of hot water. For this purpose place the flowers in scalding water, deep enough to cover about one-third of the length of the stem; by the time the water has become cold, the flowers will have become erect and fresh; then cut off the coddled ends of the stems, and put them into cold water.

FLOWERS, TO EXTRACT THE PERFUME OF.

Procure a quantity of the petals of any flower which has an agreeable flavor; card thin layers of cotton wool, which dip into the finest Florence oil; sprinkle a small quantity of fine salt on the flowers, and place layers of cotton and flowers alternately, until an earthen, or wide-mouthed glass vessel, is quite full. Tie the top close with a bladder, and lay the vessel in a south aspect, exposed to the heat of the sun, and in fifteen days, when opened, a fragrant oil may be squeezed away from the whole mass; little inferior, (if roses are made use of,) to the dear and highly-valued otto, or odour of roses.

FLUID MAGNESIA.

Place recently-precipitated carbonate of magnesia in a bottle or other suitable vessel, and fill it by means of a soda-water apparatus, with water fully charged with carbonic acid gas; with slight and cautious agitation the aerated water will become saturated with magnesia. A scruple of carbonate of magnesia put into a bottle, and thus treated, will be all taken up in from twenty minutes to half an hour, and the beverage left beautifully clear.

FLUTE-KEY VALVES.

Fuse in a crucible 4 oz. of lead and 2 oz. of antimony, and cast into a bar. This alloy is of considerable hardness and lustre, and is used by flute manufacturers, (when turned into small buttons in a lathe), for making valves to stop the key-holes of flutes.

FLUXES.

These are materials employed to assist the fusion of the refractory metals and earthy minerals, and are combinations of the carbonate of potass. *Black flux* is made by mixing together 2 parts of powdered tartar, (bitartrate of potass,) and 1 of nitrate of potass. This mixture is deflagrated in small portions at a time in an iron ladle or crucible, when it becomes of a black color, called therefore black flux. If this be dissolved in water, evaporated and crystallized, it will be found to deposit crystals of the carbonate of potass; the carbon is furnished in this experiment by the decomposition of the tartaric

acid of the bitartrate. When equal parts of nitre and tartar are used, the result is a white mass called *white flux*. The reason of the difference of color is, that when the greater quantity of tartar is used; more carbon is deposited than the combustion destroys, but with less tartar it is all consumed. Carbonate of potass is completely soluble in about its own weight of cold water, forming a thick oily liquid, called *oil of tartar per deliquium*. This liquid is the result also of exposing the carbonate of potass to a damp atmosphere, when it becomes deliquescent. It is insoluble in alcohol.

FLUX, REMEDY FOR.

Take of catechu in powder, simarouba bark and cinnamon, each 2 drachms, boiling water 1 pint. Macerate for four hours in a covered vessel and strain. Now take of the strained liquor 7 oz., compound tincture of cardamoms 1 oz., opiate confection 1 drachm. Make into a mixture, of which take 2 table-spoonsful four times a day. (See *Dysentery*.)

FLUXES FOR ENAMELS.

I. Flint powder 4 oz., flint glass 12 oz., red lead 16 oz., borax calcined 2 oz. Melt in a crucible, keep it melted for several hours in a steady heat, then pour it out into water, and grind it in a white biscuitware mortar.

II. Flint glass 10 oz., white arsenic and nitre, each 1 oz.

III. Flint glass 3 oz., red lead 1 oz.

IV. Flint glass 16 oz., red lead 19 oz., borax, not calcined, 11 oz.

V. Flint glass 6 oz., red lead 8 oz., flux, No. 2, 4 oz.

FLY IN SHEEP.

Some shepherds prevent sheep being struck with the fly by mixing train oil and sulphur to a moderately-thick substance; but a more simple and effectual method is the occasional application of coarse whale oil.

FLY ON TURNIPS, TO DESTROY.

I. Lime sown by the hand or distributed by a machine, is a protection to turnips against the ravages of the fly. It should be applied as soon as the turnips come up, and in the same daily rotation in which they were sown. The lime should be slacked immediately before it is used, if the air be not sufficiently moist to render that operation unnecessary.

II. Let the farmer carefully watch his turnips as they come up, and whenever the fly makes its appearance, take of brimstone about 2½ or 3 lbs. to an acre; put this into a kettle, and melt it in the turnip field, in a situation the most eligible for the wind to carry the fume over the ground; then take any combustible matter calculated to make a considerable smoke, which being dipped in

the liquid brimstone, must be strewed all over the field in a state of ignition, and so close together that the fumes of the burning matter may completely cover every part of the ground.

III. The decoction of the bitter almond is more fatal to the lives of insects and worms than most other vegetable or mineral poisons. It is made by infusing the bitter almond powder, (the ground cakes that remain after expressing the oil,) in warm water for twenty-four hours; 28 lbs. will make 40 gallons, a sufficient quantity for a large garden. Laurel leaves steeped in water will do as well.

IV. It is upon the principle of creating an offensive smell, that turnip seed is recommended to be steeped in train oil before it is sown. This has been found to be a perfect security against the bite of the turnip fly.

FLY WATER.

I. White arsenic 1 drachm, water 1 pint. Dissolve by boiling, and sweeten with sugar.

The above, although efficacious, should never be used on account of its danger, especially where there are children; the next is an equally efficacious and perfectly harmless receipt.

II. Take 1 oz. of quassia chips, put them into a covered vessel, and pour over them ½ a pint of boiling water, let the whole stand on the hob or in an oven for two hours; strain off the clear liquor, and when cold, pour this into shallow vessels, such as saucers or plates, and set them about the house. The flies will drink it greedily, and die in a few minutes. The liquid is so bitter, that children will not drink it; and even if they did, it is perfectly harmless. Neither will it injure domestic animals.

III. A strong infusion of Souchong tea, sweetened with sugar.

IV. The skin of potatoes boiled in water for some time, and the water afterwards boiled down to a small portion, also yields a deadly poison.

V. Take ½ a tea-spoonful of black pepper, in powder, 1 tea spoonful of brown sugar, and 1 table-spoonful of cream; mix them well together, and place them in the room on a plate, where the flies are troublesome, and they will soon disappear.

FOILS, TO MAKE.

Foils are thin plates or leaves of metal that are put under stones, or compositions in imitation of stones, when they are set, either to increase the lustre and play of the stones, or more generally to improve the color, by giving an additional force to the tinge, whether it be natural or artificial, by a ground of the same hue with the foil. Foils may be made of copper or tin. Copper intended for foils is prepared by taking copper plates beaten to a proper thickness, passing them

betwixt a pair of fine steel rollers very close set, and drawing them as thin as possible. They are polished with very fine whiting, or rotten-stone, till they shine, and have as much brightness as can be given them, and they will then be fit to receive the color.

FOILS, TO SILVER.

Take a small quantity of silver, and dissolve it in aquafortis, then put bits of copper into the solution, and precipitate the silver; which being done, the fluid must be poured off, and fresh water added to it, to wash away the other fluid; after which the silver must be dried, and an equal weight of cream of tartar and common salt ground with it, till the whole is reduced to a very fine powder. With this mixture the foils, slightly moistened, must be rubbed by the finger, or a bit of linen rag, till they are of the degree of whiteness desired.

FOILS, TO COLOR.

The colors used for painting foils may be used with either oil, water rendered glutinous by gum arabic, size, or varnish. Where deep colors are wanted, oil is most proper, because some pigments become wholly transparent in it, as lake, or Prussian blue; the yellow and green may be better laid on in varnish, as these colors may be had in perfection from a tinge wholly dissolved in spirit of wine, in the same manner as in the case of lacquers; and the most beautiful green is to be produced by distilled verdigris, which is apt to lose its color and turn black with oil. In common cases, however, any of the colors may be, with the least trouble, laid on with isinglass size, in the same manner as the glazing colors used in miniature painting.

Ruby Colors.—For red, where the ruby is to be imitated, a little lake or carmine is diffused in isinglass size; or shell-lac varnish, is to be employed, if the glass or paste be of a full crimson, verging towards a purple; but if the glass incline to the scarlet, or orange, very bright lake, not purple, may be used alone in oil.

Garnet Red.—For the garnet red, dragon's blood dissolved in seed-lac varnish may be used; and for the vinegar garnet, the orange lake, tempered with shell-lac varnish, will be found excellent.

Amethyst.—For the amethyst, lake, with a little Prussian blue, used with oil, and very thinly spread on the foil, will answer.

Blue.—For blue, where a deep color, or sapphire, is wanted, Prussian blue not too deep should be used in oil, and be spread more or less thinly on the foil, according to the lightness or deepness of the color quired.

Eagle Marine.—For the eagle marine, common verdigris, with a little Prussian blue, tempered in shell-lac varnish.

Yellow.—Where a full yellow is desired, the foil may be colored with a yellow lacquer, laid on as for other purposes. For light yellows, the copper ground of the foil itself, properly burnished, will be sufficient.

Green.—For green, where a deep hue is required, the crystals of verdigris, tempered in shell-lac varnish, should be used; but where the emerald is to be imitated, a little yellow lacquer should be added, to bring the color to a truer green, and less verging to the blue.

Other Colors.—The stones of more diluted colors, such as the amethyst, topaz, vinegar garnet, and eagle marine, may be very cheaply imitated by transparent white glass or paste, even without foils. This is to be done by tempering the colors above mentioned with turpentine and mastic, and painting the socket in which the counterfeit stone is to be set with the mixture, the socket and stone itself being previously heated. In this case, however, the stone should be immediately set, and the socket closed upon it before the mixture cools and grows hard. The orange lake, mentioned under the head of garnet red, was invented for this purpose, in which it has a beautiful effect, and has been used with great success. The color it produces is that of the vinegar garnet, which it affords with great brightness.

The colors before directed to be used in oil should be extremely well ground in oil of turpentine, and tempered with old nut or poppy-oil; or, if time can be given for their drying, with strong fat oil, diluted with spirit of turpentine, which will gain a fine polish of itself. The colors used in varnish should be likewise thoroughly well ground and mixed; and in the case of the dragon's blood in the seed-lac varnish and the lacquer, the foils should be warmed before they are laid out. All the mixtures should be laid on the foils with a broad soft brush, which must be passed from one end to the other, and no part should be crossed, or twice gone over, or at least not till the first coat can be dry, when, if the color do not lie strong enough, a second coat may be given.

FOLIAGE, PLASTER CASTS OF.

The following are the particulars of Mr. Deeble's process:—The leaf as soon as convenient after being gathered is to be laid on fine-grained moist sand, in a perfectly natural position; having that surface uppermost which is to form the cast; and being banked up with sand, in order that it may be perfectly supported. It is then, by means of a broad camel-hair brush, to be covered over with a thin coating of wax and Burgundy pitch; rendered fluid by heat. The leaf being now removed from the sand and dipped in cold water, the wax becomes hard, and at the same time sufficiently tough to allow the

leaf to be ripped off without altering its form. This being done, the wax mould is placed on moist sand, and banked up as the leaf itself was; it is then covered with plaster of Paris made thin, care being taken that the plaster is accurately forced into all the interstices of the mould by means of a camel hair brush. As soon as the plaster is set, the warmth thus produced softens the wax, which in consequence of the moisture of the plaster is prevented from adhering thereto; and with a little dexterity it may be rolled up, parting completely from the cast, without injuring it in the smallest degree. Casts thus obtained are very perfect, have a high relief, and are excellent models, either for the draughtsman, or for the moulder of architectural ornaments.

FOMENTATIONS, TO APPLY.

Fomentations are applied externally, and as warm as the patient can conveniently bear, in the following manner:—Two flannel cloths are dipped into the heated liquor, one of which is wrung as dry as the necessary speed will admit, then immediately applied to the part affected. The flannel lies on, until the heat begins to go off, and the other is in readiness to apply at the instant in which the first is removed; thus these flannels are alternately applied, so as to keep the affected part constantly warm. This is continued fifteen or twenty minutes, and repeated two or three times a day, or as often as occasion may require. The degree of heat should never exceed that of producing a pleasing sensation; great heat sometimes produces effects very opposite to that intended by the use of the fomentation.

FOMENTATIONS, DECOCTION FOR.

Take of the leaves of southernwood, dried, tops of sea-wormwood, dried, chamomile flowers, dried, each 1 oz., bay leaves, dried, $\frac{1}{2}$ oz., distilled water 6 pints. Boil them a little and strain.

In making these decoctions, the aromatic substances should not be added until the decoction is nearly completed, for otherwise their flavor would be entirely dissipated. As fomentations, their virtues depend, in a great measure, on the warm water, which relaxes as a bath; and when the herbs themselves are applied, they act only as retaining heat and moisture for a longer time, and operate on the mind of the patient; but are a less convenient, and hardly more useful fomentation than cloths wrung out with hot water.

FORD'S LAUDANUM.

Opium 1 oz., cinnamon and cloves, each 1 drachm, spirits of wine and water, of each 8 oz.

FOREIGN WINE MAKING.

When the grapes are ripe, and the saccharine principle is developed, they are pressed, and the juice which flows out is received in vessels of a proper capacity, in which the fermentation appears, and proceeds in the following manner:—At the end of

several days, and frequently after a few hours, according to the heat of the atmosphere, the nature of the grapes, the quantity of the liquid, and the temperature of the place in which the operation is performed, a movement is produced in the liquor, which continually increases; the volume of the fluid increases; it becomes turbid and oily; carbonic acid is discharged, which fills all the unoccupied part of the vessel, and the temperature rises to 110 to 112° Fahr. At the end of several days these tumultuous motions subside, the mass falls, the liquor becomes clearer, and is found to be less saccharine, more odorant, and of a red color, from the reaction of the ardent spirit upon the coloring matter of the pellicle of the grape. The wine is usually taken out of the fermenting vessels at the period when all the phenomena of fermentation have subsided. When the mass is settled, the color of the liquor is well developed, when it has become clear, and its heat has disappeared; it is put into casks, where, by a second insensible fermentation, the wine is clarified, its principles combine more perfectly together, and its taste and smell become more and more developed. If this fermentation be stopped or suffocated, the gaseous principles are retained, and the wine is brisker.

FOSSIL WOODS FOR THE MICROSCOPE.

A thin slice is first cut from the fossil wood by the usual process of the lapidary. One surface is ground perfectly flat and polished, and then cemented to a piece of plate glass by means of Canada balsam. The slice thus firmly attached to the glass is now ground down to the requisite degree of tenacity, so as to permit its structure to be seen by the aid of the microscope. It is by this ingenious process that the intricate structure of any fossil plant can now be investigated, and the nature of the original determined, with as much accuracy as if it were now living.

FOTHERGILL'S PILLS.

A purgative nostrum, made with equal proportions of aloes, scammony, colocynth, oxide of antimony, and aromatic essences.

FOX'S CREAM FOR THE HAIR.

Put into a jar 2 oz. each of marrow pomatum and almond oil; melt gently by the fire, and while cooling, stir in 2 drams of oil of jessamine or bergamot.

FRACTURED LIMBS.

It is premised, that where a surgeon is at hand, nothing further is to be done by the by-standers, than merely laying the body and the injured limb of the patient, entirely at rest; if the fracture be a compound one, that is, if there be a wound, the blood is to be staunched by the pressure of a linen or other handkerchief.

Where medical assistance cannot soon, or at all be obtained, let the bone be reduced to its usual position, by extension of the limb, feeling at the same time by pressing with the fingers that the two broken ends have come into exact contact, and seeing that the position of the rest of the limb is in entire accordance with what it would be, if no fracture had taken place, and the patient were merely in a recumbent posture. Now apply a plaister of soap cerate, or rags wetted by opodeldoc, or a solution of sugar of lead over the part, and over this a long roller of calico, which must encircle a considerable portion above and below the fracture. Two, three, or four splints, or thin laths of wood, rounded like the bones of stays, are now to be applied under, over, and on each side of the limb, and fastened in their places, by broad tapes or ribbons, or by another roller not so wide as the former, but extending from end to end of the splints. The limb is now to be placed as follows; if the arm has been broken, the fore-arm is to be placed in a sling, formed by a handkerchief; if the fore-arm, it is to be laid in a piece of paste-board, as long as the arm, from the elbow to the wrist, and placed concavely in a sling; if the thigh bone, it is to be laid on its outside, on a pillow; and if the leg, it is to be laid on soft pillows in the same manner, with the knee a little bent. On no account is the limb to be moved from these positions for two or three days, when union will slightly take place; and, even then, the motion of the limb must be very gentle; otherwise, distortion, or shortening of the limb for life, and, perhaps, dangerous inflammatory symptoms, may take place.

FRANKFORT BLACK.

This is a kind of charcoal made of the lees of wine; after being burnt it is well washed to clean it from any tartar which may adhere to it, and then carefully ground in water. It is a very fine black, and is used for letter-press and copper-plate printer's ink.

FRECKLES AND SUNBURNS.

I. Bruise and then squeeze the juice out of the common chickweed, and to this juice add three times its quantity of soft water. Bathe the skin with this for five or ten minutes, and wash afterwards with clean water, night and morning.

II. Elder flowers treated and applied exactly in the same manner. When the flowers are not to be had, the distilled water from them (which may be procured from any druggist,) will answer the purpose.

III. Honey 1 oz., mixed with 1 pint of lukewarm water, when cold it forms a good lotion. This is commonly called honey-wash.

IV. Take carbonate of potass 20 grains, milk of almonds 3 oz., oil of sassafras 3 drops: mix and apply two or three times a day.

FREEMAN'S BATHING SPIRITS.

I. Soft soap 6 lbs., camphor 8 oz., spirits of wine and water each 3 gallons, color with Daffy's elixir.

II. Soft soap 12 oz., camphor 2 oz., prepared kali $\frac{1}{2}$ drachm., proof spirits 14 pints, Daffy's elixir 4 oz. This will fill a gross of bottles.

FREEZING MIXTURES FOR MAKING ICE ARTIFICIALLY.

I. Pulverise 5 drachms of hydrochlorate of ammonia, and 5 drachms of nitrate of potass; then add 2 oz. of water to them, in a tin, stoneware, or glass vessel. If you plunge a thermometer into the mixture, the mercury will sink from $+30^{\circ}$ to -10° , that is 40° ; denoting the degree of cold produced. This mixture will freeze oil of turpentine, wine, water, sea-water, milk, and vinegar.

II. A mixture of 5 drachms of sulphate of soda, and 4 drachms of diluted sulphuric acid, will lower the temperature of the thermometer 47° . Sulphuric acid of various strengths will freeze in this mixture.

III. Mix together 6 drachms of sulphate of soda, 4 drachms of hydrochlorate of ammonia, 2 drachms of nitrate of potass, and 4 drachms of dilute nitric acid. This mixture will lower the thermometer from $+50^{\circ}$ to -10° , which is 60° .

IV. Mix 7 drachms of snow with 4 drachms of diluted nitric acid. If the thermometer be at $+32^{\circ}$ it will fall to -30° ; being 62° lower than the freezing point of water. Sulphuric ether may be frozen in this mixture.

V. Mix 4 drachms of snow with 5 drachms of chloride of calcium: the thermometer will sink from $+32^{\circ}$ to -40° , being 72° . This mixture will freeze mercury.

VI. Mix 2 drachms of snow with 3 drachms of chloride of calcium: the thermometer will sink from 15° to -68° . This mixture will freeze nitric acid.

VII. Snow 8 drachms, mixed with 10 drachms of diluted sulphuric acid, will produce the greatest degree of cold known: that is, from 68° to 91° ; and is capable of freezing almost every known liquid, except alcohol, which is said to require a freezing mixture 110 degrees below zero.

The degree of cold produced by the several mixtures in the three last receipts must be measured by a thermometer containing alcohol; as mercury freezes at -39° , and, of course, cannot indicate any lower degree. Where the strong acids are used in freezing mixtures, glass vessels or gallipots will suit best; and the article to be frozen may be in a barometer tube, or in a small phial. The different substances here mentioned may be used in larger quantities; but the operator must bear in mind that any alteration in the above-mentioned proportions may materially impede the success of his experiments; not but that there may be proportions yet undis-

covered which are capable of producing a greater degree of cold than any here enumerated. When the salts are used they must first be finely pulverized, and then mixed, as a previous minute division of the particles assists most materially in producing the degree of cold required.

FRENCH CEMENT.

Gum water, thickened with starch powder, used by artificial flower-makers. It keeps for a long time and only requires wetting again if it becomes hard and dry, to re-dissolve it.

FRENCH GLUE.

This differs from English glue only in being prepared by less heat, the cauldron in which the skins are dissolved never being allowed quite to boil, except at the very last part of the process. The skins being dissolved, about as much powdered alum as will lie upon a sixpence is added for every pint. It is then strained, cooled, and dried until very brittle.

FRENCH OIL FOR FURNITURE.

Take 1 pint of linseed oil, $\frac{1}{2}$ an oz. of gum arabic, 2 drachms of alkanet root, and 1 oz. of shell lac varnish, put the mixture into a bottle in a warm place for a week and then strain.

FRENCH POLISHING, METHOD OF.

The method of varnishing furniture, by means of rubbing the varnish on the surface of the wood, is of comparatively modern date. Make a wad with a piece of coarse flannel, or drugget, by rolling it round and round, over which on the side meant to polish with, put very fine linen rag several times doubled, to be as soft as possible; put the wad or cushion to the mouth of the bottle, containing the preparation (or polish) and shake it, which will damp the rag sufficiently, then proceed to rub your work in a circular direction, observing not to do more than about a square foot at a time. Rub it lightly till the whole surface is covered; repeat this 3 or 4 times, according to the texture of the wood; each coat to be rubbed until the rag appears dry. Be careful not to put too much on the rag at a time, and you will have a very beautiful and lasting polish; be also very particular in letting your rags be very clean and soft, as the polish depends in a great measure on the care you take in keeping it clean and free from dust during the operation.

FRENCH POLISH, TO MAKE.

I. To 1 pint of spirits of wine, add $\frac{1}{2}$ oz. of gum copal, $\frac{1}{4}$ oz. of gum arabic, and 1 oz. of shell-lac. Let the gums be well bruised, and sifted through a piece of muslin. Put the spirits and the gums together in a vessel that can be closely corked; place them near warm stove, and frequently shake them; in two or three days they will be dissolved. Strain the mixture through a piece of muslin, and keep it tight corked for use.

II. Take 1 oz. each of mastic, sandarac, seed-lac, shell-lac, gum-lac, and gum arabic; reduce them to a powder, and add $\frac{1}{2}$ oz. of virgin-wax; put the whole into a bottle, with 1 quart of rectified spirits of wine; let it stand twelve hours, and it will be fit for use. To apply it, make a ball of cloth, and put on it occasionally a little of the polish; then wrap the ball in a piece of calico, which slightly touch with linseed oil; rub the furniture hard with a circular motion, until a gloss is produced; finish in the same manner, but instead of all polish, use $\frac{1}{2}$ polish to $\frac{3}{4}$ spirits of wine.

III. Put into a glass bottle 1 oz. of gum-lac, 2 drams of mastic in drops, 4 drams of sandarac, 3 oz. of shell-lac, and $\frac{1}{2}$ oz. of gum-dragon; reduce the whole to powder; add to it a piece of camphor, the size of a nut, and pour on it 8 oz. of rectified spirits of wine; stop the bottle close, but take care when the gums are dissolving that it is not more than half full; it may be placed near a gentle fire, or on a German stove; but a bath of hot sand is preferable, as avoiding all danger, the compound being very apt to catch fire. Apply it as before.

IV. *Finishing polish.*—This preparation is useful for finishing after either of the foregoing receipts, as it adds to the lustre and durability, as well as removes every defect which may happen in the other polish; and gives the surface a most brilliant appearance. Half a pint of the very best rectified spirits of wine, 2 drams of shell lac, and 2 drams of gum benzoin. Put these ingredients in a bottle, and keep it in a warm place till the gum is all dissolved, shaking it frequently; when cold, add 2 tea-spoonsful of the best clear white poppy oil; shake them well together, and it is fit for use. This preparation is used in the same manner as the foregoing polishes, but, in order to remove all dull places, you may increase the pressure in rubbing.

V. *Strong polish.*—To be used in the carved parts of cabinet work with a brush, as in standards, pillars, claws, &c. Dissolve 2 oz. of seed-lac and 2 oz. of white rosin in 1 pint of spirits of wine. This varnish or polish must be laid on warm, and if the work can be warmed also it will be so much the better; at any rate moisture and dampness must be avoided.

FRENCH POMADE.

I. Wash pig's flare in water, changed every three hours for four days; the last two days squeeze it with a spoon when you change the water; drain it well, melt it in a water bath, pour it into a basin of water, stir it till cold, then beat it up to separate the water. So that this pomade is nothing but pork lard. It may be scented with any essential oil.

11. Take of the above pomade 4 oz., white wax and spermaceti, of each $\frac{1}{2}$ oz., oil of almonds 2 oz.

FRENCH RED, OR ROUGE.

Take 1 oz. of genuine carmine, light in weight and strong in color, mix it with very finely-sifted starch powder, according to the shade required, attenuating the color by putting it on black paper.

FRENCH SEALING WAX.

Shell-lac 2 lbs., Venice turpentine 1 lb., Chinese vermilion 3 lbs. Melt and form into sticks 12 and 24 to the pound.

FRESCO, COLORS FOR.

Fresco painting is that which is executed in imperishable and unchangeable colors upon wet lime plaster. The earths and metallic oxydes form the chief of these, altered or modified in depth of tint by means of lime, this being the only white proper to use at any time. No color therefore which is decomposable by this medium can be employed. The following colors are of an unchangeable character.

White.—Lime made of marble.

Yellow.—Naples yellow, yellow ochre, Roman ochre, brown ochre, raw Sienna, burnt Sienna.

Brown.—Umber, burnt and raw.

Black.—Ivory black and Frankfort black.

Blue.—Blue verditer, and better, cobalt, smalt, and Egyptian blue or azure, and ultramarine. Azure was the color used by the ancients.

Green.—Malachite, or various mixtures of blue and yellow.

FRIAR'S BALSAM, COMPOUND TINCTURE OF BENZOIN, JESUIT'S DROPS, WADE'S DROPS.

Take $2\frac{1}{2}$ oz. of benzoin, $1\frac{1}{2}$ oz. of storax strained, 10 drams of balsam of Tolu, 5 drams of aloes, and 2 pints of rectified spirit; digest fourteen days, and filter. It was long celebrated as a styptic for the speedy cure of fresh wounds, cuts, &c., but nothing could be more improper, as it is stimulant and irritating.

FRIT.

The materials for glass of any kind, powdered, and then so far combined together by heat, as to unite into a mass, but not perfectly to be melted into glass. It is used as a single ingredient in the glass manufacture, and mixed, as occasion may require, with cullet or old glass, with glaze, and sometimes with coloring materials.

FRONTINIAE, IMITATIVE.

To 6 gallons of spring water put 6 lbs. of sun raisins, cut small, and 12 lbs. of fine sugar; boil the whole together for about an hour and a half. When the liquor is cold, put $\frac{1}{2}$ a peck of ripe elder flowers in, with

about a gill of lemon juice, and half the quantity of ale yeast. Cover it up, and, after standing three days, strain it off. Now pour it into a cask that is quite clean, and that will hold it with ease. When this is done, put a quart of Rhenish wine to every gallon; let the bung be slightly put in for twelve or fourteen days; then stop it down fast, and put it in a cool dry place for four or five months, till it be quite settled and fine; then bottle it off.

FRUIT BISCUITS.

Put 1 lb. of flour in an oven or before the fire till quite warm, then mix with it, first, 1 lb. of powdered loaf sugar, then 6 whole eggs and the yolks of 6 others: mix these up into a thin paste with warm milk, drop them on paper about the size of a shilling, dust the tops with sugar, and bake to a light brown. While hot from the oven take them off from the paper, spread a little jam on the bottom of one and stick another to it—it may now be baked again for two or three minutes to make the two adhere together, or a little gum tragacanth or arabic may be mixed with the jam.

FRUITS, TO BOTTLE.

The general directions necessary to be observed with all fruits is, that the bottles shall be perfectly clean and dry; if they have a musty flavor, hold a burning brimstone match in each, till the brimstone is burnt away, this will sweeten the bottle; corks should be used and not bungs, the difference is, that the corks are cut lengthway of the cork, and bungs are cut crossway, the latter are therefore more apt to admit air. For delicate fruit, the corks should be scalded and dried before using, that they may not communicate any rank flavor. The bottles, when filled, should be kept in a dry place. Whatever fruit you intend to bottle, let it be gathered on a dry day, and before it is perfectly ripe. Prepare your bottles, as before directed, and fill them to the neck, cork them tightly, and set them in a copper, with water nearly up to their mouths. Heat the water until it is nearly scalding hot, but does not boil, keep it at this heat for half an hour, or until you consider that the fruit is sufficiently done, then take out the bottles, and fill them with water, nearly boiling; hard spring water is the best to use for this purpose, as it serves to strengthen or harden the skin of the fruit, thereby rendering it not so easily spoiled. When cold, cork them, as before directed, and set them in a cool place. At first let them be often turned, and see if any of the bottles are cracked, if so, remove them, and use those first, as the fruit will soon spoil. Fruit should be bottled on the same day as they are gathered, or they will be apt to ferment.

FUEL, MANUFACTURED.

Mix coal, charcoal, or saw-dust, 1 part, sand of any kind 2 parts, marl or clay 1 part, in quantity as thought proper. Make the mass up wet into balls of a convenient size; and when the fire is sufficiently strong, place them a little above the top bar, and they will produce a heat considerably more intense than common fuel, and ensure a saving of one half the quantity of coals. A fire thus made up will require no stirring, and will need no fresh fuel for several hours.

FULIGOKALI.

I. A preparation of soot and potass; made by boiling 1 part potass to 5 parts soot, in a little water for one hour, then adding more water, filtering, and evaporating to dryness. It is kept in well-stopped dry bottles, and is said, when mixed with ointments, to have detergent and stimulant properties.

II. *Sulphuretted*.—Fuligokali 60 grains, caustic potass 14 grains, sulphur 4 grains, heat the last two with a little water, and when combined, add the fuligokali, evaporate to dryness, and preserve it in dry bottles.

FULMINATING POWDER, TO MAKE.

I. Mix together 3 parts of nitre, 2 of dry subcarbonate of potass, and 1 of sulphur. Put a few grains of this powder upon a fire shovel, which then place over the fire, so that the powder shall heat very gradually. It will in a minute or so turn black, fuse, emit a faint blue flame, and then explode with a tremendous report. Sometimes the violence is so great that the shovel is indented by the explosion.

II. Reduce separately to fine powder 4 oz. of nitrate of potass, 2 oz. of the sulphuret of antimony, and 1 oz. of sulphur, mix them well on a sheet of paper, with a wooden or ivory spatula, and preserve the compound in a dry phial. When it is to be used, lay about a drachm or more on a piece of wood or iron, and fire it with a red hot iron wire; instant deflagration, accompanied by dazzling light and great heat, will take place.

III. Pulverize 4 drachms of nitrate of potass and the same quantity of sulphuret of antimony; combine them, and throw about a drachm of the mixture into a red hot crucible, immediate deflagration will follow. If we continue to deflagrate the compound until the whole is exhausted, some of the revived metal (antimony) will be found at the bottom of the crucible. If the nitrate of potass be first melted, and the sulphuret then thrown in, the deflagration will be the same.

FULTON'S DECORTICATED PEPPER.

Black pepper deprived of its husks by rubbing, and bleached with chlorine.

FUMIGATING PASTILES.

They are employed for removing close and unpleasant smells from apartments; the receipts for them are as numerous as the scents required. The following are the most esteemed:—

I. Gum benzoin, olibanum, frankincense and masic, of each 1 oz. charcoal $1\frac{1}{2}$ lb.; gum tragacanth 4 drachms, water sufficient to make the mixture when pounded into a paste.

II. Benzoin 3 drachms, mastic and olibanum, of each $\frac{1}{2}$ a drachm, cascarilla bark, oil of cloves, balsam of Peru of each 1 drachm, charcoal $2\frac{1}{2}$ oz., oil of lavender 10 drops, camphor 2 scruples, gum tragacanth 4 drachms, water as before.

III. Benzoin 8 oz., styrax $1\frac{1}{2}$ oz., labdanum, olibanum, mastic and cloves $1\frac{1}{2}$ drachm of each, charcoal 2 lbs. 4 oz., mucilage or gum tragacanth as much as is sufficient to make it into a paste.

IV. Powder of sandal wood 1 oz. powder of cascarilla bark 1 oz., powder of cloves 1 oz., olibanum 4 drachms, gum benzoin 4 drachms, powdered charcoal 4 drachms, camphor 2 drachms, essence of lemon 20 drops, essence of bergamot 20 drops, oil of lavender 15 drops, frankincense 1 oz.

V. Benzoin 1 lb., storax $\frac{1}{2}$ lb., cinnamon $\frac{1}{2}$ oz., cloves $\frac{1}{2}$ oz., rose leaves 2 oz. calamus aromaticus a stick, beat up with mucilage of gum tragacanth made with rose and orange flower water.

VI. Gum benzoin 1 lb., cloves $\frac{1}{2}$ oz., cinnamon 2 drachms, gum water to make it into a paste.

VII. Styrax and benzoin of each 4 oz., sandal wood and labdanum each 1 oz., charcoal 24 oz. with gum water as before. (See *Musk, Pastile, Incense, &c.*)

FUMIGATE, FOUL ROOMS TO.

I. To 1 table-spoonful of common salt and a little powdered manganese, in a glass cup, add four or five different times, a quarter of a wine glass of strong vitriolic acid. Place the cup on the floor and go out, taking care to shut the door. The vapour will come in contact with the malignant miasma, and destroy it.

II. Take of cascarilla, reduced to a coarse powder, chamomile flowers, aniseed, each equal parts 2 oz. Put some hot cinders in a shovel, sprinkle this gradually on it, and fumigate the chambers of the sick. It takes off all smell, and keeps off infection.

III. Put sulphuric acid, diluted with an equal weight of water, into a shallow vessel of glass or earthenware, and add to it from time to time, small quantities of powdered saltpetre.

This salt, which is the nitrate of potass, becomes thus decomposed, its potass uniting with the sulphuric acid forms a scentless salt, the sulphate of potass;

while its other ingredient, the nitric acid, escapes into the apartment in fumes— $\frac{1}{4}$ oz. of nitre is sufficient for a small room.

IV. Norway tar 1 lb., powdered carbonate of potass 1 oz. Mix, and heat the mixture over a lamp.

FURNITURE POLISHES.

I. *Balls*.—To 1 pint of linseed oil, by a gentle heat melt together 2 oz. of yellow resin, 18 oz. of bees' wax, and 2 oz. of storace root, or alkanet root.

II. *Cream*.—(a) In a little water dissolve 1 oz. of pearl ash, and by heat dissolve $2\frac{1}{2}$ oz. of white wax, then add 1 quart of water, a little at a time.—(b) Boil together in 5 pints of soft water 2 oz. of soap, $\frac{1}{2}$ lb. of bees' wax, and 1 oz. of pearl ash.

Either of these may be diluted with water and thus used in a liquid state, the water evaporating, leaves the wax as a polish.

III. *Oil*.—(a) Mix 1 gallon of linseed oil, 12 oz. of alkanet root, and 2 oz. of rose pink.—(b) In $1\frac{1}{2}$ pint of linseed oil, boil 4 oz. of rosin.—(c) Dissolve by a little warmth some yellow bees' wax in oil of turpentine, till of the consistence when cold of a thick jelly; a little red ochre may be mixed with it.

FURS, TO PRESERVE.

I. Lay up along with the furs to be preserved a tallow candle.

II. Take out the furs from the drawers, &c. frequently, beat them well, expose them to the air and scent the box where they are kept either with spirits of turpentine, camphor, Russia leather, or cedar wood.

III. Pepper them well before putting them away.

IV. Wash them over with a very weak solution of corrosive sublimate, if this solution leave a white powder on the fur when dry, it is too strong—10 grains to the pint will be enough.

FUSE FOR MILITARY SHELLS.

The fuse for a shell is formed of a case of beech-wood, made with a bore and cup, or as we should better understand by the terms stem and cupped head. The interior diameter of the cup is three times that of the bore, and its depth is equal to $1\frac{1}{2}$ the diameter of the fuse. The composition for day is 3 lb. 12 oz. of gunpowder, 1 lb. of sulphur, and 1 lb. 12 oz. of mealed powder. That for night, and which is called Blind Fire, is mealed powder $16\frac{1}{2}$ oz., wood ashes $9\frac{1}{2}$ oz. All fuses burn 1 inch in five seconds. Fuses being cut to the length required, according to the length of range, are made to fit the shell correctly by means of a rasp and cutter, after which they are carefully driven into the shell, with a mallet and setter, leaving

only the cup of the fuse out of it.—The fuse is uncapped when placed in the shell.

FUSEES, TO MAKE.

Take 8 or 10 or more strands of lamp cotton, boil them in vinegar or spirits of wine and draw them through gunpowder made into a soft paste with spirits of wine. Let them dry before using. Vinegar may be used instead of the spirits of wine. The only object of the liquid is to make the gunpowder adhere to the cotton, and water will not do well for the purpose, because it dissolves the saltpetre, and thus separates it from the other ingredients.

FUSIBLE ALLOYS.

I. Melt together 1 oz. each of zinc, bismuth, and lead. This alloy is so fusible that it may be melted in moderately-hot water.

II. *Sir Isaac Newton's alloy*.—8 parts bismuth, 5 lead, and 3 tin. Mould this alloy into bars, and take them to a silver-smith's to be made into $\frac{1}{2}$ a dozen tea-spoons. If one of these be given to a stranger to stir his tea, as soon as it is poured from the tea pot, he will be not a little surprised to find the spoon melt in the tea cup. The effect is very peculiar, for bismuth does not melt till at the heat of 476° , lead at that of 612° , and tin at 442° ; yet this alloy melts at the heat of boiling water, or 212° .

This is the same as D'Arcey's alloys, and is the same as that of which the Napoleon medals are made.

III. Bismuth 14, mercury 16, and lead 32.

IV. Bismuth 4, lead 4, tin 1, and mercury 1.

V. Lead 2, and bismuth 1.

VI. Bismuth 3, lead 6, and antimony 3.

FUSIBLE METAL, CASTS FROM.

A combination of 3 parts of lead, with 2 of tin, and 5 of bismuth, forms an alloy, which melts at the temperature of 197° Fah. In making casts with this and similar alloys, it is important to use the metal at a temperature as low as possible; as, if but a few degrees elevated, the water which adheres to the things from which casts are to be taken, forms vapour, and produces bubbles. The fused metal must be allowed to cool in a tea-cup until just ready to set at the edges, and then pour it into the moulds, procuring in this way beautiful casts from moulds of wood, or of other similar substances. When taking impressions from gems, seals, &c., the fused alloy should be placed on paper or paste-board, and stirred about till it becomes pasty from cooling, at which moment the gem, die, or seal, should be suddenly stamped on it, and a very sharp impression will then be obtained.

GALBANUM, PLAISTER OF.

Simple diachylon 2 lbs., galbanum $\frac{1}{2}$ lb., yellow wax 4 oz.

GALBANUM, TINCTURE OF.

Galbanum 2 oz. spirits of wine 2 lbs. It is used occasionally in hysteria, though but seldom, assafoetida although more nauseous being more effectual.

GALL, TO PURIFY FOR THE ARTIST.

Ox gall is always to be preferred to that of sheep; take then a fresh ox gall, which will hold about $\frac{1}{2}$ a pint, pour out the liquid into a saucepan or pipkin, boil and skim for a quarter of an hour, then add $\frac{1}{2}$ oz. of alum, let it boil another quarter of an hour, and then set it aside in a bottle. Boil also the contents of another gall with $\frac{1}{2}$ oz. of common salt in the same manner, and put it into another bottle, after three months pour off the clear part from each, and mix them in equal proportions, a thick yellow sediment is immediately formed, leaving the refined gall clear and colorless.

This is used by those draughtsmen who have to paint upon greasy substances as ivory, leather, parchment, &c.; a little added to writing ink makes it flow more readily from the pen. A commoner kind is made by pouring gall into plates or other shallow vessels, and drying it in ovens to a thick consistence, as such it will keep for any length of time and is used for scouring carpets, cloth clothing, &c.

GALL DROPS.

Take of ox gall 3 drachms, Peruvian balsam 1 drachm, to be dropped in the ear after syringing with warm soapy water, for abscess in the ear.

GALL OPODELDOC.

Dissolve 2 oz. of camphor and 2 oz. of Castile soap in $\frac{1}{2}$ pint of spirits of wine in a wine bottle, then add 1 oz. of laudanum, and 1 oz. of water of ammonia; now fill up the bottle with bullock's gall previously boiled and skimmed. This is a common domestic liniment for bruises.

GALL STONE, AN ARTIST'S COLOR.

The name of a beautiful and deep yellow color, a small quantity of which will tint a large mass of water; gall stones, or secretions of gall are occasionally found in the gall bladder of most animals; the stone here used is mostly that taken from the ox, and next afterwards in quality is that from off the sheep. The greatest disadvantage of the use of this color is that it is bleached by light.

GALL, SYRUP OF.

Tincture of bullock's gall 1 oz., simple syrup 1 lb. This is stomachic, and promotes digestion, in doses of 1 oz.

GALLIPOT VARNISH.

Take of gallipot or white incense 12 oz., white glass pounded 5 oz., Venice turpentine 2 oz., essence of turpentine 32 oz.,

make the varnish after the white incense has been pounded with the glass.

Some authors recommend mastic or sandaric in the room of gallipot; but the varnish is neither more beautiful nor more durable. When the color is ground with the preceding varnish, and mixed up with the latter, which, if too thick is thinned with a little essence, and which is applied immediately, and without any sizing, to boxes and other articles, the coatings acquire sufficient strength to resist the blows of a mallet. Gallipot is the resin which exudes from fir trees.

GALLS OINTMENT.

- I. Galls in fine powder 1 oz., lard 4 oz.
- II. Galls finely powdered 2 drachms, powdered opium $\frac{1}{2}$ drachm, lard 2 oz.
- III. Morphia 2 grains, olive oil 2 fluid drachms, triturate and add finely powdered galls 1 drachm, zinc ointment 1 oz. All these are excellent applications for piles, the last when they are very painful.

GALLS, TINCTURE OF.

Nut galls 4 oz., proof spirits 2 lbs. In the arts it is used as a test liquor for iron, with which it becomes purple or black, also in medicine as an astringent.

GALVANIZED IRON.

Clean the surface of the iron perfectly by the combined action of dilute acid and friction, plunge it into a bath of melted zinc, and stir it about till it be alloyed superficially with this metal, then take it out and immerse it in a bath of tin, such as is used in making tin-plate. The tin forms an exterior coat of alloy. When the metal thus prepared is exposed to humidity, the zinc is said to oxidize slowly by a galvanic action, and to protect the iron from rusting within it; whereby the outer tinned surface remains for a long time perfectly white, in circumstances under which iron tinned in the usual way would have been superficially browned and covered with rust.

GAMBOGE PILLS.

- I. Take jalap, scammony, gamboge, and calomel, of each $\frac{1}{2}$ oz., gum ammonia 3 drachms, vitriolated tartar 2 drachms, mastic 1 drachm, saffron 1 scruple, oil of turpentine 40 drops, syrup sufficient.
- II. Gamboge, socotrine aloes, pulverized cinnamon, of each 1 drachm, Castile soap 2 drachms. Dose 10 to 20 grains.

GARGLE, COMMON.

A gargle is a liquid medicine, taken into the mouth, but not suffered to pass farther than the throat; when used, a mouthful is to be taken, and the head being thrown back, with the mouth upwards, the gargle is retained at the back part of the mouth, by the air being thrown forcibly against it from the glottis. The following are common gargles, for sore throat, thrush, &c. :—

- I. Pure water $1\frac{1}{2}$ pint, borax 10 drachms, tincture of catechu 1 oz., tincture of capicum 2 drachms, honey of roses $1\frac{1}{2}$ oz. Mix together.

II. Instead of the borax and catechu, add muriatic acid or sulphuric acid, till of a pleasant taste. This is good when there is much mucus in the throat, and for the croup, but the next is better.

III. Sweeten some water with honey, and add sufficient of salt of tartar to make it slightly disagreeable. This is good for the whooping cough.

IV. For a putrid sore throat, use No. 2, or else vinegar and water.

V. Pulverized capsicum 1 drachm, common salt 1 scruple, vinegar $\frac{1}{2}$ oz., boiling water 1 pint; strain. This is good in scarlet fever, ulcerated sore throat, and for relaxation of the uvula.

VI. Alum $\frac{1}{2}$ scruple, oak bark $\frac{1}{4}$ oz., oil of vitriol 30 drops, boiling water 1 pint. In relaxation of the uvula.

VII. Borax 2 drachms, honey 1 oz., rose water 7 oz. Used for the thrush in infants.

VIII. Saltpetre 2 drachms, honey $\frac{1}{2}$ oz., rose water 6 oz. This is to be used frequently in inflammatory sore throat.

IX. Infusion of rhatany root $7\frac{1}{2}$ oz., dilute sulphuric acid $2\frac{1}{2}$ drachms, syrup of mulberries 1 oz.

X. Barley water, thin linseed tea, or gum water, may be used as a gargle when the throat is injured by bones, &c., as may also the borax gargle No. 7.

GARLIC BALLS FOR HORSES.

Garlic 1 to 2 oz., pound into a paste, liquorice powder to make balls. This is used for horses in cough.

GARLIC, SYRUP OF.

Garlic roots 1 lb., water 2 lbs., sugar to make syrup, about $1\frac{1}{2}$ lb. to a pint.

GARLIC VINEGAR.

Peel and chop 2 oz. of garlic, pour upon this a quart of good vinegar; let it digest for fourteen days, shaking it every day; then strain and put in bottles. A small quantity is used in soups, &c.

GARNETS, ARTIFICIAL.

Take 2 oz. of pure white glass, 1 oz. of glass of antimony, 1 grain of the powder of cassius, and 1 grain of manganese; reduce the materials to powder, mix them intimately, and then fuse them in a crucible. The product will be a gem so like the real garnet, that no common observer will discover the difference.

GASCOIGNE'S POWDER.

Take powdered crab's claws 1 lb., oriental bezoar 1 oz. Mix them well together, and make the mixture into balls with very weak gum or size water.

This once celebrated absorbent is now disused, on account of the expense of the bezoar. Both the simple and the compound chalk powder is of precisely the same nature; one or other of these is now substituted, and often when colored with a little bole Armeniac, sold as Gascoigne's powder.

GELATINE.

Nelson's Patent.—This gelatine is formed from the parings of skins. These pieces, after being washed, have their surfaces scored; they are then soaked for a week or ten days in a dilute caustic soda; they are next placed in an air-tight vat, lined with cement, kept at a temperature of 70° Fah., then washed well with cold water, and afterwards exposed to the fumes of burning sulphur in a wooden chamber. They are now squeezed to expel the moisture, and finally converted into gelatine, by water in earthen vessels enclosed in steam cases. The fluid gelatine is purified by straining while hot. It is sometimes colored. The juice of beet-root is used for red; the juice of spinach for green; and the sulphate of indigo for blue.

GELATINE FROM BONES.

Crush the bones, and soak them in dilute muriatic acid; this will dissolve all the hard substance. Wash them well in several waters, adding a little pearlash to the last water. Nothing but gelatine will now be left; this requires boiling in water to dissolve it; it will then be fit for culinary purposes, or as glue, according to the quality of the bones. When made from spongy skulls, the inside of horns, &c., it is called gelatine brut.

GEM CUTTER'S PASTE.

Virgin wax 1 oz. melted slowly in a copper vessel, sugar candy pounded well 1 drachm, burnt soot $\frac{1}{2}$ oz., and two or three drops of turpentine. The wax is warmed if a cast is to be taken, and the stone, having been a little moistened, is pressed on it.

GEMS, RED SULPHUR.

Make a mould of the required subject in plaster of Paris; melt some roll brimstone over a gentle fire, when just melted put in a little English vermilion; stir them together and pour the mixture immediately into the plaster moulds, previously wetted and surrounded with paper; it will congeal and give a very sharp impression, which has the peculiar advantage of not being injured by the heat of the sun. By this method are made the red casts seen in engraver's windows, and which resemble sealing wax. They may be, when made, surrounded with slips of paper, and placed upon show boards, or in cabinets. The great difficulty of the above process is the preserving the gems of a fine red color. This is only to be done by keeping the sulphur at as low a degree of heat as possible, otherwise the vermilion, which is a bisulphuret of mercury, becomes in some degree changed into the protosulphuret, or Ethiops mineral, which is black. The surest way to preserve a fine color is to procure a common glue pot, put the sulphur to be melted in the inner vessel, and fill the outer vessel

with brine. The boiling of the brine will communicate heat enough to melt the sulphur, but not to occasion a rapid change. Notwithstanding this precaution, the sulphur should not remain long in a melted state, but be used as soon as possible.

GENTIAN, INFUSION OF.

I. *Simple*.—Boil gentian root in chips in water, or put it in a jug and pour boiling water upon it; it will be intensely bitter, and may be diluted, when wanted, with water; $\frac{1}{2}$ a wine glassful taken two or three times a day is an excellent tonic, and one which does not like rhubarb act as an aperient also, nor yet like catechu as an astringent.

II. *Compound*.—Take of gentian root cut in pieces $\frac{1}{2}$ oz., dried peel of Seville oranges bruised 1 drachm, coriander seed bruised $\frac{1}{2}$ a drachm, diluted alcohol 4 oz., water 1 lb. First pour on the alcohol, and three hours afterwards add the water, then macerate without heat for 12 hours and strain. Take a table spoonful three or four times a day. Dilute it with water and sweeten with sugar if you think proper.

GENTIAN, TINCTURES OF.

I. *Simple*.—Gentian root $\frac{1}{2}$ lb., leaves and flowers of the smaller centaury each 4 oz. proof spirit 6 lbs., distil off $\frac{1}{2}$ gallon.

II. *Compound*.—Gentian root and dried orange peel of each 1 drachm, lemon peel 2 drachms, hot water $\frac{3}{4}$ of a pint.

GENTIAN WINE.

Take gentian root and dried lemon peel, fresh, of each 1 oz., 2 drachms of long pepper, and 2 pints of mountain wine; infuse without heat for a week, and strain out the wine for use.

GERMAN BLACKING.

Break into pieces a cake of white wax, and put it in a tin tube, or any earthen vessel; pour over it as much oil of turpentine as will quite cover it, and for twenty-four hours let it be closely covered up. In this time the wax will be found dissolved to a paste, which is then to be mixed with as much real ivory black, in fine powder, as is necessary to give the entire composition a very black color. When it is wanted for use, take a little of it out on the point of a knife, and rub it into the leather of the boots, shoes, &c., with a brush, which will cause the ethereal spirit of the oil to evaporate, leaving the wax on the surface of the leather, quite firm, black, and glossy. Should the composition get dry, stir in a little fresh oil of turpentine.

GERMAN PASTE FOR BIRDS.

I. Take the crumb of well-baked stale white bread, and having soaked it in clean water about half an hour, squeeze out the moisture, and add to the bread two-thirds

of the same quantity of well-sifted barley meal, then pour boiling milk over the mixture, and stir it well together.

II. Take the crust of bread, and prepare it as directed above; put it into a stone mortar, and having added some carrot, finely grated, and a few spoonsful of fine barley, or wheat flour, grind the whole well together.

III. Mix well together 25 parts of oatmeal, finely ground, sweet almonds 6 parts, rape oil 2 parts, sugar 1 part, carraway seeds 1 part. When all these things are mixed well together, they are to be rubbed through a sieve.

IV. Take any quantity of the above German paste (No. 3,) and add to it 1 quarter the quantity taken of white of egg, and a few hempseeds, mix it up well with the rest, and take care that it is in very fine pieces, before it is given to the birds.

GILDER'S VARNISH.

I. Bees' wax 4 oz., verdigris and sulphate of copper, of each 1 oz. Mix.

II. Bees' wax 4 oz., verdigris, red ochre, and alum, of each 1 oz.; mix. These varnishes are mixed with turpentine or spirits of wine, and afterwards strained. They are laid on over the gold, to heighten its color, when pale, or to give it a greenish tinge.

GILDING.

There are many processes of gilding, some of a mechanical, others of a chemical, and again, others by means of galvanism. For some of these modifications, see *Books, Glass, Picture Frames, Gold, Silk, Talbot, &c.*, to which add the following:—

I. To gild upon metals, first let the article be well cleaned and polished, then apply the following powder by friction with a piece of cork, moistened with salt and water, after which burnish with a blood-stone burnisher. The powder is thus made:—Take pure gold 5 drachms, pure copper 1 drachm, aqua regia 10 oz. Dissolve the metals in the acid, soak clean linen rags in the solution, dry and burn them, and carefully collect the ashes, which contain the gold in a state of minute division.

II. First make a gilding liquid of 5 troy oz. of fine gold, 52 oz. avoirdupois of aqua regia. Dissolve by heat, and continue the heat until red or yellow vapors cease to be evolved; decant the clear liquid into a suitable vessel, and add distilled water 4 gallons, pure bicarbonate of potass 20 lbs., and boil for two hours. The articles to be gilt, after being perfectly cleansed from scale and grease, and receiving a proper face, are to be suspended on wires, dipped into the liquid boiling hot, and moved about from a few seconds to a minute, depending on the newness and strength of the liquid, and they will be covered with a coat of gold. It is only necessary afterwards to wash and dry

them. Articles thus gilt will not bear much rubbing. This is Mr. Elkington's patent process; it was, however, previously practised by Mr. Bonnel in France.

III. Make a mixture of equal parts of sal ammoniac and corrosive-sublimate, dissolve these in nitric acid. This is a menstruum or material in which gold is to be dissolved. Boil it away, till half has evaporated, and then apply the liquid to the surface of silver, which immediately becomes black, but on being heated, acquires a metallic lustre of gold.

IV. Paint the part to be gilt with gold-size; then if the gilding is to be brilliant, lay gold leaf over the part painted, when the latter has almost become dry, but is still a little sticky. If dead gold be required, dust it over with powdered gold. In the former method, painting in gold for show boards, &c., is executed; in the latter tea-boards, waiters, table covers, &c., hence often called japper's gilding.

V. A method without oil size is, first, having procured a good surface, cover this surface with two or three coats of good size, procured by boiling down white leather, isinglass, or shreds of parchment, the last coat of size being mixed with a little whiting, or still better, with yellow ochre; let this get quite dry, smooth it well with a piece of fine sand paper, and having the gold leaf ready, damp the surface very slightly with a sponge or brush, and lay and dab on the gold leaf, which will adhere to the moistened size. When dry, it may be burnished with an agate or dog's-tooth burnisher. In this manner are gilt picture and looking-glass frames, cornices, &c. For the edges of books, the white of egg mixed with a little sugar candy is preferable to size.

VI. The article to be gilt being either copper, brass, or silver, is first made quite bright, then it is rubbed over with the amalgam of gold. This will adhere to the surface. The next part of the process is to put the articles gilt into an oven, that the quicksilver of the amalgam may be evaporated. The gold is now left as a black powder, which requires only rubbing over strongly with a stiff long-haired brush, and afterwards to be washed with vinegar and water, and lastly, with water only.

The amalgam will be a stiff substance, and the putting of it on is usually with a wire brush, using with it a little very dilute solution of quicksilver, dissolved in nitric acid. This last is called wash or water gilding.

VII. Swords, knives, and other bright steel goods, may be ornamented with gold flowers, letters, or other devices, by drawing or writing upon them with a camel's-hair pencil, dipped in the ethereal solution of gold, burnishing afterwards, when the ether as evaporated, with a piece of wash leather.

There is a method also of gilding iron through means of a coating of copper. (See *Iron*.) The different colors given to gold and gilding, will be found under gold. (See *Books, Leather, &c. &c.*)

GILDING LIQUID OR PICKLE.

Alum and common salt, of each 1 oz., purified nitre 2 oz., water $\frac{1}{2}$ pint. This much improves the color of gilt articles, it being laid over them with a brush.

GILDING METAL OR ALLOY.

The metal or alloy which is gilt is usually either silver, or a kind of brass, containing however a very large proportion of copper, so much so as to resemble that metal, except in being a little harder. The proportions are:—(a) Copper 6 parts, brass 1 part.—(b) Copper 4 parts, brass 1 part.—(c) Copper 13 parts, old brass 3 parts, tin 14 parts.

GILDING WAX.

I. Yellow wax $1\frac{1}{2}$ lb., verdigris and white vitriol, of each $\frac{1}{2}$ lb., colcothar (common Indian red) 2 lb. 12 oz.

II. Yellow wax 15 lbs., colcothar 7 lbs., verdigris and white vitriol, of each 3 lbs. 8 oz., borax 8 oz.

GILEAD, BALM OF, FACTITIOUS.

The true balm of Gilead is the product of an Arabian plant, most costly even where it is procured. In this country an inferior kind is introduced, under the name of opobalsam, obtained by boiling the twigs of the tree in water. This also is so dear, that an imitative article is generally substituted. The following are the materials for its composition:—

I. Yellow rosin 10 oz., tincture of benzoin and oil of lemons, each 3 oz., oils of carraway and rosemary, of each 2 oz. Melt the rosin, and having removed it from the fire, stir in, first the essence and then the oils.

II. Yellow rosin 1 lb., gum benzoin 4 oz. best liquid styrax 2 oz., essence of lemons 3 oz., oil of rosemary 2 oz., oils of carraway and cassia, each 1 oz. Dilute it to a proper consistence with spirits of wine, let it rest for a few hours, and then strain through flannel.

III. Canada balsam 1 lb., gum benzoin 5 oz., oils of lemons, rosemary, and cassia, of each $\frac{1}{2}$ oz. Powder the benzoin, and mix it with the Canada balsam, then place the mixture in a flask, and after closing the mouth, expose it to heat till the liquid will dissolve no more of the benzoin, next allow it to settle till clear and cold, and then add the essences.

GIN.

Gin is made by the distillation of clean rectified spirits with certain ingredients, chiefly juniper berries. Almost every distiller in the United Kingdom has a different

receipt, and so much does the palate become accustomed to certain flavors, that as in the articles of porter and cheese, the gin manufactured by one distiller is always considered by the habitual drinkers of it, as superior to that of others, although there may be no real difference of quality. Also, Thames water makes so great a difference in the article, that it is a common remark, which our own experience has confirmed, that gin of the flavor of that of London cannot be made in the provinces, even by the same receipt. We have tried the first four of the following receipts, and by some of them have made thousands of gallons. The ingredients are all to be put into the still together, except the sugar and finings.

i. Take 100 gallons of clean malt spirits, 40 gallons of liquor (water,) 12 gallons of good Italian juniper berries, 2 lbs. of stick liquorice, cut small, and 1 lb. of angelica roots. Distil by as gentle a boiling heat as possible, until feints pass over. Reduce the strength to 1 in 5, that is, 22° under proof by the hydrometer, and add fine-clayed sugar after the proportion of 20 lbs. to 100 gallons, when reduced.

ii. Spirit 100 gallons, juniper berries 30 lbs., coriander seeds 10 lbs., angelica root $\frac{1}{2}$ lb., ginger 2 oz., cassia bruised, sweet fennel seeds, chillies, lesser cardamom seeds and almond cake, of each 1 oz.

iii. Take 100 gallons of spirits, 30 lbs. of juniper berries, half Italian and half German, 15 lbs. of best coriander seeds, and 4 lbs. of Seville orange peel.

This receipt was used by the author's father, (a distiller,) for many years, and also by Messrs. Skinner, distillers, of Aldgate, London.

iv. Take 80 gallons of proof spirit, 20 gallons of liquor, 10 lbs. of juniper, 5 lbs. of coriander seeds, 6 oz. each of dried orange peel and cassia buds, and 3 oz. each of angelica root, sweet fennel seeds, carraway seeds, ground ginger, and almond cake.

v. Take 135 gallons of spirit, 7 per cent over proof, 5 lbs. of Italian juniper berries, 14 lbs. of German ditto, 15 lbs. of coriander seeds, $\frac{3}{4}$ lb. of angelica root, 2 oz. of cassia, 2 oz. of calamus aromaticus, or if this cannot be procured, the same quantity of orrice root, and 2 oz. of almond cake.

We believe this to be the receipt of Messrs. Hodges, whose gin is one of the cleanest articles in London. The reason that two sorts of juniper berries are advised to be used, is, that the French and Italian berries contain most oil, being produced in warmer countries, while those of Germany contain most resin. The oily berry communicates the finer, and the resinous berry the stronger flavor; were the latter only used, the gin would want delicacy, were the former kind wholly employed, the gin would turn blue or milky, when mixed with water, on account of the superabundance of oil.

vi. Put into a wine bottle 1 $\frac{1}{2}$ oz. of oil of juniper, $\frac{1}{2}$ oz. essence of angelica, 1 oz. of the oil of bitter almonds, 1 oz. of the

oil of coriander, and $\frac{1}{2}$ oz. of the oil of carraway; nearly fill the bottle with spirits of wine, shake it up well for ten minutes to kill the oils, and then pour it into 100 gallons of clean spirits, washing out the bottle with the same, rummage the whole well up, and fine it. This will be strong gin, by which term is understood not merely gin with little water, but without sugar. Reduce it to a strength according to the price at which it is to be sold, and then sweeten with 1 lb. of loaf sugar to every 5 gallons.

The sugar pays for itself in all liquors by increasing the quantity slightly. A little noyeau added, when made up, and also a little infusion of chillies are improvements. Some persons use Strasburg turpentine instead of oil of juniper, on account of its greater cheapness, but it is far inferior; others put 1 oz. of oil of vitriol to each 100 gallons.

GIN, FININGS FOR.

i. Boil $\frac{1}{2}$ lb. of alum in 1 quart of water, till dissolved, let it get nearly cold, and then put it into a cask of 100 gallons of gin, rouse it well up with a stick, let it stand two or three days, and it will be perfectly bright and fine.

ii. Boil in like manner 4 oz. of alum and 4 oz. of salt of tartar in 2 quarts of water, pour them cold into the cask, and rummage well up. This is for 100 gallons; it will be beautifully bright in twenty-four hours. This fining will also remove any unpleasant musty flavor, that may arise from the cask or other source of taint.

GINGER BEER IN BOTTLES.

i. Put into any vessel 1 gallon of boiling water, 1 lb. of common loaf-sugar, 1 oz. of best ginger, bruised, 1 oz. of cream of tartar, or else a lemon sliced. Stir them up until the sugar is dissolved, let it rest until about as warm as new milk, then add 1 table-spoonful of good yeast, poured on to a bit of bread put to float on it. Cover the whole over with a cloth, and suffer it to remain undisturbed twenty-four hours; then strain it, and put it into bottles, observing not to put more in than will occupy three-quarters of their capacity, or as we usually say, three-quarters full. Cork the bottles well, and tie the corks, and in two days, in warm weather, it will be fit to drink. If not to be consumed till a week or a fortnight after it is made, a quarter of the sugar may be spared. The above quantity of ingredients will make 18 bottles, and cost ten-pence.

ii. Take of white sugar 10 lbs., of lemon juice 9 fluid oz., or a little more than $\frac{1}{2}$ a pint, honey $\frac{1}{2}$ lb., bruised ginger 11 oz., water 9 gallons. Boil the ginger in 2 or 3 gallons of the water for half an hour, then add the other ingredients and the rest of the water after another half hour; filter the whole through flannel. When cold, add the white of an egg, and $\frac{1}{4}$ oz. of essence of lemon. Set it to work with yeast, as in the last re-

ceipt, and after four days, bottle for use. Ginger beer made by this receipt is an excellent article, and will keep for a long time.

Lemon juice or lime juice may be bought among the orange merchants of Thames Street, London. If lemons be used, they should be cut in slices, and boiled with the water and ginger, with them, the essence of lemons need not be added afterwards.

III. *Common*.—That common drink sold in the streets is made with raw sugar or treacle, $\frac{3}{4}$ lb. to a gallon of water, the ginger ground, and with less acid, costing one farthing per bottle.

IV. *Powders*.—Powdered white sugar 2 drachms, powdered ginger 5 grains, carbonate of soda 26 grains; mix and wrap in blue paper. Tartaric acid 30 grains; wrap in white paper. For use, dissolve each separately in $\frac{1}{2}$ a glass of water, mix them together, and drink immediately; or else, and which is indeed preferable, dissolve the contents of the blue paper in a tumbler, three-fourths filled with water, add the acid from the white paper, stir it up, and drink as soon as dissolved.

GINGERBREAD.

Gingerbread is not only one of the very oldest articles of the baker's business, but formerly, as well as now, one of the most favorite. One principle is to be observed in the manufacture of all gingerbread, that is, that treacle or honey is the only sweet employed, and that the necessary fermentation is produced by an alkaline carbonate, which, by the heat of the oven, and assisted also by the acid in the treacle, becomes decomposed, and emitting its carbonic acid into the particles of bread, renders it porous. Besides the admixture of the various materials, the treacle requires the following preparation:—

I. *To prepare the treacle*.—Take 14 lbs. of the best treacle, $\frac{1}{4}$ lb. of alum, and $\frac{1}{2}$ lb. of American potash. Dissolve the alum in $\frac{1}{2}$ a pint of hot water, and in another vessel the potash in the same quantity of water. Pour the alum first into the treacle, stir it up, and then add the potash, and stir it all well together for use.

II. *To prepare the dough*.—Mix some of the preceding prepared treacle with flour, to make a soft dough, set this aside for three or four days, when it will be ready, by mixing with the other ingredients, to bake directly. If kept for eight or ten days, it is called old dough, and requires to be mixed in certain proportions with similar dough just made; in this case, the oldness of the one and the newness of the other, uniting, the medium and proper quality and age is preserved.

III. *Ingredients*.—Take 4 lbs. of light dough and 2 lbs. of new dough, $\frac{1}{2}$ lb. of butter, $\frac{1}{2}$ lb. of treacle, 2 oz. of ginger, and 2 oz. of mixed spice. You may add, at

pleasure, orange or lemon peel, almonds, or other flavoring ingredients. Carraway seeds are sometimes used.

IV. *Making*.—Mix this all well together, and make it of a thinner consistence with water, if required. Place it in a pan to about an inch in thickness in square tins, the bottom and sides of which are well buttered, press the stamp upon the top, having first washed it over with water or egg. A large cake of gingerbread will take three-quarters of an hour to bake in a slow oven; smaller and thinner cakes in a brisker oven for a shorter time; do not touch them, or expose them to a cold draught of air while baking, or they will be heavy. When done, wash them over with size, egg, isinglass, or gum water.

After the ingredients are fully made up, gingerbread should be kept a little time before baking, but never more than two or three hours. In the following receipts, it is prepared by one operation.

V. Flour and treacle, of each 1 lb., butter 1 oz., carbonate of magnesia 1 oz., powdered ginger and cinnamon, of each 1 drachm, grated nutmeg $\frac{1}{2}$ oz.; let it be baked, after having been made about four hours.

This is for thin gingerbread; if for thick, you must add more flour, so as to make the paste stiffer.

VI. Flour 1 lb., carbonate of magnesia $\frac{1}{4}$ oz., mix these together, then add $\frac{1}{2}$ lb. of treacle, $\frac{1}{4}$ lb. of moist sugar, 2 oz. of melted butter, tartaric acid 1 drachm, and spices as in the last receipt. Let it be baked when it has been made about four hours.

If to be baked quickly, double the quantity of the carbonate of magnesia, and of the acid; this will be ready for the oven in forty minutes.

VII. Flour 1 lb., treacle $\frac{3}{4}$ lb., potash dissolved in a little water $\frac{1}{2}$ oz., butter 1 oz., spice according to taste. This will not be ready for the oven for several days. When it is to be baked, mix up with it a little more flour.

During the several days rest between the making and the baking, the acid which is in the treacle neutralizes the potash, and lets its carbonic acid escape into the bread.

VIII. Instead of the potash, used in the last receipt, mix up the ingredients with 1 oz. of the carbonate of ammonia, to make the bread porous; or it may be used in addition to the potash in the last, using then $\frac{1}{4}$ oz., and adding it when the paste is two or three days old. With the carbonate of ammonia only, it may be baked directly it is prepared.

IX. Flour 6 lbs., powdered ginger 2 oz., carraway seeds 1 oz., (other spices to palate,) candied lemon and orange peel, of each 2 oz., moist sugar and melted butter, of each $\frac{1}{2}$ lb., treacle 4 lbs., volatile salt (carbonate of ammonia) dissolved in a little water $1\frac{1}{2}$ to 2 oz. This may be baked at once.

x. Take 3 lbs. of treacle, of candied lemon and orange peel and green citron, each $\frac{1}{2}$ lb., 2 oz. of ginger in powder, 2 oz. of coriander seed, prepared, beaten, and sifted. Use the prepared treacle, or else either of the carbonates before mentioned with common treacle.

The French, whose gingerbread is vile stuff, use honey instead of treacle, and flavor it very strongly with aniseed. (For *Gingerbread Nuts*, see *Spice Nuts*; for *German Gingerbread* see note to *Honey Gingerbread*; see also *Honey-comb Gingerbread* and *Orange Gingerbread*.)

GINGER CAKES.

Take 1 lb. of sugar, $\frac{1}{2}$ lb. of ginger, 1 pint of water, 2 lbs. of flour, and 8 caps (half-peels) of orange peel. Pound and sift the ginger, and add 1 pint of water; boil it five minutes, then let it stand till cold. Pound the preserved orange peel, and pass it through a hair sieve; put the flour on a paste board, make a wall, and put in the orange peel and ginger with the boiled water, mix this up to a paste, and roll it out; prick the cakes before baking them.

GINGER, ESSENCE OR TINCTURE OF.

I. Take of ginger in coarse powder 2 oz., proof spirits 2 pints. Digest in a gentle heat for seven days, and strain. This tincture is cordial and stimulant, and is generally employed as a corrective to purgative draughts, which without they are apt to be griping.

II. A more concentrated essence may be procured by digesting 4 oz. of ginger in a pint of spirits of wine for a fortnight, then press and filter. Oxley's concentrated essence of Jamaica ginger varies from this only, in having a little of the essence of cayenne added to it.

III. Bruised Jamaica ginger 12 lbs., rectified spirits of wine $2\frac{1}{2}$ gallons. Soak for fourteen days, press, strain, and reduce the essence by distillation to 1 gallon, cool, and filter. This is so strong, that 2 oz. are equal to 3 of ginger. It is used much, not only by the medical profession, but by publicans and distillers in making cordials, and occasionally in flavoring brandy.

IV. Mix together equal parts of Jamaica ginger and animal charcoal, both in coarse powder, put them in a funnel which has a piece of cotton wool in the pipe of it, stop the lower end with a cork, and pour spirits of wine on to the powder. After twenty-four hours, take out the cork, and let the spirits filter through, adding altogether spirit double the weight of the ginger employed, pour the runnings backward into the funnel two or three times, till of sufficient strength.

GINGER, TO CANDY.

Put 1 oz. of race ginger, grated fine, 1 lb. of loaf sugar, beat fine, into a preserving pan, with as much water as will dissolve the sugar,

Stir them well together over a slow fire till the sugar begins to boil; then stir in another pound of sugar, beat fine, and keep stirring it till it grows thick; then take it off the fire, and drop it in cakes upon earthen dishes; set them in a warm place to dry, when they will become hard and brittle, and look white.

GINGER CANDY AND DROPS.

Coarsely-powdered ginger 2 oz., boiling water $1\frac{1}{2}$ pint; macerate in a warm place for two hours, strain, and add to it 7 lbs. each of loaf and brown sugar. Ginger drops are the same, except that they are made with all loaf sugar.

GINGER CANDY.

Boil a pint of clarified sugar, until upon taking out a drop of it on a piece of stick, it will, when cold, be quite brittle. Color it yellow by boiling with it a little saffron tied up in a piece of muslin. Now mix and stir up with it, for a common article, about a tea-spoonful of ground ginger; if for superior goods, instead of the ground ginger, add to it, while hot, half the white of an egg beaten up previously with fine sifted loaf-sugar, and 20 drops of the strong essence of ginger.

GINGER LOZENGES.

Dissolve in $\frac{1}{2}$ pint of hot water $\frac{1}{2}$ oz. of gum arabic; when cold, stir it up with $1\frac{1}{2}$ lb. of loaf-sugar, and a spoonful of powdered ginger, or 12 drops of the essence of ginger. Roll and beat the whole well up into a paste, make it into a cake, and punch out the lozenges with a round stamp, dry them near the fire, or in an oven nearly cold.

GINGER, TO PRESERVE.

The preserved ginger that comes from China, and from the Indies, is much superior to any we can make in this country; it being made from the roots while young and tender, while ours being from the older roots, and these having been dried, they still remain stringy and tough when preserved. The method pursued in the East Indies is, first to wash the fresh roots, then to boil them for an hour in water, taking out the pieces and letting them cool; they are then peeled with a knife and cut into smaller pieces. The pieces thus softened and cleaned, and still containing as much pungency as will be desirable, are boiled in a thin syrup of white sugar, then taken out and dried, if wanted in this state, or if wanted as a wet preserve, the syrup and ginger are both preserved together in earthenware jars.

GINGER, MOCK, PRESERVED.

Cut off the stalks of lettuces just going to seed, and peel off the strings, cut them in pieces 2 or 3 inches long, and throw them into water; after washing them, put them into sugar and water, mixed in the proportion

of 1 lb. of sugar to 5 pints of water, add to this quantity 2 large spoonsful of pounded ginger. Boil the whole together for twenty minutes, and set it by for two days. Then boil it again for half an hour, and renew this five or six times in the same syrup. Then drain the stalks upon a sieve, and wipe them dry; have ready a thick syrup boiled, and made strong with whole ginger. Pour it upon the stalks boiling hot, boil them in it twice or thrice, or until they look clear, and taste like the West India ginger.

GINGER BRANDY OR CORDIAL.

These are nothing but the commonest brandy, and flavored with essence of ginger, or when wanted of a white color, clean spirits are used instead of brandy. The relative quantity of spirit and of water depends upon the price at which it is to be sold, and so also does the quantity of sugar depend upon the required character of the cordial, with but little sugar it forms the *espris de gingembre* of the French, and with more sugar, so as to be syrupy, it becomes *crème de gingembre*.

GINGER, SYRUP OF.

Take of ginger, bruised, 4 oz., boiling water 3 pints. Macerate for four hours, then strain, and add white sugar to make a syrup.

GINGER WINE.

I. To 7 gallons of water put 19 lbs. of clayed sugar, and boil it for half an hour, taking off the scum as it rises; then take a small quantity of the liquor, and add to it 9 oz. of the best ginger, bruised. Now put it all together, and when nearly cold, chop 9 lbs. of raisins very small, and put them into a 9 gallon cask, (beer measure,) with 1 oz. of isinglass. Slice 4 lemons into the cask, taking out all the seeds, and pour the liquor over them, with $\frac{1}{2}$ a pint of fresh yeast. Leave it unstopped for three weeks, and in about three months it will be fit for bottling. There will be 1 gallon of the sugar and water more than the cask will hold at first; this must be kept to fill up, as the liquor works off, as it is necessary that the cask should be kept full till it has done working. The raisins should be $\frac{2}{3}$ Malaga, and $\frac{1}{3}$ Muscatel. Spring and autumn are the best seasons for making this wine.

II. Take of cold soft water 19 gallons, Malaga raisins 50 lbs., white tartar in powder 4 oz.; ferment. Mix ginger, in powder or bruised, 20 oz., 18 lemons, peel and juice; add brandy 2 quarts or more. This will make 18 gallons.

III. Take 20 quarts of water, 5 lbs. of sugar, 3 oz. of white ginger, 1 oz. of stick liquorice. Boil them well together, when it is cold, put a little new yeast upon it, but not too much; then put it into the barrel

for ten days, and after that bottle it, putting a lump of white sugar into every bottle.

GLAIRE.

This is simply white of egg beaten up with an equal quantity of cold water, a little sugar candy being occasionally added. It forms a glaze for pastry; also to give a polish to kid and other leather, particularly to kid gloves, kid shoes, and the leathern covers to books. It is perfectly transparent, dries in a few minutes, is not rendered sticky by a hot hand, nor affected by the weather.

GLASS, CUTTING AND BREAKING OF.

The different methods of cutting of glass tubes, &c. which have been contrived, are all founded on two principles; one of these is the division of the surface of glass by cutting instruments, the other the effecting of the same object by a sudden change of temperature; and sometimes these two principles are combined in one process.

I. Notch the tube at the point where it is to be divided, with the edge of the file, or of a thin plate of hard steel, or with a diamond; after which you press upon the two ends of the tube, as if to enlarge the notch, or what is better, you give the tube a slight smart blow. This method is sufficient for the breaking of small tubes.

II. Many persons habitually employ an agate, or a common flint, which they hold in one hand, while with the other they rub the tube over the sharp edge of the stone, taking the precaution of securing the tube by the help of the thumb.

III. For tubes of a greater diameter, you can employ a fine iron wire stretched in a bow, or, still better, the glass cutter's wheel; with either of these, assisted by a mixture of emery and water, you can cut a circular trace round a large tube, and then divide it with ease.

IV. When the portion which is to be removed from a tube is so small that you cannot easily lay hold of it, you cut a notch with a file, and expose the notch to the point of a candle flame; the cut then flies round the tube.

V. Make use of a piece of iron heated to redness, an angle or corner of which is to be applied to the tube at the point where it is to be cut, and then, if the fracture is not at once affected by the action of the hot iron, plunge the tube suddenly into cold water.

VI. After having made a notch with a file, or the edge of a flint, you introduce into it a little water, and bring close upon it the point of a wire, previously heated to the melting point. This double application of heat and moisture obliges the notch to fly round the tube.

VII. When the object to be cut has a large diameter and very thin sides—when it is such

a vessel as a drinking glass or a cup—you may divide it with much neatness by proceeding as follows:—After having well cleansed the vessel, both within and without, pour oil into it, till it rises to the point, or very nearly to the point, where you desire to cut it. Place the vessel, so prepared, in an airy situation; then take a rod of iron, of about an inch in diameter; make the extremity brightly red-hot, and plunge it into the vessel until the extremity of the iron is half an inch below the surface of the oil; there is immediately formed a great quantity of very hot oil, which assembles in a thin stratum at the surface of the cold oil, and forms a circular crack where it touches the sides of the glass. If you take care to place the object in a horizontal position, and to plunge the hot iron without communicating much agitation to the oil, the parts so separated will be as neat and as uniform as you could desire them to be.

VIII. The method which is described in some works, of cutting a tube by twisting round it a thread saturated with oil of turpentine, and then inflaming the thread, we have found to be unfit for objects which have thick sides.

IX. Some persons employ cotton wicks dipped in sulphur. By the burning of these, the glass is strongly heated in a given line, or very narrow space, which is instantly cooled by a wet feather or a wet stick. So soon as a crack is produced, it can be led in any required direction by a red-hot iron, or an inflamed piece of charcoal.

X. You may cut small portions from glass tubes in a state of fusion by means of common scissors.

GLASS, TO DRILL.

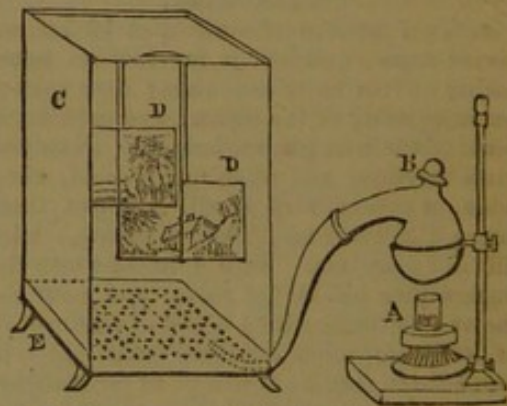
I. Common glass may be drilled with an ordinary bow-drill, by keeping one or two drops of spirits of turpentine on the glass at the point of the drill; of course care must be taken not to apply too much pressure, or you will break the glass.

II. Glass may also be drilled readily with a common drill made of iron, tin, or copper, using with it water and emery powder.

III. If a large hole be required, such, for example, as one of an inch in diameter, it may be done as follows:—Fasten on the appointed spot a cork which is a little smaller than the intended hole; procure a thin brass tube, 3 or 4 inches long, of the size of the hole, and to the upper end of this fit a piece of wood, pointed at the top; put some emery powder around the cork, slip the tube over it, and keep turning the tube round by a drill-bow, the tube being kept steady by the cork at bottom, and by its point working in a hole at the top, which may be made in a piece of wood, to be held by one hand, while the tube is worked round by the other.

GLASS, ETCHING ON. BY FLUORIC ACID.

I. Procure several clear pieces of crown glass, and immerse them in melted wax, so that each may receive a complete coating. When perfectly cold, draw on them with a fine steel point, flowers, trees, houses, portraits, letters, &c. Whatever parts of the drawing are intended to be corroded, should be perfectly free from the least particle of wax. When all these drawings are finished, the pieces of glass must be immersed one by one in a square leaden box or receiver, where they are to be submitted to the action of fluoric acid, either in a liquid or a gaseous state. It will be necessary in the latter case to have some water in the receiver, for the absorption of the superabundant gas, and the receiver should have a short leaden pipe attached to it for the reception of the beak of the retort; this should be well luted with wax. At the top of the receiver there is a sliding door for the reception of the plates; this is to be well luted while the gas is being formed. When the glasses are sufficiently corroded, they are to be taken out, the operator having gloves on, and the wax is to be removed by dipping them in warm, and then in hot water. The devices produced by this method are opaque, like ground glass. The following shows the apparatus above described:—



A is the lamp. B the leaden retort. C the leaden receiver for the reception of the plates of glass. D D two pieces of glass suspended within the receiver. E a perforated bottom to the receiver, to distribute the gas equally throughout.

II. Glass may also be etched by immersing it in the liquid acid, after having been coated with wax, and drawn upon as in the last experiment. The result of thus using the liquid acid is, that the figures will be equally transparent as the rest of the glass.

III. Having the sheet of glass prepared as before, surround it with a raised edge of wax; pour upon the surface, so as to cover the whole of it, some dilute fluoric acid, being careful not to imbibe the fumes, the glass will be corroded wherever the acid is allowed to penetrate.

iv. Dust the sheet of glass, previously waxed, over with finely-powdered Derbyshire spar. Then pour upon it a little sulphuric acid, taking care not to disturb the powder. The decomposition will take place as before, and the glass be corroded; part of the gas flying off, as may be known by a second sheet of prepared glass being placed over the first, and another portion of gas being retained in the liquid.

v. Methods easier than the former are as follows:—Put the requisite ingredients into an evaporating basin, cover it over with the sheet of glass, previously waxed and etched, and apply heat beneath. The fumes will soon rise, and corrode the glass.

vi. *For Thermometers.*—Coat the glass to be graduated, &c. with yellow wax, and trace with a steel point whatever is intended to be etched. Now dip the glass in sulphuric acid, and shake over it some fine pulverized fluuate of lime, (fluor spar.) This salt will be decomposed by the affinity of lime for sulphuric acid. Accordingly, the fluoracic acid will be set free to attack the silica of the glass. Corrosion of those parts, which are uncovered by the wax, will be the consequence.

GLASS AND PORCELAIN, TO GILD.

i. Drinking and other glasses are sometimes gilt on their edges. This is done either by an adhesive varnish, or by heat. The varnish is prepared by dissolving in boiled linseed oil an equal weight either of copal or amber. This is to be diluted by a proper quantity of oil of turpentine, so as to be applied as thin as possible to the parts of the glass intended to be gilt. When this is done, which will be in about twenty-four hours, the glass is to be placed in a stove, till it is so warm as almost to burn the fingers when handled. At this temperature, the varnish will become adhesive, and a piece of leaf gold, applied in the usual way, will immediately stick. Sweep off the superfluous portions of the leaf; and when quite cold, it may be burnished, taking care to interpose a piece of thin paper (India paper) between the gold and the burnisher. If the varnish is very good, this is the best method of gilding glass, as the gold is thus fixed on more evenly than in any other way.

ii. It often happens, when the varnish is but indifferent, that by repeated washing, the gold wears off: on this account the practice of burning it in, is sometimes had recourse to. For this purpose, some gold powder is ground with borax, and in this state applied to the clean surface of the glass, by a camel's hair pencil; when quite dry, the glass is put into a stove heated to about the temperature of an annealing oven; the gum burns off, and the borax, by vitrifying, cements the gold with great firmness to the glass; after

which it may be burnished. The gilding upon porcelain is in like manner fixed by heat and the use of borax; and this kind of ware being neither transparent nor liable to soften, and thus to be injured in its form in a low red heat, is free from the risk and injury which the finer and more fusible kinds of glass are apt to sustain from such treatment.

GLASS, TO POWDER.

Make a piece of glass red hot in the fire, and while in this state plunge it into cold water; it will immediately break into powder; this must be sifted and dried, it is then fit for making glass paper, for filtering varnishes, and for other purposes.

GLASS, TO RENDER OPAQUE.

The best method of rendering glass opaque is by corroding the surface by the fumes of fluoracic acid as described under the receipt *Etching on Glass*,—but there are other methods of softening the light, which if not so perfect, are yet more easily performed.

i. Lay the sheet of glass on a flat board covered with two or three folds of cloth, put upon it a little powdered emery and water, or silversand and water, rub this about by means of a bung until the surface is properly roughened.

ii. Dab the glass over with a lump of glazier's putty, carefully and uniformly until the surface is equally covered. This is an excellent imitation of ground-glass, and is not disturbed by rain or damp air.

iii. Dab upon the surface of the glass, some common flour paste, with the point of a painting brush. This is inferior to the last in appearance, but it has the advantage of being removable with great facility with a wet cloth. It must be done inside the window panes only.

iv. Paste upon the windows some pieces of very fine muslin, cut to proper size and shape. Pieces of chintz with flowers upon them are often pasted on in this way. (See *Crystallized Windows*.)

GLASS BOTTLES TO CLEAN.

It often happens that glass vessels, used as pots for flowers and other purposes, receive an unsightly deposit or crust, hard to be removed by scouring or rubbing. The best method to take it off is to wash it with a little dilute muriatic acid. This acts upon it, and loosens it very speedily.

GLASS, STAINING OF.

The colors used for staining glass are very different from those used on ordinary occasions of painting; many of these are described under the names of the various gems and enamels. The most difficult colors to obtain pure are green and a fine red. The process is to paint the surface of the glass with the required preparation, it being laid on with

oil of lavender, then the article is submitted to heat in an oven, each color and preparation requiring a particular degree of heat beyond which it changes; thus, the artist, who is preparing a painting of several colors, must be careful to lay on first that color which requires the strongest heat, and afterwards those of less intensity. In painting on glass with vitrifiable colors, the artist first lays the design beneath the sheet of glass, this being cleaned, he washes it over with gum water, that the liquid preparations for the colors may not run, then with the black or other dark color he traces over every line of the print, so that the painting then resembles the engraving, and has all its lines and shadows. It is then painted with the proper color, observing that yellow, which is generally inclined to run, is painted on the under side of the glass.

GLASS STAINING, COLORS FOR.

Flesh.—Red lead and red enamel each 1 oz. grind them to fine powder and mix with spirits of wine.

Black.—(a) $14\frac{1}{2}$ oz. of scales of iron, as obtained at the blacksmiths, mix with 2 oz. of white enamel 1 oz. of antimony, and $\frac{1}{2}$ an oz. of manganese; pound these together with vinegar.—(b) 3 parts of crystal glass, 2 parts of oxyde of copper, and 1 oz. of antimony, pounded and mixed with vinegar.

Brown.—1 oz. of white enamel, and $\frac{1}{2}$ oz. of manganese, ground together.

Red.—(a) 1 oz. of red chalk, pounded, mixed with 2 oz. of white hard enamel.—(b) Take jet 4 oz., oxyde of silver 2 oz., red chalk 1 oz.; mix as before.—(c) Mix in equal quantities the rust of iron, glass of antimony, and litharge, to which mixture add a little sulphuret of silver.

Rose Color.—Mix with any kind of glass that contains either the oxyde of lead, bismuth, zinc, or antimony, (not crown glass,) an extremely minute quantity of oxyde of gold. This must receive a violent heat, yet a slight excess of fire will turn it to a brown.

Bistre and Brown Red.—These may be obtained by mixtures of manganese, orange oxyde of copper, and umber, in different proportions. They must be previously fused with flux of borax, and afterwards well ground with spirits of wine.

Green.—(a) 2 oz. of brass, calcined into an oxyde, 2 oz. of red lead, and 8 oz. of white sand; reduce them to a fine powder, then inclose them in a crucible, and let this be heated strongly in an air furnace for an hour. When cold, grind it in a brass mortar.—(b) Green may also be produced by painting the glass blue on one side and yellow on the other.

Yellow.—(a) Take of chloride of silver 1 part, pipe-clay burnt and powdered 3 parts.

This is not to be painted on the same side of the glass as the other colors.—(b) Melt silver leaf and sulphur, and glass of antimony together, in equal parts, throw the product into cold water and afterwards grind to powder.—(c) Calcine together in a crucible, brass, sulphur, and antimony, till they cease to smoke, then mix them with a little burnt yellow ochre.—(d) Mix equal parts of chloride of silver, oxide of zinc, white clay and rust of iron.

Orange.—Oxyde of silver, red ochre, and yellow ochre, of each equal parts, grind them with oil of lavender or turpentine.

Purple.—(a) Take red lead 1 part, brown ochre 1 part, white flint 5 parts, saltpetre $\frac{1}{2}$ of the whole—melt all together.—(b) Add to a certain quantity of broken glass, a $\frac{1}{100}$ part of the purple precipitate of cassius—(See *Cassius*.) A fine purple is produced, which may be changed to a red, or a very deep color by a different proportion.

Blue.—Take of fine white sand 12 parts, zaffre and minium each 3 parts, reduce them to a fine powder in a brass mortar, then put the powder into a very strong crucible, cover it and lute it well, and being dry, calcine it over a quick fire for an hour—then take the matter and pound it. To 16 parts of this powder add 14 of nitre, then again heat and calcine for two hours. It may, when cold, be ground up for use and forms a most beautiful blue unalterable by fire. (For painting on glass see *Magic Lanthorn Sliders*.)

GLASS CLOTH AND PAPER.

Take square pieces of stiff paper, a coarse kind of cartridge paper is the best, wash these over with a coat of thin glue, then dust over them while wet the powdered glass, through a sieve according to the fineness required, when equally covered take up the sheet, throw off the superfluous dust, and let the prepared paper dry. The glass cloth is made in the same manner.

GLASS GRINDER'S CEMENT.

I. Take pitch and boil it; add thereto, and keep stirring it all the while, fine sifted wood ashes, until it is of a proper temper: a little tallow may be added, as found necessary.

II. For small works, to 4 oz. of resin, add $\frac{1}{2}$ oz. of bees'-wax melted together; and 4 oz. of whiting, made previously red hot. The whiting should be put in while hot, that it may not have time to imbibe moisture from the atmosphere.

III. Shell-lac is a very strong cement for holding metals, glass, or precious stones, while cutting, turning, or grinding them. The metal, &c. should be warmed, to melt it. For fastening ruby cylinders in watches, and similar delicate purposes, shell-lac is excellent.

GLASS SEALS.

Nothing is so easy to make as these really useful and durable articles. First, procure a mould made of plaster of Paris, the exact counterpart of the seal wished for, and this may be made by pouring a mixture of plaster of Paris and water, of the consistence of cream, upon any engraved seal, previously slightly oiled: when set, remove the cast and let it thoroughly dry, when it will be fit for use: then place in the centre of a clear fire a bit of flint glass, holding it with a pair of iron pincers, being careful to hold it so as not to touch any of the black coals. When of a red, or still better of a white heat, take it from the fire, lay it upon the mould, and press upon the back of it so as to force it into all the depressions, and thus the seal is made. To finish it, it only requires to be ground round the edge into shape. If it be desired to imitate a sealing-wax impression, it is necessary to oil it, pour common wax upon it, and take the plaster cast from this. The makers of glass, or as they are called, composition seals, usually melt the glass in a crucible, taking out a sufficient quantity with an iron rod. Their moulds also have usually a ridge, or frame, of plaster around them to ensure the proper shape at once, without after grinding.

GLAUBER'S TINCTURE OF IRON.

Take of iron filings and crude tartar, of each 3 lbs., boil these in 2 gallons of water. Filter while hot, and evaporate to 5 lbs. This is tonic when taken internally.

GLAZE FOR POTTERY WARE.

The materials of which China, or porcelain and earthenware are composed, are, when baked, porous and without gloss, and they cannot have any material mixed up with the clay, &c. at the formation of them, because, in baking, the body and the glaze would melt at different temperatures, and in cooling afterwards contract unequally; thus in making porcelain the article is first made of proper shape and baked, in which state it is called biscuit. It is then afterwards dipped into a composition which adheres to the surface, and which upon the article being put in the oven the second time vitrifies into a hard, impervious, and glossy coating. This composition is called a glaze, and varies according to circumstances. The following are for various purposes.

I. *For porcelain.*—Pulverize well and carefully fuse together flint 20 parts, cullet (broken glass) 7 parts, Cornish stone 20 parts, red lead 20, borax 20, subcarbonate of soda 7, saltpetre 3, oxyde of tin $2\frac{1}{2}$, cobalt ashes 1 part.

II. Flint glass 66 parts, red lead 15, arsenic 7, common salt 5, saltpetre 6, cobalt ashes 1 part. When well ground mix with

Cornish stone 40 parts, broken glass 18, flint 12, and white lead 30 parts.

III. Cornish stone (felspar) 80 parts, soda 20, mix this with glass 40, flint 16, and white lead 20 parts.

IV. Make a mixture of 20 parts of felspar, 15 of flints, 6 of red lead, and 5 of soda. These are to be melted together and well ground, then add to the mixture flint glass 22 parts, and of white lead 15 parts.

V. Mix and melt together 8 parts of flint glass, 36 of felspar, 40 of white lead, and 20 parts of ground flints.

VI. Felspar 45 parts, flints 9, borax 21, flint glass 20, nickel 4 parts; after melting these together and grinding to powder, add 12 parts of red lead.

VII. *White ware.*—White lead 53 parts, felspar 16, ground flint 36, and flint glass 4 parts.

VIII. White lead 40, felspar 36, flints 12, flint glass 4 parts.

IX. *Printed ware.*—White felspar 36 parts fritted with 6 of soda, 2 of nitre, and 1 part of borax. To 20 lbs. of this frit, add 26 parts of felspar, 20 of white lead, 6 of ground flints, 4 of chalk, 1 of oxyde of tin, and a small quantity of oxyde of cobalt.

X. Frit together 20 parts of flint glass, 6 of flints, 2 of nitre, and 1 of borax, add to 12 parts of this mixture 40 parts of white lead, 36 of felspar, 8 of flints, and 6 of flint glass, then grind the whole together.

XI. *Painted ware.*—To either of the above glazes, No. 9 or 10, add 40 parts of white lead, 50 parts of red lead, and 12 of flints.

XII. *Raw glazes.*—White lead 51 parts, felspar 25, cullet 11, flint 12, carbonate of potash 1 part.

XIII. White lead 45 parts, felspar 22, broken glass 22, flint 8, borax 2, salt 1.

XIV. *Ironstone ware.*—Cornish stone 36 parts, red lead 12, flint 20, borax 30, oxyde of tin 2. Grind well and add flint 35, Cornish stone 40, and white lead 25 parts.

XV. *Green ware.*—Grind together after being fused, sulphate of copper 60 parts, flints 20, and cullet or old glass 20, then mix with litharge 40, flint 30, felspar 20, and glass 10 parts.

XVI. *Red pottery ware.*—Common salt 13 parts, carbonate of potash 30 parts,—dissolve these in water and dip the article in it.

GLAZE FOR COOKING.

Common glue is often used for this purpose in shops; and purified by being boiled in water with animal charcoal, and afterwards filtered, it answers very well. The best glaze is animal jelly, such as is produced from calves feet, being boiled to a proper consistence so that it sets when cold, in the manner of a varnish.

GLAZED BOARDS, TO CLEAN.

I. Put in a saucepan (an earthenware pipkin is better) 1 lb. of soda, $\frac{1}{2}$ oz. of prussiate of potash, and 1 gallon of water, let it simmer for half an hour. When wanted for use, put $\frac{1}{2}$ a pint to a quart of water, dip a piece of rag in it, and rub the boards quickly, lay them out to dry, and afterwards rub them with a piece of cotton cloth.

II. Rub the boards hard with a piece of wrapper, folded tightly; and afterwards with a dry piece of cotton.

GLAZIER'S PUTTY.

Mix together linseed oil and whiting to a proper consistence; a much harder putty is made by equal parts of dry white lead and red lead, combined intimately with linseed oil, this is excellent for stopping holes, but is too hard for windows on account of the difficulty of cutting it off when it has become hard. A softer putty may be made by adding $\frac{1}{4}$ yellow soap, melt the soap with the oil and add whiting to a proper consistence. (See *Lute*.)

GLOVES, TO CLEAN.

I. *Kid gloves*.—First see that your hands are clean, then put on the gloves and wash them, as though you were washing your hands, in a basin of spirits of turpentine, until quite clean; then hang them up in a warm place or where there is a good current of air, which will carry off all smell of the turpentine. This method was brought from Paris, and thousands of pounds have been made by it.

II. *Doe or buckskin gloves*.—Wash them clean with warm water and soap, then rinse them well with clean water, and gently wring them. Then prepare the following mixture: yellow ochre 1 oz., salad oil a small tea-spoonful, rub these together till the oil is thoroughly incorporated with the yellow ochre, then add clean water till the whole is of the consistence of cream; put each of the gloves separately on the hand, and rub a little of this into every part of them; hang up to dry, when dry, rub them till soft, and beat the dust out, smooth them with a piece of plush, and they are ready for wear.

GLOVES, TO DYE.

I. Take the colors suitable for the occasion; if dark, take Spanish brown and black earth; if lighter, yellow and whiting; and so on with other colors. Daub the gloves over with the color wet, and let them hang till they are dry, then beat out the superfluity of the color, and smooth them over with a stretching or sleeking stick, reducing them to their proper shape.

II. Boil 4 oz. of logwood and 2 oz. of roche alum in 3 pints of soft water, till half wasted. Let the liquor stand to cool after straining. Rub the gloves over with the

dye, and when dry, repeat it. Twice is sufficient, unless the color is to be very dark; when dry, rub off the loose dye with a coarse cloth; beat up the white of an egg, and with a sponge rub it over the leather. The dye will stain the hands, but wetting them with vinegar before they are washed will take it off.

III. Brown, or tan color, is readily imparted to leather gloves, by the following simple process:—Steep saffron in boiling soft water for about twelve hours; then having slightly sewed up the tops of the gloves to prevent the dye staining the insides, wet them over with a sponge or soft brush, dipped into the liquid. The quantity of saffron as well as of water, will of course depend on how much dye may be wanted, and their relative proportions on the depth of color required. A common tea-cup will contain sufficient in quantity for a single pair of gloves.

GLOVES, PERFUMES FOR.

I. Take of ambergris 1 drachm, civet the same, common flour $\frac{1}{2}$ oz. Rub the gloves over with this mixture.

II. Take of rose leaves powdered $\frac{1}{2}$ oz., essence of cloves and mace, each 1 drachm, frankincense $\frac{1}{4}$ oz. Mix these together, put a portion in a drawer along with leather gloves, and they will not only imbibe the scent, but retain it for a long period.

GLUES.

I. A good glue may be made by mixing $\frac{1}{2}$ lb. of common glue or isinglass glue to 2 quarts of skimmed milk, and then evaporating the mixture to the consistence of the glue.

II. Take common glue in very small or thin bits, and isinglass glue, and infuse them for at least twenty-four hours in as much spirits of wine as will cover them. Then melt the whole together, and, while they are over the fire, add as much powdered chalk as will render them an opaque white.

III. Dissolve the best glue in water, and to every quart add a gill of the best vinegar, and 1 oz. of isinglass.

IV. Melt the best glue in the usual way; add 4 spoonsful of rosin and the like quantity of brick dust, (both finely powdered) to every quart of the dissolved glue; incorporate the whole well together, and it will be found to hold the metal much firmer than the glue by itself. The best glue may be easily known by its transparency, and being of rather a bright brown color, and free from clouds, streaks, &c.

The hotter glue is, the more force it will exert in keeping the two parts glued together; therefore, in all large and long joints, the glue should be applied immediately after boiling. Glue loses much of its strength by being often melted; that glue, therefore, which is newly made, is much preferable to that which has been remelted. (See *Marine Glue*, *Lip Glue*, *Parchment Glue*, *Isinglass Glue*, &c.)

GLUE CEMENT.

Melt 1 lb. of glue without water, or with as little as possible, when melted add 1 lb. of rosin, and 4 oz. of either red lead, Venetian red, or whiting or ivory black, according to the objects to be joined, and which are generally of a stony nature. (See also *Marine Glue*.)

GLUE VARNISH.

This is much used by fire-work makers to stop up the ends of certain articles of their manufacture, also various military ammunition. It is also the usual ornamental varnish employed to decorate articles of these descriptions. It does not hang fire as a rosin varnish would do, and is itself incombustible: it consists of nothing more than common glue with red lead, or for common purposes Venetian red, mixed with it, till of proper color; it is laid on with a brush while hot.

GODBOLD'S VEGETABLE BALSAM.

I. A nostrum composed of oxymel, with some coloring matter and perfume to disguise it. The specification of Godbold's patent, however, directs separate syrups to be made of 42 different herbs, many of them poisonous, and then to be mixed with 4 different gums, vinegar, oil of cinnamon, &c., and kept three years before it is administered. The following is said to be the same in effect as the true balsam.

II. Dissolve by heat 1 lb. of sugar candy in a quart of white-wine vinegar, boil it until reduced to 1 pint; during the boiling dissolve in it as much garlic as possible; lastly, cool and filter.

III. Lump sugar 1 lb., vinegar $\frac{1}{2}$ pint, garlic $\frac{1}{2}$ oz., tincture of tolu a tea-spoonful, spirits of wine 3 oz. Steep the garlic in the vinegar for three or four days, then strain off the clear, and dissolve the sugar therein, after which, add the other ingredients, and shake them well together.

GODFREY'S CORDIAL.

I. Infuse 9 oz. of sassafras, 1 oz. each of caraway, coriander, and aniseeds, in 6 pints of water, simmer till reduced to 4 pints, add 6 lbs. of treacle, or coarse sugar, and boil for a few minutes. When cold, add 3 oz. of tincture of opium or laudanum.

II. Dissolve $\frac{1}{2}$ oz. of opium and 1 drachm of oil of sassafras in 2 oz. of spirits of wine; mix 4 lbs. of treacle with 1 gallon of boiling water, and, when cold, mix both solutions.

GODFREY'S SMELLING SALTS.

A nostrum prepared by re-subliming sesqui-carbonate of ammonia with carbonate of potass, and alcohol to moisten it, which forms carbonate of ammonia of a very pungent odour.

GOLD ALLOYS.

I. Spanish copper $6\frac{1}{2}$ pennyweights, fine silver $3\frac{1}{2}$ ditto, gold coin 29 ditto; fuse these together. The alloy will be worth about £3 per oz.

II. Spanish copper 8 oz. 8 pennyweights, fine silver 10 oz., gold coin 1 oz. This is worth about 40s. per oz.

III. Fuse together 1 part of zinc, 7 parts of platina, and 16 parts of copper. The copper must first be melted, then the platina in grains or powder be added to it, and lastly the zinc. This alloy has much the color of gold, and resists the test of nitric acid.

GOLD ARTICLES, TO CLEANSE.

I. An article of jewellery, plate, or other matter of a similar kind, or indeed any article of real gold, or gilt by a chemical process, such as metal upon metal, &c., may be readily cleansed by washing it with warm soap-suds, and afterwards polishing with leather.

II. Dissolve a little cream of tartar in spirits of wine or brandy, and gently wet the gilt article, wiping it dry directly afterwards. This is good for the cleansing of gilt cornices, looking glass and picture frames. The gold leaf of these articles being laid on with isinglass or size, of course they must not be wetted with water, except very slightly.

III. To 1 oz. of quicklime put gradually 1 pint of water, so as to form a milk; dissolve 2 oz. of pearlash in 1 quart of water. Mix the two solutions, shake up the mixture occasionally, then filter, and put into bottles for use. It is applied with a soft sponge, and then immediately cleaned off with pure water.

GOLD, TO COLOR.

I. *Green*.—Take of saltpetre 1 oz. 10 dwts., sal ammoniac 1 oz. 4 dwts., Roman vitriol 1 oz. 4 dwts., verdigris 18 dwts. Mix them well together, and dissolve a portion in water, as occasion requires. The work must be dipped in these compositions, applied to a proper heat to burn them off, and then quenched in water or vinegar.

II. *Red*.—To 4 oz. of melted yellow wax, add, in fine powder, $1\frac{1}{2}$ oz. of red ochre, $1\frac{1}{2}$ oz. of verdigris, calcined till it yield no fumes, and $\frac{1}{2}$ oz. of calcined borax; mix them well together. It is necessary to calcine the verdigris, or else, by the heat applied in burning the wax, the vinegar becomes so concentrated as to corrode the surface and make it appear speckled.

GOLD CORDIAL.

Take of the roots of angelica, sliced, 4 lbs., raisins, stoned, 2 lbs., coriander seeds $\frac{1}{2}$ lb., caraway seeds and cinnamon, each $\frac{1}{2}$ lb., cloves 2 oz., figs and liquorice root, sliced, each 1 lb., proof spirit 11 gallons, water 2 gallons. Digest two days, and draw off

by a gentle heat, till the feints begin to rise, hanging in a piece of linen, fastened to the mouth of the worm, 1 oz. of English saffron. Then dissolve 8 lbs. of sugar in 3 quarts of rose-water, and add to it the distilled liquor.

The above cordial derives its name from a quantity of gold-leaf being formerly added to it, but this is now generally disused.

GOLD BEATER'S SKIN.

This is prepared from the outer membrane of the great gut of oxen. The gut is first soaked in water for two or three days, then the membranes can be detached from each other by tearing them asunder. That which is wanted resembles in this state a piece of packthread. It is then separated, soaked in a weak solution of pearlash, and spread out flat on a frame; another membrane is then taken and applied to the other so that the two surfaces which adhered to the muscular membrane of the intestine may unite together. When dry, the skins are glued by their edges on a hollow frame, washed with alum water, dried, washed with a solution of isinglass in white wine, to which spices, such as cloves, nutmegs, ginger, or camphor, have been added, they are lastly varnished with white of egg. This is used chiefly by gold-beaters to separate the leaves of gold when under the hammer, also for covering cuts and small wounds, and to make miniature balloons.

This substance has the remarkable property that, although beaten with a hammer in the process of gold beating for months together, yet it does not become extended in dimensions, nor yet thinner; indeed it is at last discarded by the goldbeater because it gets too thick for his purpose.

GOLD INK.

This is made by grinding upon a porphyry slab, with a muller, gold leaves along with white honey, till they be reduced to the finest possible division. The paste is then collected upon the edge of a knife or spatula, put into a large glass, and diffused through water. The gold, by gravity, soon falls to the bottom, while the honey dissolves in the water, which must be decanted off. The sediment is to be repeatedly washed, till entirely freed from the honey. The powder, when dried, is very brilliant, and when to be used as an ink may be mixed up with a little gum water. After the writing becomes dry, it should be burnished with a wolf's tooth.

GOLD-COLORED LACKER.

Take 6 oz. of seed-lac, 2 oz. of amber, 2 oz. of gum guttæ, 24 grains of extract of red sandal wood in water, 60 grains of dragon's blood, 36 grains of Oriental saffron, 4 oz. of pounded glass, and 36 oz. of pure alcohol. Grind the amber, the seed-lac, gum guttæ, and dragon's blood, on a piece of porphyry; then mix them with the pounded glass, and add the saffron, after forming with it an infusion of the alcohol and an extract

of the sandal wood. The varnish must then be completed as before. The metal articles destined to be covered by this varnish are heated, and those which will admit of it are immersed in packets. The tint of the varnish may be varied, by modifying the doses of the coloring substances.

GOLD LACE AND EMBROIDERY, TO CLEAN.

For this purpose no alkaline liquors are to be used; for while they clean the gold, they corrode the silk, and change or discharge its color. Soap alters the shade, and even the character of certain colors. But spirits of wine may be used without any danger of its injuring either color or quality; and, in many cases, proves as effectual for restoring the lustre of the gold, as the corrosive detergents. But, though spirits of wine is the most innocent material employed for this purpose, it is not in all cases proper. The golden covering may be in some parts worn off; or the base metal, with which it has been alloyed, may be corroded by the air, so as to leave the particles of the gold disunited; while the silver underneath, tarnished to a yellow hue, may continue a tolerable color to the whole; so it is apparent that the removal of the tarnish would be prejudicial, and make the lace or embroidery less like gold than it was before.

GOLD, LIQUID OR POTABLE.

Agitate ether, naphtha, or some essential oil, with a solution of the nitro-chloride of gold; the ether, &c. will take up the gold from the acids, and become a liquid, once thought a valuable remedy, but now only employed in gilding steel. If a clean pen be dipped in the solution, and you write with it on a piece of bright steel, as it dries, the writing will appear brightly gilt.

GOLD POWDER.

I. Put into an earthen mortar some gold leaf, with a little honey or thick gum water, and grind the mixture till the gold is reduced to extremely minute particles; when this is done, a little warm water will wash out the honey or gum, leaving the gold behind in a pulverulent state.

II. Add to the nitro-chloric solution of gold a little of the solution of sulphate of iron, metallic gold will be deposited in the state of a fine powder. It must be well washed before using. This powder has no metallic lustre until rubbed.

GOLD RAIN.

(a) Sawdust 1 oz., sulphur 2, meal powder 2, glass dust 3, and nitre 8 oz.—(b) Meal powder 4 oz., nitre 16, sulphur 4, brass dust 1, sawdust 2½, and glass dust 6 drachms.—(c) Meal powder 6 oz., nitre 1, and charcoal 2 oz.

GOLD SEALING WAX.

To common colorless sealing wax, made of shell-lac 5 parts, add turpentine 1 part, melted and beginning to cool, gold-colored spangles of mica, Dutch leaf, or gold.

GOLD SHELLS.

Grind on a slab, leaf-gold with stiff gum water, or honey, very fine, adding as you proceed more of the gum water or honey, as you deem necessary. When the gold is reduced to an impalpable powder, wash it in a large muscle-shell, with rain or distilled water, then temper it with a little of the chloride of mercury; fix it to the shell with a solution of gum arabic, in which has been dissolved a small bit of lump sugar. Spread the gold evenly over the surface of the shell and dry it. When used, it is with plain water only.

GOLD SIZE.

I. Linseed oil 16 oz., asphaltum 2 oz., brown umber 1 oz., red lead 1 oz., oil of turpentine 8 oz.

II. Gum anime and asphaltum, of each 1 oz., litharge, red lead, and burnt umber, of each $\frac{1}{2}$ oz., linseed oil 4 oz., drying oil 8 oz. Melt all together and strain.

III. Boiled linseed oil, colored with a little yellow ochre and diluted with oil of turpentine.

GOLD, SOLDER FOR.

Pure gold 12 pennyweights, silver 2 ditto, copper 4 ditto; fuse together.

GOLD VARNISH FOR LEATHER.

Take of turmeric and gamboge, each $1\frac{1}{2}$ scruple, oil of turpentine 2 pints, add seed-lac and gum sandarac, of each 4 oz., dragon's blood 4 drachms, turpentine 2 oz., pounded glass 4 oz. Pour off the clear for use.

GOOSEBERRIES, TO KEEP.

Put 1 oz. of roche alum, beat very fine, into a large pan of boiling hard water; place a few gooseberries at the bottom of a hair sieve, and hold them in the water till they turn white. Then take out the sieve, and spread the gooseberries between two cloths; put more into the sieve, then repeat it, till they are all done. Put the water into a glazed pot until the next day, then put the gooseberries into wide-mouthed bottles; pick out all the cracked and broken ones, pour the water clear out of the pot, and fill the bottles with it, cork them loosely, and let them stand a fortnight. If they rise to the corks, draw them out, and let them stand two or three days uncorked, then cork them close again.

GOOSEBERRY CHAMPAGNE.

To each gallon of ripe gooseberries, mashed, put 1 gallon of water, in which has been dissolved $1\frac{1}{2}$ lb. of sugar, stir the whole well

and cover up the tub with a cloth, to preserve the heat generated by the fermentation that will soon arise. Let the mixture remain in this vessel three days, stirring it twice or thrice a day; strain off the liquor through a sieve, afterwards through a coarse linen cloth into the cask, it will soon ferment without yeast. Let the cask be kept full with some of the liquor reserved for the purpose. It will ferment for ten days, sometimes for three weeks: when it has ceased so that only a hissing noise remains, draw off two or three bottles, according to the strength you wish to have, from every 5 gallon cask, and fill up the cask with brandy or whiskey; but brandy is preferable. To make it very good, and that it may keep well, add as much sherry, together with $\frac{1}{2}$ oz. of isinglass dissolved in water to make it quite liquid; stir the whole well. Bung the cask up, the closer the better; a fortnight after if it be clear at top, taste it, if not sweet enough add more sugar; leave the wine six months in the cask, but after being quite fine, the sooner it is bottled the more it will sparkle and resemble champagne. The process should be carried on in a place where the heat is between 48° and 56° Fahrenheit. Currant wine may be made in the same manner.

II. Ferment together 5 gallons of white gooseberries mashed, with $4\frac{1}{2}$ gallons of water, then add sugar 6 lbs, honey $4\frac{1}{2}$ lbs., white tartar in fine powder 1 oz., orange and lemon peel 1 oz. dry, or 2 oz. fresh, and add white brandy $\frac{1}{2}$ a gallon; this will make 9 gallons. The whole must be strained and put in the cask before the brandy is added.

III. Take gooseberries before they are ripe, crush them with a mallet in a wooden bowl, and to every gallon of fruit put a gallon of water; let it stand two days, stirring it well, squeeze the mixture well with the hands through a hop sieve; then measure the liquor, and to every gallon put $3\frac{1}{2}$ lbs. of loaf-sugar, mix it well in the tub, and let it stand one day; put a bottle of the best brandy into the cask, which leave open five or six weeks, taking off the scum as it rises, then make it up, and let it stand one year in the barrel before it is bottled. The proportion of brandy to be used for this liquor is 1 pint to 7 gallons.

GOOSEBERRY CHEESE.

Bake any quantity of the rough red gooseberries, until they break to pieces very easily. Mash them up, and pass them through a hair sieve; now put this pulp into a preserving pan, and boil it gently. To every pound of gooseberries put $\frac{1}{2}$ lb. of sugar, adding a little at a time. It must be boiled for a long time, until it is seen to set hard, when a little of it is cooled.

GOOSEBERRY ICE.

To every 1½ lb. of fruit add 6 oz. of sugar and 2 pints of water, sometimes 4 oz. of the gooseberries are taken out, and as many strawberries put in their place. Pound the fruit and water, strain the whole, and ice as wanted.

GOOSEBERRY JAM.

To every quart of ripe red gooseberries use 2 lbs. of sugar, bruise the fruit and boil it with the sugar, until upon taking a little up, and letting it cool, it will be found to set into a stiff jam. Half an hour's boiling is sufficient.

GOOSEBERRY JELLY.

Dissolve sugar in about half its weight of water, and boil until it becomes nearly solid when cold; skimming it during the boiling. To this syrup add an equal weight of gooseberry juice, and give it a boil, but not long, otherwise it will not fix.

GOOSEBERRY MARASQUIN.

Gooseberries, quite ripe, 8 lbs., black cherry leaves 1 lb., bruise and ferment, then distil and rectify the spirit. To each pint add as much water and 1 lb. of sugar.

GOOSEBERRY VINEGAR.

To each quart of bruised gooseberries add 3 quarts of water, and to each gallon of liquor 1 lb. or more of coarse sugar. Put it in a cask and expose it to the sun, with a piece of glass or slate over the bung-hole to keep out dust, but so as not to prevent the action of the air upon it, as it is this which promotes the acetous fermentation.

GOOSEBERRY WINE.

I. Ten gallons of gooseberries are to be bruised in a tub, and left so for twenty-four hours. The pulp thus prepared is to be introduced, either at once, or in successive portions, into a hair-cloth or canvass bag, and submitted to pressure. The matter remaining in the bag is to be returned into the tub, and 5 gallons of tolerably hot water are to be poured on; the whole is to be well mixed up. After thus remaining in the tub well covered for about twelve hours, the matter is to be pressed through the bag, and the liquor obtained is to be mixed with the original juice. The solid matter of the fruit is then worth very little, and may be thrown away. In every 5 gallons of the liquor, consisting of the mixture of the original juice with the infusion, 12 lbs. of white sugar are to be dissolved perfectly. If the liquor be now left to itself, it will, after some hours, show symptoms of a commencing fermentation. In proportion as the fruit is ripe, the temperature of the weather ought to be high. Should it be very cool weather, the liquor should be placed near the fire. When the fermentation is gone down, which will

be in two or three weeks, it should be bunged down in a cask, and in a few months it will be fit to tap.

II. Take 50 lbs. of green gooseberries, bruise or crush them well, and macerate them for two or three days in 5 gallons of water, then draw off the clear liquor, and press the pulp, add about 26 lbs. of refined sugar, and make the quantity of liquor up to 10½ gallons; put it into a cask, and let it work for a month or six weeks, occasionally filling it up. When done working, bung it up, fine it in December following, and bottle it in March.

GOULARD'S EXTRACT OF LEAD.

Litharge 2 lbs., distilled vinegar 1 gallon; boil to 6 pints, let it settle, and pour off the clear. This adheres to the bottles very much, and the sediment cannot be cleaned off by pearlash, but requires aquafortis or oil of vitriol.

All the Goulard medicines are made with this extract; it may be considered as the acetate and oxyde of lead combined.

GOULARD'S EYE-WATER.

I. Extract of lead 10 drops, rose-water 6 oz.

II. Extract of lead 10 drops, spirits of camphor 20 drops, rose-water 1 oz. To be used in the inflammatory stage of ophthalmia.

GOULARD'S LINIMENT.

I. Extract of lead 1 oz., spirits of wine 2 drachms, rose-water 1 lb.

II. Extract of lead 2 oz., distilled vinegar 4 oz., spirits of wine ½ oz., rose-water 1 lb.

GOULARD'S OINTMENT.

Extract of lead 2½ oz., yellow wax 4 oz., oil of olives 9 oz., camphor ½ drachm.

GOULARD POULTICE.

Extract of lead 1½ drachm, rectified spirits of wine 2 oz., water 12 oz.; wet the crumb of bread with the mixture. Useful in inflammation.

GOUTTEMS AERES.

St. Ignatius' beans, or in their stead nuxvomica rasped 1 lb., dissolved soda ½ oz., bistre 1 drachm, decoction of wormwood 2 lb. It is stomachic if taken in doses from 1 to 8 drops in any bitter infusion.

GOUT.

This painful disorder, so similar in its character to the rheumatism, generally attacks the smaller joints, which are more red and swollen than in the rheumatism. Also the gout is preceded by indigestion and other derangements of the viscera. It seldom attacks those who live an abstemious and active life, or who are under 40 years of age. Men also are much more subject to it than women. With some persons it is hereditary, with others it is brought on by full living and indolence. The gout is thought

to arise from defective action in the arteries of the extremities, owing to which morbid condition an accumulation of humours takes place in the relaxed tendons and ligaments, in which case gout may be considered as inflamed rheumatism. An attack or fit of the gout occurs at first every two or three years, afterwards more frequently. It sometimes is preceded by shiverings, numbness, sense of pricking, &c. and almost always by derangement of the bowels and costiveness; at other times it attacks so suddenly, that the patient goes to bed in tolerable health, and wakes with pain, throbbing of the part, great swelling, redness, and so much tenderness that if touched it produces the most intolerable pain. After a time it goes off and the limb becomes quieter. The remedies for this disorder are very numerous, the chief dependance seems to rest upon the various preparations of colchicum and guaiacum, internally, assisted by topical applications of warm water, steam, camphor liniment, laudanum, and the following remedies. The patient avoiding too stimulant food and drink.

I. *Cordial*.—Rhubarb root, senna leaves, coriander seeds, fennel seeds, and cochineal each 2 oz., liquorice root and saffron each 1 oz., raisins 2½ lbs., spirits of wine 2 gallons; filter after soaking for two days. The whole being bruised previous to immersion in the spirit.

II. Take of the lesser cardamon seeds, husked and bruised, carraway seeds bruised, each 2 oz. The best meadow saffron (colchicum,) ½ oz., Turkey rhubarb 1½ oz., gentian root sliced ¾ oz. Mix together and infuse in a quart of brandy for a fortnight. The dose is a table spoonful, with an equal quantity of water, to be taken every third day.

III. *Linctus*.—Take of rhubarb powdered, gum guaiacum, nitrate of potass, and flowers of sulphur each 1 oz., treacle 1 lb., mix well together. Take every night 1 or 2 teaspoonsful, according to its aperient effect.

IV. *Liniment*.—Add drop by drop 40 drops of sulphuric acid to 1½ oz. of olive oil, and after being well shaken and standing a quarter of an hour, making a further addition of ½ oz. of oil of turpentine. (For other remedies, see *Chelsea Pensioner, Colcum, Portland Powder, Pradier, &c.*)

GRAPES, TO PRESERVE.

I. Take close bunches, whether white or red, not too ripe, and lay them in a jar. Put to them ½ lb. of sugar candy, and fill the jar with common brandy. Tie them up close with a bladder, and set them in a dry place.

II. Where there are several bunches in one branch, it may be cut off, leaving about 6 inches in length or more of the wood, according to the distance between the bunches,

and a little on the outside of the fruit at each end; seal both ends with common bottle wax, then hang them across a line in a dry room, taking care to clip out with a pair of scissors any of the berries that begin to decay or become mouldy, which, if left, would taint the others. In this way grapes may be kept till February; but if cut before the bunches are ripe they may be kept much longer. Grapes may be kept by packing them in jars (every bunch being first wrapped up in soft paper,) and covering every layer with bran, well dried, laying a little of it in the bottom of the jar; then a layer of grapes, and so on, a layer of bran and of grapes alternately, till the jar is filled: then shake it gently, and fill it to the top with bran, laying some paper over it, and covering the top with a bladder tied firmly on to exclude the air; then put on the top or cover of jar, observing that it fit close. These jars should be kept in a room where a fire can be kept in wet damp weather.

III. Take a cask or barrel inaccessible to the external air, and put into it a layer of bran dried in an oven, or of ashes well dried and sifted. Upon this place a layer of bunches of grapes well cleaned, and gathered in the afternoon of a dry day, before they are perfectly ripe. Proceed thus, with alternate layers of bran and grapes, till the barrel is full, taking care that the grapes do not touch each other, and to let the last layer be of bran; then close the barrel, so that air may not be able to penetrate, which is an essential point. Grapes thus packed will keep nine or even twelve months. To restore them to their freshness, cut the end of the stalk of each bunch of grapes, and put that of white grapes into white wine, and that of black grapes into red wine, as flowers are put into water, to revive or to keep them fresh.

GRAPE WINE.

I. To every gallon of ripe grapes put a gallon of soft water, bruise the grapes, let them stand a week without stirring, and draw the liquor off fine. To every gallon of wine put 3 lbs. of lump sugar; put the whole into a vessel, but do not stop it till it has done fermenting, then stop it close, and in six months it will be fit for bottling. A better wine, though smaller in quantity, will be made by leaving out the water and diminishing the quantity of sugar.

II. Take of cold soft water 8 gallons, grapes 100 lbs. Ferment these together, then strain and add 20 lbs. of raw sugar, 4 lbs. of beet root sliced, 6 oz. of red tartar in powder, coriander seed bruised 2 oz., brandy 6 quarts. This will make 18 gallons.

III. Take of cold soft water 13 gallons, white grapes 50 lbs. Ferment, strain, and mix of refined sugar 25 lbs. white tartar in

powder 3 oz., clary seed bruised 3 oz. or clary flowers 6 handsfull, rum 1 gallon. This will make 18 gallons.

iv. Take of cold soft water 5 gallons, grapes of any color 40 lbs., ferment, mix cider 9 gallons, raw sugar 20 lbs., barberry leaves 3 handsfull, beet root sliced 2 lbs., red tartar in powder 4 oz., add white elder-flowers 6 handsfull, or sassafras chips, 4 lbs. brandy 1 gallon; this will make 18 gallons.

v. Take of cold soft water 6 gallons, grapes of any color 30 lbs., ferment, mix treacle 10 lbs., beet root sliced $1\frac{1}{2}$ lbs., red tartar in powder 2 oz., add rosemary leaves 2 handsfull, brandy $\frac{1}{2}$ a gallon. This will make 9 gallons. (See *Raisin Wine*.)

GRAVEL.

This painful disorder attacks persons of all ages, yet most frequently those who are advanced in life, who lead sedentary lives, and who are afflicted with the gout. Men are much more frequently attacked than women with this complaint, and those living in cold countries oftener than in warm climates. Its most distressing symptoms are a sense of weight in the loins, frequent tendency to urinate, and generally attended with sharp pains in the passages. The urine itself being of a dark color, and depositing generally a dark sandy precipitate. It is also often attended with numbness of the thighs, nausea, vomiting, and a slight suppression of urine or difficulty of voiding it. The remedies most to be depended upon are of an alkaline nature, particularly potass and magnesia, the gravel most frequently consisting of uric acid, with which these alkalies readily combine, and thus dissolve the particles of gravel. Be it observed, however, that magnesia itself forms part of the ingredients which compose one of the varieties of calculus or stone, in that case then its use would be injurious.

i. Take 20 or 30 drops a day of the solution of potass in a cup of broth. The dose may be gradually increased to 40 drops.

ii. Take carbonate of soda from 1 scruple to $\frac{1}{2}$ a drachm, twice or thrice a day.

iii. Take carbonate of potass 1 drachm, twice a day, dissolved in $\frac{1}{2}$ a pint of water.

iv. Take soap pills with opium, 8 grains for a dose night and morning.

v. Take lime-water, 1 pint a day mixed with milk.

vi. Take of the essential oil of spruce 1 scruple, spirit of nitric ether 1 oz.; mix. A tea-spoonful to be taken two or three times a day, in a tea-cupful of the decoction of marsh-mallow root.

vii. Great relief has been derived from the use of the following mixture, in some obstinate cases of stone and gravel:—Take of rectified oil of turpentine, sweet spirit of nitre, oil of juniper, balsam of sulphur, of

each $\frac{1}{2}$ oz.; mix. Take 15 or 16 drops in a wine-glassful of water three times a day.

viii. Take of Venice turpentine 1 oz., powdered gum-arabic 2 oz., powdered grains of Paradise and powdered jalap root, each 2 drachms, balsam copaiva, sufficient to form an electuary. The size of a walnut to be taken twice a day.

ix. Take of Venice turpentine, Castile soap, rhubarb powder, and extract of cascarrilla, of each 1 drachm, and essential oil of juniper 30 drops. Mix well together, and divide into 50 pills. Three to be taken twice a day, with a wine-glassful of an infusion of wild carrot seed.

x. Take of Alicant soap 8 oz., fresh lime, finely powdered, 1 oz., oil of tartar 1 drachm, with sufficient quantity of water for a mass, and divide it into five-grain pills; from 3 to 4 of which should be taken daily.

GREASE FROM CLOTH, TO REMOVE.

Spots of grease may be removed by a diluted solution of potash, but this must be cautiously applied, to prevent injury to the cloth. Stains of white wax, which sometimes fall upon clothes from wax candles, are removed by spirits of turpentine, or sulphuric ether. The marks of white paint may also be discharged by the above mentioned agents.

GREASE FROM PAPER, TO REMOVE.

i. Let the paper stained with grease, wax, oil, or any other fat body, be gently warmed, taking out as much as possible of it by blotting paper. Dip a small brush in the essential oil of well-rectified spirits of turpentine, heated almost to ebullition (for when cold it acts very weakly,) and draw it gently over both sides of the paper, which must be carefully kept warm. Let this operation be repeated as many times as the quantity of the fat-body, imbibed by the paper, or the thickness of the paper, may render it necessary. When the greasy substance is removed, to restore the paper to its former whiteness, dip another brush in highly-rectified spirits of wine, and draw it in a like manner over the place, and particularly around the edges, to remove the border that would still present a stain. If the process has been employed on a part written on with common ink or printed with printer's ink, it will experience no alteration.

ii. Take of roche alum, burnt, and flour of brimstone, an equal quantity of each; and reducing them to a fine powder wet the paper a little, put a small quantity of the powder upon the place, and the spots will disappear.

iii. Scrape finely some pipe-clay, (the quantity will be easily determined on making the experiment,) on this lay the sheet or leaf, and cover the spot, in like manner, with the clay. Cover the whole with a sheet

of paper, and apply, for a few seconds, a heated box-iron, or any substitute adopted by laundresses. On using Indian rubber, to remove the dust taken up by the grease, the paper will be found restored to its original whiteness and opacity. This simple method has often proved much more effectual than turpentine, and was remarkably so in an instance where the folio of a ledger had exhibited the marks of candle-grease and the snuff for more than twelve months.

GREASE FROM SILKS, TO EXTRACT.

Scrape French chalk, put it on a grease-spot, and hold it near the fire, or over a warm iron, or water-plate, filled with boiling water. The grease will melt, and the French chalk absorb it. Brush or rub it off. Repeat if necessary.

GREASE OF HORSES' HEELS.

"Grease, (says Professor Youatt,) is the child of negligence and mismanagement. It is driven from our cavalry, and it will be the fault of the farmer and the gentleman if it is not speedily banished from every stable. Grease is an inflammation of the heel, particularly of the hind legs, and arises from sudden changes of temperature to which the horse is exposed; very often from the heels of the horse being exposed to the draught of cold air from the stable door, the accumulation of dirt in the stable, &c." To cure it, first wash the legs well with soft soap and warm water, then apply the following:—

I. *Ointment*.—Yellow wax 2 oz., sweet oil 8 oz.; melt together, and add $\frac{1}{4}$ oz. of sugar of lead. Should the heels crack, poultice them with carrots, boiled soft, or with linseed meal, and anoint with this caustic.

II. *Wash*.—Blue stone 2 drachms, alum 2 drachms, water 1 pint. When the inflammation has abated, leave off the poultice, and anoint with the ointment as before.

GRECIAN WATER.

This is a preparation to dye the hair black; like most of the other hair dyes its basis is the nitrate of silver, and like them also the dyed hair soon becomes of a purple color. The present consists of nitrate of silver dissolved in syrup of buckthorn.

GREEN BALSAM.

Linseed oil $\frac{1}{2}$ lb., elemi 2 oz., verdigris 2 drachms; grind them together.

GREEN BICE.

This green carbonate of copper is often the result of the imperfect manufacture of blue bice, and as there is no ready way afterwards of improving the color it is sold under this name, and also under the name of malachite green. The latter ought to be prepared by grinding the native green carbonate or malachite.

GREEN DYES.

Green is distinguished by dyers into a variety of shades, according to the depth, or the prevalence of either of the component parts. Thus, we have sea-green, grass-green, pea-green, &c. Wool, silk, and linen are usually dyed green by giving them first a blue color, and afterwards dyeing them yellow; when the yellow is first given, several inconveniences follow: the yellow partly separates again in the blue vat, and communicates a green color to it, thus rendering it useless for every other purpose, except dyeing green. Any of the usual processes for dyeing blue and yellow may be followed, taking care to proportion the depth of the shades to that of the green required. When sulphate of indigo is employed, it is usual to mix all the ingredients together, and to dye the cloth at once; this produces what is known by the name of Saxon, or English green.

For hair or feathers.—Take of verdigris or verditer of each 1 oz., gum water 1 pint, mix them well and dip the hair or feathers into the mixture, shaking them well about.

I. *For wood*.—Yellow dye made by boiling in water either turmeric, fustic, weld, or Persian berries, add as much sulphate of indigo as will give the desired color.

II. To 3 pints of strong vinegar add 4 oz. of the best verdigris, ground fine, $\frac{1}{2}$ oz. of sap green, and $\frac{1}{2}$ oz. of indigo. Strain, and either soak the wood in the dye or brush it over with it.

Paper and parchment.—Use the green ink, or the dye for wood. For vellum, first wash it with weak potass water to remove greasiness and to deepen the color.

Horn.—Boil it first in alum water, then with verdigris, ammoniac, and white wine vinegar, till of sufficient color.

GREEN DYE FOR BLACK CLOTH.

Clean the cloth well with bullock's gall and water, and rinse in warm water; then make a copper full of river water boiling hot, and take from 1 lb. to $1\frac{1}{2}$ lbs. of fustic, put it in, and boil it twenty minutes, to which add a lump of alum of the size of a walnut; when this is dissolved in the copper, put in the cloth, and boil it twenty minutes, then take it out, and add a small wine glass, three parts full of chemic blue, and boil again from half an hour to an hour, and the cloth will be a beautiful dark green. Lastly, wash out and dry.

GREEN FLY, TO DESTROY.

The green fly, which infects rose-trees, is the most easy to destroy of any that the gardener is troubled with. The best method is fumigation with tobacco, or with sulphur, (see *Fly*,) and the following morning syringe the plant well with water. Sprinkling the

plants with tobacco water is another remedy recommended.

GREEN INK.

I. Take 1 oz. of verdigris, and having powdered it, put to it a quart of vinegar; after it has stood two or three days, strain off the liquid, or instead of this, use the crystals of verdigris dissolved in water. Then dissolve in a pint of either of these solutions 5 drachms of gum Arabic, and 2 drachms of white sugar.

II. According to Klaproth, a fine ink of this color may be prepared by boiling a mixture of 2 parts of verdigris in 8 parts of water, with 1 of cream of tartar, till the total bulk be reduced one-half. The solution must be then passed through a cloth, cooled, and bottled for use.

GREEN OIL.

I. Elder leaves fresh 1 lb., olive oil 2 pints. Boil the leaves in the oil till crisp, press out the oil, and put it on the fire again till it acquires a fine green color.

II. Take 3 oz. each of the leaves of laurel, rue, chamomile, wormwood, and marjoram all fresh; olive oil 2 lbs. Boil till crisp, press out the oil and let it settle.

GREEN OINTMENT.

I. Green oil 3 pints, yellow wax 10 oz.

II. Pork lard 8 lbs. elder leaves 4 lbs. suet 1 lb. Boil together till the leaves are crisp, strain, put it again over a slow fire, and stir till of a fine green color.

III. Yellow basilicon ointment 8 oz., olive oil 3 oz., verdigris 1 oz.

GREEN PRECIPITATE.

Dissolve quicksilver 1 oz. in nitric acid, at the same time dissolve also copper 1 oz. in another parcel of nitric acid, mix the two solutions, evaporate to dryness, and calcine the residuum in a shallow vessel, till no more red fumes appear. (See *Red Precipitate*.)

GREEN SEALING WAX.

Take of shell lac 4 parts, Venice turpentine 1 part, melt them together and add the proper color, the best greens are powdered verdigris, or else Scheele's green. The others are apt to turn black with the heat, so will even the last if too much heated. In this respect green bice is preferable and indeed is next in quality to verdigris.

GREEN TOOTH-POWDER.

Take 1 oz. each of dried sage leaves, crust of bread, and common salt, and 1 drachm each of nutmeg and cloves powdered, triturate, and mix in a mortar.

GREEN LINIMENT.

Powdered camphor and extract of hemlock of each 1 oz., compound spirit of ammonia 2 oz., olive oil and liquid ammonia of each 6 oz.

GREEN PAINTS.

The green paints or pigments are either made by the mixture of various proportions of blue and yellow, as Brunswick green, or dried vegetable juices, as sap green, or they are the oxydes or salts of the various metals. The chief greens, and to which names we refer, are *Brunswick Green*, *Scheele's Green*, *Mineral Green*, *Verdigris*, *Bice*, *Chrome Green*, *Verditer*, *Sap Green*, &c.

GREENOUGH'S TINCTURE FOR THE TEETH.

Take 2 oz. of bitter almonds, $\frac{1}{2}$ oz. each of Brazil wood and cassia berries, 2 drachms of Florentine orris root, 1 drachm each of binoxalate of potass, alum, and cochineal, $\frac{1}{2}$ oz. of spirit of horse-radish, and 2 pints of spirits of wine.

GREGORY'S POWDER.

Mix together equal parts of ginger, rhubarb, and calcined magnesia. This is a very good remedy for flatulency, indigestion, heartburn, &c., in doses, once a day of a scruple or 20 grains, which will be a small teaspoonful.

GREEN'S BENZOIC ACID.

Gum benjamin 24 oz., subcarbonate of soda 8 oz.; rub together, boil in 2 gallons of water, then strain, boil the grounds again in 3 quarts of water, strain, mix the 2 liquors and boil them down to 1 quart, filter and precipitate with dilute sulphuric acid, dissolve the precipitate in boiling water, strain and crystallize.

GRENOBLE RATAFIE.

Take of small wild black cherries, with their kernels bruised, 12 lbs., proof spirit 6 gallons. Digest for a month, strain, and then add 12 lbs. of sugar. A little citron peel may also be added at pleasure.

GREY LOTION.

Made by mixing a small quantity of corrosive sublimate with lime water, a grain to a wine glassful will be sufficient; it is used to wash inflammatory and syphilitic sores.

GREY DYES.

I. Take 2 lbs. of sumach, and 1 lb. of logwood, boil these in water until you have a strong decoction; into this the article to be dyed is to be soaked for a little time, and afterwards to be passed through a weak solution of the sulphate or acetate of iron. The degree of color depends upon the relative proportion of the two dyes; also to finish the color, it may be re-dyed by mixing the two solutions of sumach, &c. and of iron.

II. Dissolve 1 lb. of tartar in 4 gallons of water, soak the stuff in the liquor for half an hour, moving it about all the time, in order that it may be equally distributed over the whole stuff, add now a decoction of $\frac{1}{2}$ lb. of galls, and $1\frac{1}{2}$ lbs. of sumach, boil the stuff

in this for half an hour, then take it out and add 1 lb. of sulphate of iron, when dissolved boil again for half an hour; a little alum changes the color from an ash to a mouse-grey.

GREY COLORED FIRE.

Mix well together meal powder 1 lb., salt-petre 4 oz., sulphur 2 oz., charcoal 1½ oz. To be rammed into cases and fastened as a variation of color, with others in wheels, stars, and other fire-works.

GRIFFIN'S TINCTURE.

Take honey 6 oz., saffron ½ oz., benzoic acid ¼ oz., opium 5 drachms, camphor ½ oz., carbonate of potash ½ oz., oils of caraway and anise each 2 drachms, spirits of wine 6 drachms. Color deeply with burnt sugar. This is a good cough remedy.

GRINDSTONES, ARTIFICIAL.

I. Take of river sand 3 parts, seed-lac 1 part; mix them by heat over a fire. Having now on a greased stone a hoop lying down with a square piece of wood in the centre, pour in the composition, beating down the upper side to make it even and tough, there let it cool. When cold, knock away the hoop and the centre piece of wood, put the proper axis to it, and cement it in with shell-lac, or rosin and bees'-wax, with red lead mixed with it. The grindstone will now be complete. Of course, according to the required purpose, so must be the nature of the sand or other material; thus, instead of river sand use the sharp white sand, called silver sand, for cutting or grinding glass.

II. Use plaster of Paris, mixed with three times its quantity of sharp emery powder; mix them together with alum water. This must be used dry.

III. Mix together whiting and fine glass dust. To be mixed together with glue for a dry grindstone, or with shell-lac, if to be used with water.

For a polishing grindstone, neither glue nor shell-lac must be used; the polishing powder, which is either putty powder, fine washed emery, rough crocus, or carbonate of iron, or whatever else may be chosen, must be made to adhere with plaster of Paris mixed with alum water, or white of egg, or flour paste, neither of which becomes sticky by the heat of the friction.

GRINDLE'S COUGH DROPS.

These are a tincture of opium, prepared with rectified spirit. A very unsafe nostrum, on account of the uncertain quantity of the opium, and the propensity people have to increase the quantity in proportion to the violence of the cough.

GRIPES IN HORSES, REMEDIES FOR.

I. Take of Venice turpentine 1 oz., beat it up with the yolk of an egg, and then add of peppermint water, or even of common water, if the other is not at hand, 1½ pints, and 2 oz. of whiskey or gin. This will serve for 1 dose.

II. Take of table beer, a little warmed 1½ pints, common pepper or powdered ginger 1 tea-spoonful, gin, whiskey, or rum, from 2 to 4 oz., or from 1 to 2 glasses full; these mixed together for 1 dose.

III. Oil of turpentine 1 oz., and water-gruel 1½ pints; mixed for a dose. These and the like preparations may be given either out of a bottle, or drench-horn, one or two persons raising and keeping properly up the horse's head, while another who administers the medicine, pulls out, and a little aside, the tongue, with his left hand, and with the other pours in the draught.

IV. Castile soap 3 drachms, camphor 2 drachms, ginger 1½ drachm, and Venice turpentine 6 drachms; to be made into a ball for 1 dose.

V. When horses are affected with colic, or where the use of anodynes are requisite, the following preparation may be given:—Opium 1 drachm, Castile soap 2 drachms, and powdered aniseed ½ oz. To be made into a ball with syrup for 1 dose.

VI. Take ½ pint of gin, diluted with 4 oz. of water, and a little ginger.

VII. Take of Epsom salts 6 oz., Castile soap, sliced, 2 oz. Dissolve them in 1½ pint of warm gruel; then add tincture of opium ½ oz., oil of juniper 2 drachms. Mix, and give them new-milk warm. This drink may be repeated every four or five hours, till the symptoms begin to abate.

VIII. Take of tincture of opium and oil of juniper, each 2 drachms, sweet spirit of nitre, tincture of benzoin, and aromatic spirit of ammonia, each ½ oz. Mix them together in a bottle for one drink, and give it in a pint of warm gruel. For the colic, flatulency, and colicky pains of the intestines, this drink will be found a valuable cordial. It may be repeated every two hours.

GROSVENOR'S TOOTH POWDER.

Mix 3 lbs. each of calcined oyster-shells and rose pink, ½ lb. of Florentine orris root in powder, and 25 drops of oil of rhodium. After pulverizing it very finely, pass it through a sieve.

GUAIAECUM, INFUSION OF.

Compound.—Guaiacum wood chips ½ lb., liquorice root, sliced, 1 oz., sassafras bark, chipped ½ oz., coriander seed 3 drachms, lime water 3 quarts. Infuse two days, and strain. The dose is from 1 to 2 table-spoonful twice a day in scrofula, rheumatism, gout, &c.

GUAIAECUM MIXTURE.

I. Gum guaiacum 1½ oz., white sugar 2 drachms, gum arabic water 2 drachms, cinnamon water 8 oz. Used in rheumatism, from ½ oz. to 2 oz. being taken night and morning, with barley water or gruel.

11. *Ammoniated*.—Gum guaiacum 2 drachms, liquid sub-carbonate of ammonia $2\frac{1}{2}$ drachms, barley water 8 oz. From $\frac{1}{2}$ oz. to 1 oz. to be taken two or three times a day.

GUAIAACUM, TINCTURE OF.

1. Take of guaiacum 4 oz., rectified spirits of wine 2 pints. Digest for seven days, and filter. This solution is a powerful stimulating sudorific, and may be given in doses of about $\frac{1}{2}$ oz. in rheumatic and asthmatic cases. What is called gum guaiacum is, in fact, a resin, and perfectly soluble in alcohol.

11. *Ammoniated*.—Take of resin of guaiacum, in powder, 4 oz., ammoniated alcohol, in powder, $1\frac{1}{2}$ lbs. Digest for seven days, and filter through paper. In rheumatic cases, a tea, or even table-spoonful, taken every morning and evening, in any convenient vehicle, particularly in milk, has proved of singular service. This is a very elegant and efficacious tincture; the ammoniated spirit readily dissolving the resin, and, at the same time, promoting its medical virtues.

GURSTONIAN EMBROCATION.

Take $1\frac{1}{2}$ oz. each of olive oil and oil of turpentine, 3 oz. of dilute sulphuric acid. Mix, and apply to the surface of rheumatic joints, &c.

GUIDO'S BALSAM.

Take 4 oz. of hard soap, 2 oz. of camphor, 1 oz. of opium, and 2 pints of spirits of rosemary. Dissolve the camphor and opium in the spirit, then add the soap, cut into shreds, and melt them together by a very gentle heat. This is the same as soap and opium liniment, or opodeldoc.

GUM ANGLICUM.

The commoner kinds of gum Arabic or gum Senegal are partly melted, colored, and then cast and dried into cakes. These among jockeys are called gum anglicum, and are used to rub over or smooth down the manes of horses, and wherever else the hair is rough, being first a little damped.

GUM ARABIC, MUCILAGE OF.

Take of gum Arabic in powder 4 oz., boiling distilled water 8 oz., triturate the gum with a small portion of the water until it be dissolved. It is necessary to pass the mucilage through linen, in order to free it from pieces of wood and other impurities, which always adhere to the gum: the linen may be placed in a funnel.

Mucilage of gum Arabic is very useful in making up medicines, &c. It also possesses the power of a mucilaginous demulcent in a high degree; and is frequently given in diarrhoea, dysentery, chincough, hoarseness, strangury, &c.

GUM ARABIC EMULSION.

Take of gum Arabic in powder 2 drachms, sweet almonds blanched, double refined sugar each $\frac{1}{2}$ drachm, decoction of barley 1 pint. Dissolve the gum in the warm de-

coction, and when it is almost cold, pour it upon the almonds previously well beaten with the sugar, and at the same time triturate them together, so as to form an emulsion, and then filter. The almonds are blanched by infusing them in boiling water, and peeling them. The success of the preparation depends upon beating the almonds to a smooth pulp, triturating them with each portion of the watery fluid, so as to form a uniform mixture before another portion be added. Great care should be taken that the almonds have not become rancid by keeping, which not only renders the emulsion extremely unpleasant (a circumstance of great consequence in a medicine that requires to be taken in large quantities), but likewise gives it injurious qualities.

This emulsion is principally used for diluting and correcting acrimonious humours; particularly in heat of wine and stranguries, arising either from a natural acrimony, or the operation of cantharides, and other irritating medicines. In these cases it is to be drank frequently, to the quantity of $\frac{1}{2}$ pint, or more at a time.

GUM JULEP.

Gum Arabic 2 drachms, syrup of marsh mallows 1 oz., orange flower water $\frac{1}{2}$ oz., water 3 oz. This is a very soothing medicine in sore throat, tickling cough, &c.

GUM LOZENGES AND PASTILES.

Gum Arabic 4 oz., starch 2 oz., sugar 12 oz. mix them all up together with water, into a stiff paste, which roll out into a flat cake upon an oiled marble slap, punch with a stamp into round lozenges, and dry. Gum pastiles have no starch in them, gum in powder being mixed up with syrup to a proper consistence; they may be either round or square.

GUM PASTE FOR COMFITS.

Soak 1 oz. of gum tragacanth in $\frac{1}{2}$ pint of water, stirring it frequently till quite dissolved, which it will be in twenty-four hours, squeeze it through a coarse cloth by twisting, put it in a mortar, and add 4 oz. of treble-refined sugar, work it well till quite white, put it in a glazed earthen pan, with a wet cloth over it; when wanted, take some of this paste, work and knead in it fine sifted sugar, till it becomes soft without sticking to the fingers. When scented or colored, the aromatic materials are worked in.

GUM PLAISTER.

1. Take of simple diachylon plaister 8 oz., gum ammoniacum, gum galbanum and yellow wax of each 1 lb. This is stimulant and is used for rheumatic pains and weakness of the limbs.

11. Common gum Arabic water spread upon paper or rag, and suffered to dry, so that there shall be a good and shining coat of gum upon it, should be kept in every house as the best possible strapping plaister, as an

application to cuts and small wounds. It adheres very strongly, and effectually keeps the air from irritating the surface. It is not applicable where there is a discharge from the wound, as the gum would be dissolved; in other cases it acts almost like a charm in easing pain, even with a burn or extensively rubbed surface and of which the smarting is often so severe.

GUM SEALS.

These are made by merely pouring a little strong gum water over the impression, after being oiled slightly, and keep adding more as it dries. When about the consistence of Indian rubber it can be taken off with an open pen-knife, and a sort of handle added of bread, prepared as for bread seals.

GUMPTION, FOR ARTISTS.

This is employed by the artist as a vehicle to use with some of his colors. It is composed of either poppy, nut, or linseed oil, to which a drying quality has been given, by soaking in it for some days the acetate of lead, in the proportion of 1 oz. to the pint of oil. This being poured off clear is mixed, according to the judgment of the artist, with strong mastic varnish. It has much body, works easily, and dries rapidly. It may be diluted in use with spirits of turpentine.

GUN BARRELS, BROWNING OF.

The following contains the instructions given to soldiers relative to the browning of their musket barrels, and which is used in our arsenals, as well as by the manufacturers of fire-arms. Mix together the following ingredients, and add to them a quart of soft water, $1\frac{1}{2}$ oz. of spirits of wine, $1\frac{1}{2}$ oz. of tincture of steel, $\frac{1}{2}$ oz. of corrosive sublimate, $1\frac{1}{2}$ oz. of sweet spirits of nitre, 1 oz. of blue vitriol, and $\frac{3}{4}$ oz. of nitric acid. Previous to commencing the operation of browning, it is necessary that the barrel should be made quite bright with emery or a file, but not burnished, after which it must be carefully cleaned from all greasiness, a small quantity of pounded lime rubbed well over every part of the barrel is the best for the purpose, a plug of wood is then to be put into the nose of the barrel, and the mixture applied to every part by a clean sponge or rag. The barrel is then to be exposed to the air for twenty-four hours, after which time it is to be well rubbed over with a steel scratch brush, until the rust is entirely removed; the mixture may then be applied again as before, and in a few hours the barrel will be sufficiently corroded for the operation of scratch-brushing to be repeated. The same process of scratching off the rust, and applying the mixture, is to be repeated twice or three times a day for four or five days, by which time the barrel will have acquired a very dark brown color. Now wash the

barrel well with plenty of hot water, to remove any remains of acid. Let it get cold, and then rub it well with oil, to give a polish. The oftener the repetition of scratching and browning is repeated, and the harder the brush, the more brilliant and durable will be the browning. The composition remains good for a very long period, if kept in glass bottles.

GUN COTTON.

Mix in any convenient glass vessel $1\frac{1}{2}$ oz. by measure of nitric acid, (sp. gr. 1.45 to 1.50,) with an equal quantity of sulphuric acid, (sp. gr. 1.80.) When the mixture has cooled, place 100 grains of fine cotton wool in a Wedgewood mortar, pour the acid over it, and with a glass rod imbue the cotton as quickly as possible with the acid; as soon as the cotton is completely saturated, pour off the acid, and with the aid of the pestle quickly squeeze out as much of the acid from the cotton as is possible. Throw the mass into a basinful of water, and thoroughly wash it, either by successive waters or under a tap, until the cotton has not the slightest acid taste. Finally, squeeze it in a linen cloth and dry it in a water bath. The cotton when well prepared should be perfectly white.

GUN METAL.

(a) Take 112 lbs. of Bristol brass, 14 lbs. of zinc, and 7 lbs. of block tin.—(b) 9 lbs. of copper and 1 lb. of tin. Lead was formerly used in this alloy to facilitate the casting, but, at the battle of Prague, it was found that some of the pieces of ordnance, formed of this metal, were actually melted by the frequency of firing.

GUNPOWDER, TO MAKE.

Pulverize separately 5 drams of nitrate of potass, 1 dram of sulphur, and 1 dram of newly-burnt charcoal; mix them together in a mortar with a little water, so as to make the compound into a dough, which roll out into round pieces of the thickness of a pin upon a slab; this must be done by moving a board backwards and forwards, until the dough is of a proper size. When 3 or 4 of these strings or pieces are ready, put them together, and with a knife cut the whole off in small grains. Place these grains on a sheet of paper in a warm place, they will soon dry. During granulation, the dough must be prevented from sticking, by using a little of the dry compound powder. This mode of granulation, though tedious, is the only one to be used for so small a quantity, for the sake of experiment. In the large way, gunpowder is granulated by passing the composition through sieves. The following are English receipts for various gunpowders:—

	Nitre.	Sulphur.	Charcoal
Common powder	75	12½	12½
Shooting powder	78	10	12
Miner's powder	65	20	15

The larger the proportion of sulphur the less forceable will be the explosion of the powder; but it keeps drier than that in which the sulphur is in less proportionate quantity. Mealpowder is gunpowder not granulated, but in the state of a fine dust.

GUT, FOR ANGLERS.

Steep silkworms, when just ready to spin, and which may be known by a fine silken thread hanging from their mouth, and from their restlessness in searching for a corner to spin in, in strong vinegar for twelve hours in warm weather, or double as long in cold weather. Break the worms in half, where the silk bag is, and draw out each half of the body to the distance of 1 foot or 18 inches. The silk at that time is in a glutinous state, like undried Indian rubber, and being drawn out, and the ends fastened, it will dry into the very tough and delicate filament, known by anglers as silkworm gut.

GUTHRIE'S BLACK OINTMENT.

Take 10 grains of nitrate of silver, 1 drachm of spermaceti ointment, 10 drops of solution of acetate of lead. It is to be used only in small quantities at a time, and

once in two or three days, to purulent gonorrhœal sores.

GUTHRIE'S EYE OINTMENT.

Spermaceti ointment 1 drachm, solution of sugar of lead 15 drops, nitrate of silver 2 to 10 grains. This ointment is useful for inflammation of the eye, ophthalmia, for sties, &c. It however occasions great pain when applied, unless it be for the killing of worms.

GUY'S POWDER OF ETHIOPIA.

Rub together equal parts of pure rasped tin, quicksilver, and flowers of sulphur. We do not know the use of this poisonous compound.

GUYOT'S SPIRIT.

I. French brandy 5 gallons, distil 10 pints, add to that left in the still well water 30 pints, lavender flowers or leaves 1 lb; distil all off. Take of the spirit first drawn off 11 oz. by measure, well water 69 oz. by measure, and of the second spirit 80 oz. by measure. It is used to preserve animals and vegetables in bottles, and contains 1 part of alcohol to 13 water.

II. Spirit of lavender 1 pint, very clear spring water 6 pints; if it grows thick, filter through white filtering paper.

HAHNEMAN'S WINE TEST.

Take 1 oz. of quicklime, 1½ oz. of flowers of sulphur. Heat them together in a crucible for five or six minutes. Of this, take 2 drachms, tartaric acid 2 drachms; powder, mix, and shake in a stopped bottle with a pint of water. Let it settle, pour off the clear part, and add ½ oz. of tartaric acid. This is used as a test for lead in wines, and also as a remedy in disorders arising from quicksilver.

HALFORD'S, SIR H. NERVOUS TINCTURE.

Take 3½ oz. of camphor julep, 3½ oz. of peppermint water, 3 drachms of spirit of ammonia, 3 drachms of syrup of saffron, 1 drachm of tincture of camphor; well mixed. Three table-spoonsful to be taken when required.

HAIR FOR WIGS, TO PREPARE.

Hair which does not curl or buckle naturally is brought to it by art, by first boiling and then baking it. After having picked and sorted the hair, and disposed it in parcels according to lengths, roll them up, and tie them tight down upon little cylindrical instruments, either of wood or earthenware, a quarter of an inch thick, and hollowed a little in the middle, called pipes, in which state they are put in a pot over the fire, there to boil for about two hours. When taken

out, let them dry; and when dried, spread them on a sheet of brown paper, cover them with another, and thus send them to the baker, who making a crust around them of common paste, sets them in an oven till the crust is about three-fourths baked.

HAIR, SUPERFLUOUS, TO REMOVE.

Take of fresh stone lime 1 oz., pure potass 1 drachm, sulphuret of potass 1 drachm. Reduce them to a fine powder in a Wedgewood mortar. If the hair be first washed with hot water, by holding a wet cloth as hot as possible to it for ten minutes. This article formed into a thin paste with hot water, and applied directly, will effectually remove the hair in five or six minutes; it must then be immediately removed with hot water. It is a very powerful caustic, and if suffered to remain long, will corrode the skin; to remedy which, the place should be washed with warm vinegar and water, in preference to water alone. (See *Depilatory*.)

HAIR, TO SORT AND CLEANSE.

In the manufacture of hair pencils or brushes, the hairs are scoured in a solution of alum, till they are free from grease, and then steeped twenty-four hours in luke-warm water. The water is next squeezed out by pressing them strongly from the root to the tip. They are then dried by pressure with

linen cloths, and combed as smooth as possible. Bunches of hair are then placed in small flat-bottomed tin pans, with the tips of the hair upwards, on striking the bottom of the pan the hairs get arranged parallel to each other, and the long hairs standing higher than the others may be easily picked out.

HAIR TO BLEACH.

I. Spread the hair upon the grass for several days that it may be alternately exposed to dew and sun; first however let it be well washed in strong and warm pearlash water, to deprive it of all the natural grease which adheres to it. Flaxen hair is more easily bleached than that which is naturally black.

II. Soak the hair first in pearlash water, and then in a solution of bleaching liquid, either the chloride of lime or of potass.

III. After having partly bleached the hair by one of the former processes, suspend it in tufts, or loosely in a box containing burning sulphur.

Horse-hair is bleached in this manner previous to its being dyed red or other colors for soldier's plumes, &c. The hair of the Cashmere goat for shawls, &c. is bleached by the first method.

HAIR TO DYE.

Hair may be changed from a red, grey, or other disagreeable color, to a brown or deep black, by a solution of silver. The liquors sold under the name of hair waters, are, in fact, no more than solutions of silver in aquafortis, largely diluted with water, with the addition of ingredients which contribute nothing to their efficacy. The solution should be fully saturated with the silver, that there may be no more acid in it than is necessary for holding the metal dissolved; and besides dilution with water, a little spirit of wine may be added. (See *Hassan, Hanman, Grecian Water, Tyrian Dye, Orfila, Horse Hair, &c.*) To dye dead hair the same colors must be used as for bone, ivory or horn.

I. Moisten the hair first with a solution of silver in nitric acid, and then with a weak solution of the sulphuret of ammonia. This is instantaneous in its effects: it is to be observed that it also stains the skin.

II. Wash the hair with the juice of green walnuts, or with the oil of the cashew nut diluted with olive oil. The betel nut forms a still finer black, but they all stain also the skin.

HAIR POWDER.

The basis of all hair powders is starch; indeed, ground starch scented with orris root, lavender, ambergris, or other sweet scents, form the hair powders called by these names. Inferior hair powder, however, is often adulterated with flour, rice powder, plaster of Paris, and slacked lime. To detect these adulterations, the last of which is very injurious to the hair, proceed as follows:

I. *For lime.*—Put a little of the suspected powder in a mortar with an equal quantity of sal ammoniac, rub them well together with the pestle, with a few drops of hot water. If lime be present, a powerful odour of ammonia or spirits of hartshorn will be perceived.

II. *For plaster of Paris.*—Pour hot water upon the powder, this will form all the vegetable flours into a paste, and which may be poured away. See if there be a sediment, this will be either chalk, slacked lime, or plaster of Paris. Let it be taken and placed in a crucible or ladle, and made red hot; afterwards, being cooled, it may be mixed into a paste with water; if plaster of Paris, it will set hard in a few minutes; if lime, it will fall into pieces, or may be tested as before.

III. *For rice, flour, &c.*—To detect these, use the means and tests recommended under the words *Arrow Root and Flour*.

HAIR POWDER PERFUME.

Take $\frac{1}{2}$ lb. of pulvil powder, made from apple-tree moss, $\frac{1}{2}$ oz. of grey ambergris, 30 grains of musk, and 20 grains of civet. Grind the musk and civet with loaf sugar to a very fine powder; melt the ambergris with 6 drops of the oil of behn nuts, over a gentle fire, in a clean vessel, not brass or copper, add, as it melts, a few drops of the juice of green lemon, and about 4 drops each of oil of rhodium and lavender. When the ambergris is melted, put the above powder into it, stir and mix it well. Add, by degrees, the powder of apple-moss; and when the whole is combined, pulverize and sift it through a very fine hair sieve; what will not pass through, return into the mortar, again pound it with loaf-sugar, until the whole is reduced to fine powder.

Pulvil powder is the powder of a greyish lichen, called *Evernia prunastri*, very common upon fruit trees in old orchards. It is merely dried, pounded, and sifted, and it is said that nothing retains the scent of any thing so long. We think that there may be much truth in this.

HAMBURGH PICKLE.

Take 16 quarts of water, 10 lbs. of common salt, 6 oz. of saltpetre, $\frac{1}{2}$ lb. brown sugar, oil and skim. This is the pickle used in Germany to salt or preserve Hamburgh beef, Westphalia hams, &c. previous to smoking.

HAMS, TO CURE.

I. As soon as the hams are cut, tie them up by the hock for three days; then make a pickle, thus:—1 oz. of saltpetre, $\frac{1}{2}$ oz. of salt prunella, 1 lb. of common salt, 1 lb. of coarse sugar, 1 oz. of juniper berries, and 1 gallon of strong beer; boil all together, and when cold, pour it over the hams. Turn them every day for a fortnight. This quantity of pickle will be sufficient for 2 hams.

11. Take 1 lb. of salt, 1 oz. of saltpetre, 2 oz. of bay salt, $\frac{3}{4}$ lb. of brown sugar, and rather more than a gill of vinegar; make it all hot, rub the ham well with it, turning it every day for seventeen or eighteen days, then hang it up in a dry place.

HAMELIN'S CEMENT, TO MAKE.

This cement consists in a mixture of earths and other substances that are insoluble in water, or nearly so, either in their natural state, or such as have been manufactured, as earthenware, porcelain, and the like substances; but Mr. H. prefers those earths that, either in their natural or manufactured state, are the least soluble in water, and have, when pulverized or reduced to powder, the least color. To the earth or earths, as before-named, either in their natural or manufactured state, and so pulverized, he adds a quantity of each of the oxydes of lead, as litharge, grey oxyde, and minium, reduced or ground to a fine powder, and to the whole of the above-named substances, a quantity of pulverized glass or flint stone, reduced to a pulverized state, in proper and due proportion of vegetable oil, form and make a composition or cement, which, by contact or exposure to the atmosphere, hardens and forms an impenetrable and impervious coating or covering, resembling Portland or other stones. To any given weight of the earth or earths, commonly called pit-sand, river-sand, rock-sand, or any other sand of the same or the like nature, or pulverized earthenware or porcelain, add $\frac{2}{3}$ of such given weights of the earth or earths, commonly called Portland stone, Bath stone, or any other stone, of the same or the like nature pulverized. To every 560 lbs. weight of these earths, so prepared, add 40 lbs. weight of litharge, and with the last-mentioned given weights, combine 2 lbs. weight of pulverized glass or flint stone. Then join to this mixture 1 lb. weight of minium and 2 lbs. weight of grey oxyde of lead. This composition being thus mixed, pass the same through a wire sieve, or dressing machine, of such a fineness or mash as may be requisite for the purpose it is intended for, preferring a fine sieve, mash, or wire-work, when the composition is to be used for works that require a fine smooth or even surface. It is now a fine and dry powder, and may be kept open in bulk or in casks for any length of time, without deterioration. When this composition is intended to be made into cement, for any of the purposes described, it is spread upon a board or platform, or mixed in a trough; and to every 605 lbs. weight of the composition, are added 5 gallons of vegetable oil, as linseed oil or walnut oil. The composition is then mixed in a similar way to that of mortar, and is afterwards subjected to a gentle pressure, by treading upon it; and this operation is continued

until it acquires the appearance of moistened sand. The mixture, being thus composed, is a cement fit and applicable to the enumerated purposes. It is requisite to observe, that this cement should be used the same day the oil is added, otherwise it will fix or set into a solid substance.

HAND GRENADE.

A hand grenade is a small case filled with gunpowder that weighs when complete 1 lb. 13 oz. About $1\frac{1}{4}$ lb. being gunpowder, the rest is for the weight of the case and fuse. It may be thrown from 40 to 60 feet. It is used chiefly in sieges and naval warfare, and is often very destructive to life and machinery. The diameter of the fuse is one-fifth of an inch; its length $2\frac{1}{4}$ inches, and its composition as follows, saltpetre 3 lbs. 4 oz., sulphur 1 lb., mealed powder 2 lb. 12 oz.

HANMAN'S HAIR DYE.

Mix together 21 grains of litharge 375 grains of quicklime, and 186 of hair powder, all finely pulverized. For use make into a paste with warm water, and rub it well into the roots of the hair with the fingers. Let it remain undisturbed for some hours, then brush off all loose powder, wash the head with soap and water and anoint with oil to restore a gloss.

HARD GLASS FOR ARTIFICIAL GEMS.

I. Take of the best sand, cleansed by washing, 12 lbs., of pearlash or fixed alkaline salt, purified with nitre, 7 lbs.; of saltpetre 1 lb., and of borax $\frac{1}{2}$ lb. The sand being first reduced to powder in a glass or flint mortar, the other ingredients should be put to it, and the whole well mixed by pounding them together.

II. Take of the white sand cleansed 12 lbs., pearlash purified with saltpetre 7 lbs., nitre 1 lb., borax $\frac{1}{2}$ lb., arsenic 4 oz. Proceed as in the last, but if the glass be required to melt with yet less heat 1 lb. of borax may be used instead of the $\frac{1}{2}$ lb., and 1 lb. of common salt may be added; but this last is apt to make the glass more brittle, which is an injury done to such as is to be cut into very small pieces, and ground with so many angles in the figure, as are necessary in the imitation of jewels. (See *Paste*.)

HARD VARNISHES.

The hard varnishes are either of sandarac, or mastic, or both; they dry quickly and have spirits of wine for their basis, or medium of solution, the following are examples:—

I. *White hard*.—Mastic and coarsely pounded glass, each 4 oz., sandarac and Venice turpentine, each 3 oz., strong spirits of wine 2 lbs. Dilute it to proper consistency with the oil of turpentine.

The use of the glass is to prevent the particles of mastic from adhering together, when they become partly dissolved in the spirit, as by this adhesion the solution is very much retarded.

II. Gum sandarac 5 lbs., camphor 1 oz., strong spirit 2 lbs., ground glass 2 lbs. Shake it up often while dissolving.

III. Gum sandarac 1 lb., Strasburg turpentine 6 oz., the strongest spirits of wine 3 pints, ground glass as before.

IV. Mastic 2 oz., sandarac 8 oz., gum elemi 1 oz., Strasburg turpentine 4 oz., strong spirits of wine 1 quart.

V. *Brown hard*.—Seed-lac and yellow rosin, of each $1\frac{1}{2}$ lb., spirits of wine 2 gallons.

VI. Gum sandarac 3 lbs., shell-lac 2 lbs., rectified spirits of wine 2 gallons, add 1 quart of turpentine varnish.

VII. Sandarac 4 oz., seed-lac 2 oz., gum elemi 1 oz., spirits of wine 1 quart; dissolve these first, then add 2 oz. of Venice, Strasburg, or Chio turpentine. (See *Sandarac, Spirit, &c.*)

HARNESS MAKER'S JET.

Take 4 oz. best glue, $1\frac{1}{2}$ pint good vinegar, 2 oz. best gum Arabic, $\frac{1}{2}$ pint good black ink, 2 drams best isinglass. Break the glue in pieces, put it in a basin, and pour over it about a pint of the vinegar; let it stand until it becomes soft. Put the gum in another basin, (or some other convenient vessel,) with the ink, till it is perfectly dissolved; melt the isinglass in as much water as will cover it, which may be easily done by placing the cup containing it on the hob, about an hour before you want to use it. To mix them, pour the remaining vinegar with the softened glue into a saucepan upon a gentle fire, stirring it till it is perfectly dissolved, that it may not burn to the bottom, being careful not to let it reach the boiling point; about 180 Fahr. is the best heat. Next add the gum, let it arrive at about the same heat again; and add the isinglass. Take it from the fire, and pour it off for use. Unless the above method of mixing the ingredients is attended to, the polish will not have that brilliancy it ought to have, if it is not entirely spoiled. To use it, put as much as is required in a saucer, give it sufficient heat to make it fluid, and apply a thin coat with a piece of dry sponge; if the article is dried quickly, either in the sun or by the fire, it will have the better polish. This answers equally well for boots or shoes.

HARNESS PASTE, WATER-PROOF.

Put into a pipkin 2 oz. of black rosin, place it on a gentle fire; when melted, add 3 oz. of bees'-wax. When this is melted, take it from the fire, add $\frac{1}{2}$ oz. of fine lamp black, and $\frac{1}{2}$ dram of Prussian blue in fine powder. Stir them so as to be perfectly mixed, then add sufficient spirits of turpentine to form a thin paste; let it cool. To use it, apply a coat, with a piece of linen rag, pretty evenly all over the harness; then take a soft polishing brush, and just brush it over so as to obtain a bright surface.

HARTSHORN, BURNT.

Place pieces of stag's horns in a crucible or in the fire, and burn them till perfectly white and brittle. When sufficiently calcined, grind and pound them into a fine powder, which must be sifted for use.

The horns of the deer tribe possess no peculiar virtue, so that mutton bones are usually burnt instead. This powder is administered to rickety children, in doses of from 10 grains to $\frac{1}{2}$ a drachm, two or three times a day.

HARTSHORN DRINK.

Boil together, burnt horns 2 oz., gum Arabic 1 oz., water 3 pints, until they are reduced to 2 pints. This, when strained and sweetened, is a demulcent, mucilaginous, nourishing drink, good in coughs, &c.

HARTSHORN SHAVINGS AND JELLY.

Bought at the ivory turner's and cutlers, and being boiled, they form a glutinous and very nourishing jelly for invalids. The jelly is also used as a stiffening material for artificial flowers, straw bonnets, &c. instead of isinglass or gum.

The shavings are often used as fire-place ornaments, and also small pieces stamped with figures of women, &c., are sold under the name of "Chinese sensitive leaf." They coil up when put upon a warm hand.

HARTSHORN, SPIRIT OF.

Various animal substances, when distilled, yield ammonia, and as horns were chiefly used for this purpose, ammonia in a liquid state, that is to say, water impregnated with ammoniacal gas, is often called spirits of hartshorn. It is made by dissolving the sesqui-carbonate of ammonia (smelling salts,) made at the gas works, in water, so as to have a solution of the specific gravity of 1.060, or if wanted exceedingly strong, ammoniacal gas is passed through the solution.

HATFIELD'S TINCTURE FOR THE GOUT.

Dissolve 2 drachms each of soap and gum guaiacum in $1\frac{1}{2}$ pints of spirit of wine; let it be frequently shaken up, and the gum and soap cut into small pieces. The solution will be quite transparent.

HATS, TO DYE.

Make a bath with 9 lbs. of logwood, $\frac{3}{4}$ lbs. of copperas, and $7\frac{1}{2}$ oz. of verdigris. Extract the color of these by boiling for an hour, let the liquor cool to about 180°, then immerse the hats, let them remain in half an hour, taking them out, however, every few minutes to air, and taking care that the heat does not increase, lest it should remelt the stiffening varnish. When dyed enough, lay the hats out in the sun or air for three or four hours, that they may have the power of imbibing oxygen, and thereby increasing the depth of color. Lastly, let the hats be washed in a large quantity of pure water. This will dye 9 hats; the allowance of logwood for each hat is 1 lb., other ingredients in proportion.

HATS, STIFFENING FOR.

I. *Alkaline*.—Take 7 lbs. of common shell lac, 1 lb. of amber rosin, 4 oz. of gum *thus*, 4 oz. of gum mastic, 6 oz. of borax, and $\frac{1}{2}$ lb. of copal varnish. The borax is first dissolved in warm water, about a gallon; put this liquor into a copper pan, together with the shell lac, resin *thus*, and mastic. Allow this to boil, adding more water, if necessary; when all the resins are dissolved, pour into it $\frac{1}{2}$ a pint of wood naphtha and the varnish. Stir all well together, and strain, while hot, through a sieve. This is to be used hot, the hat bodies being first washed in hot potash-water to remove any acid, and which would precipitate the gums, and then perfectly dried in a stove before the stiffening is applied. When the stiffening is dry, steep it for all night in water, to which a small quantity of sulphuric acid has been added.

II. *Spirit stiffening*.—Dissolve in 1 gallon of spirits of wine or wood naphtha, 7 lbs. of fine orange shell lac, 2 lbs. of gum sandarac, 4 oz. of gum mastic, $\frac{1}{2}$ lb. of amber rosin, to which add 1 pint of copal varnish.

HAY STACKS, TO PREVENT TAKING FIRE.

Where there is any reason to fear that the hay which is intended to be housed or stacked is not sufficiently dry, let a few handfuls of common salt be scattered between each layer. This, by absorbing the humidity of the hay, not only prevents the fermentation, and consequent inflammation of it, but adds a taste to it, which stimulates the appetites of cattle, and preserves them from many diseases.

HEADACHE.

This very common disorder proceeds from various causes, and according to these it must be treated. Most frequently it is not a disorder of itself, but symptomatic of indigestion, excess of bile, nervousness, &c. Removing then the cause cures the headache, thus, mild aperients are often serviceable. If of a nervous character, tonics are useful, such as gentian, bark, hops, camphor, &c. Headache may besides arise from over oppression of the blood-vessels of the head, fullness of blood, &c. The best advice is, to keep the head cool and the feet warm, to have recourse to aperient medicines often, and if obstinate or long-continued, blood-letting by the lancet in the arm, or by cupping between the shoulders, assisted by blisters behind the ears, is sure to give relief. Nervous headaches are often cured by stimulants, such as snuff, smelling salts, aromatic vinegar, &c., and as often by rest and quiet, by 20 or 30 drops of laudanum taken in a little water, and by avoiding light.

HEADING FOR BEER.

It is not well known upon what principle, but the fact is certain, that sulphate of iron (green copperas) added to beer makes it carry a head, or froth, though it be weak.

The stuff, sold under the name of heading, consists of a mixture of alum and sulphate of iron in equal parts.

HEALING POULTICE FOR CATTLE.

Mix up the whites of eggs with wheat-flour to a proper consistence; it soon dries on the wound, and shields it from the air.

HEARTBURN.

This complaint is not in any way connected with the heart, but with the upper orifice of the stomach and the passages above it. It is attended with a sense of heat, and extreme tightness and oppression of the chest. It arises from various causes, from wind, bile, acidity, acrid or indigestible food, fermented liquors, &c. The following remedies seldom fail to give relief, even in the most obstinate cases:—Tonic bitters, such as cardamoms, gentian, &c., are useful to restore tone to the stomach, and, if overloaded, a gentle emetic may often be given with advantage.

I. Mix together 3 drachms of magnesia, 1 scruple of rhubarb in powder, 1 oz. of cinnamon water, $\frac{1}{2}$ drachm of spirit of lavender, and 4 oz. of distilled water. Three table-spoonsful may be taken three times a day.

II. Take of magnesia 2 scruples, rhubarb in powder 5 grains, nutmeg, grated fine, 3 grains. This powder is to be taken morning and evening.

III. Mix together 12 grains of prepared chalk, $\frac{1}{2}$ oz. of peppermint water, 1 oz. of pure water, 2 drachms of spirit of pimento, and 12 drops of tincture of opium. This draught is to be taken three times a day.

IV. In case of costiveness, gentle laxatives combined with carminatives are to be administered, until the cause is entirely removed. The following are good preparations:—Take of confection of senna 2 oz., jalap in powder 2 drachms, compound powder of cinnamon 20 grains, cream of tartar 1 drachm, and syrup of ginger, as much as will form an electuary; of which the bulk of a walnut is to be taken every night on going to bed.

V. Take of rhubarb in powder and socotrine aloes, each 1 drachm, compound powder of cinnamon 20 grains, hard Spanish soap $\frac{1}{2}$ drachm, and common syrup, in sufficient quantity to make 50 pills; of which let 2 be taken every night, until a healthy action of the stomach is restored.

HEARTBURN LOZENGES.

Prepared chalk 4 oz., prepared crab's claws 2 oz., Armenian bole 1 oz., nutmegs 1 scruple, sugar 3 oz., water sufficient.

HELLEBORE, EXTRACT OF.

Take of black hellebore 1 lb., carbonate of potass 4 oz., proof spirit and white wine, of each 3 pints. Digest for twelve hours, then strain and evaporate.

HELLEBORE, INFUSION OF.

Take of the fresh leaves of bear's-foot, (*helleborus foetidus*), or $\frac{1}{2}$ oz. of the dried leaves, boiling water $\frac{1}{2}$ pint. Pour the water on the leaves, and let it stand an hour. Half a wine-glassful of this, or of the tincture of bear's-foot, is often given to children fasting in the morning, to kill intestinal worms. It is a remedy however that requires caution.

HELLEBORE OINTMENT.

I. Powdered white hellebore 2 oz., lard 8 oz., oil of lemons 20 drops. This is very poisonous, and should not be used frequently. It is applied to cure ring-worm, and to kill the insects in the heads of children.

II. White hellebore 1 oz., sal ammoniac 4 drachms, lard 8 oz. Mix together.

HELLEBORE, TINCTURE OF.

I. Black hellebore 5 oz., proof spirits 1 quart, digest for fourteen days and filter. Dose $\frac{1}{2}$ a drachm.

II. White hellebore 4 oz., proof spirits to 1 drachm, or sherry wine 1 pint. Digest for a day or two and filter. Dose 10 drops two or three times a day in gout and rheumatism.

It will be observed that the black hellebore and white hellebore are very different families of plants, although bearing the same generic name. The black hellebore is in Latin, *helleborus niger*, a dwarf plant blossoming in mid-winter, and therefore called the Christmas rose. The white hellebore is, *veratrum album*, a tall plant blossoming in the summer.

HELMONT'S ELIXIR OF PROPRIETY.

Socotrine aloes, saffron and myrrh of each 1 oz., sal ammoniac 6 drachms, prepared kali 8 oz., white wine 2 lbs.—digest for seven days. It is stomachic in doses of 1 to 3 drachms, take two or three times a day. In larger doses it is purgative.

HEMET'S DENTIFRICE.

Mix 6 oz. of cuttle fish bone in powder, 1 oz. of bitartrate of potass, and 1 oz. of Florentine orrice root in powder.

HEMLOCK, EXTRACT OF.

Take the fresh leaves of hemlock, bruise them in a marble mortar with a little water, squeeze out the juice and evaporate it to the consistence required. The plant should be gathered when coming into flower.

It should not be evaporated by heat, but by a current of air, if possible; 1 cwt. of hemlock leaves yields about 4 lbs. of extract. It is a very dangerous drug in inexperienced hands; it is used as an alterative in some few obstinate diseases in doses of from 2 to 20 grains.

HEMLOCK, INFUSION OF.

Dried leaves of hemlock and coriander seed each 2 drachms, boiling water $\frac{1}{2}$ a pint, infuse for two hours and filter. This is seldom used alone, but combined with the acetate of ammonia, tincture of henbane, or syrup of poppies, is useful in some pulmonary disorders as an anodyne.

HEMLOCK OINTMENT.

Fresh leaves of hemlock and lard equal parts. Boil till crisp and strain with pressure through linen. Used as an application to cancer, piles, ulcers, &c. as an anodyne.

HEMLOCK PILLS.

Extract of hemlock 5 drachms, ipecacuanha 1 drachm, from 5 to 10 grains may be taken two or three times a day in cough, bronchitis, and other diseases of the same kind.

HEMLOCK, TINCTURE OF.

I. Dried hemlock leaves 5 oz., cardamom seeds 1 oz., proof spirits 1 quart. Digest for fourteen days.

II. Fresh leaves 12 oz., express the juice, and soak the rest in tincture of cardamom $10\frac{1}{2}$ oz. with rectified spirit $1\frac{1}{2}$ pints. Mix the liquids and filter. The dose is from 20 to 60 drops, beginning at 20 and increasing a drop or two daily. This has the same properties as opium.

HENBANE, EXTRACT OF.

This is made in the same manner as the extract of hemlock, 1 cwt. of leaves yielding from 4 to 5 lbs. of extract: it is narcotic and poisonous, and is used as an alterative and anodyne in the place of opium. Dose from 2 to 20 grains.

HENBANE OINTMENT.

Take equal weights of henbane leaves and lard, keep them on the fire till the leaves are crisp, then take them out and strain the lard, or to make them stronger pound the leaves when taken out to a complete pulp and mix with the lard again; used as an anodyne or sedative to painful swellings and sores.

HENBANE, TINCTURE OF.

Dried henbane leaves 5 oz., proof spirits 1 quart, or to every lb. of the dried leaves, add 2 quarts of spirits of wine, and after standing for two or three days add 2 quarts of water.

HENRY'S AMMONIA WATER.

Dissolve subcarbonate of ammonia in water so that the specific gravity may be 1.046, of the same saturating power as Henry's soda water.

HENRY'S AROMATIC VINEGAR.

I. Put into a phial 1 oz. of the acetate of potass, with a few drops of any fragrant oil, and 20 drops of the oil of vitriol.

II. Glacial acetic acid 1 lb., oil of cloves 1 drachm, oil of rosemary 2 scruples, oil of bergamot and cinnamon each $\frac{1}{2}$ a drachm, oil of pimento 24 drops, oil of lavender 1 scruple, neroli 10 drops, camphor 1 oz., alcohol $\frac{1}{2}$ oz., mix them together.

HENRY'S MAGNESIA.

Dissolve 56 lbs. of Epsom salts in water, and precipitate with subcarbonate of potass

dissolved in water, wash the sediment well and finish the washing with rose water. This subcarbonate of magnesia is made up while drying either into large cubes, or in small dice, or is powdered by being rubbed through a sieve. It mixes well with milk but not with water. It is not so good as calcined magnesia, as it is apt to occasion flatulence, it may be calcined by keeping it red hot for two hours.

HENRY'S POTASS WATER.

Dissolve the subcarbonate of potass in water till of the specific gravity of 1.248. This saturates an equal weight of sulphuric acid of gravity 1.135, or of nitric acid specific gravity 1.143, or of muriatic acid specific gravity 1.074. Used in assaying mineral waters.

HENRY'S SODA WATER.

Dissolve subcarbonate of soda in water, so that the solution may have the specific gravity of 1.11; or else dissolve pure soda in water to have the specific gravity of 1.07. Both have the same saturating power which is half that of Henry's potass water.

HERPES.

This is a disorder not uncommon among children, particularly from the ages of four to fourteen. It appears by a redness or the formation of little watery bladders over an extensive surface of the skin; it chiefly attacks the legs, often making the whole of one or both of them one uniform mass of red irritated appearance, the skin seeming as if removed from the part. The discharge is watery and constant; still the disease is attended with neither pain nor danger. The affected limbs should be bathed in salt and water frequently, they may then after being washed with a soft cloth have a rag to cover them, wetted with goulard water or smeared with zinc ointment. A still better application is to dust the part over with a dry powder of wheat flour mixed with one-fourth part of the white oxyde of zinc. The internal remedies may be very gentle doses of mercury two or three times a day; or the patient may take two or three times a day 5 or 6 drops of sulphuric acid in half a glass of rose water sweetened with sugar. The following are also good applications, but with the best of them most skilfully applied, Herpes is often very obstinate and cannot be cured till the summer has passed, that being the most prevalent season for it.

Ointments.—(a) Take oxyde of zinc $\frac{1}{2}$ a drachm, prepared lard 1 oz.—(b) Ointment of the white precipitate of mercury.—(c) Ointment of the nitrate of mercury.—(d) Take bitter almonds blanched 2 oz., bruise them in a mortar, then add gradually distilled water 1 pint, strain and add oxymuriate of mercury 12 grains.

HERRENSCHUAND'S SPECIFIC FOR WORMS.

Mix together 10 grains of gamboge, and salt of tartar 20 grains. A 3 grain pill is quite enough for a child, or 5 grains ditto for an adult. It is a drastic and dangerous medicine if taken in excess.

HICCOUGH OR HICCUP.

This spasm is caused by flatulency, indigestion, and acidity. It may be relieved generally by a sudden fright or surprise, or any sudden application of cold, also by swallowing 2 or 3 mouthfulls of cold water, by eating a small piece of ice, taking a pinch of snuff, or any thing that excites coughing.

HIDES OR SKINS, TO TAN.

I. There are many vegetable substances which possess the tanning principle; but the chief are the oak, alder, valonea, larch, willow, and Peruvian barks. The latter, from its high value, is only used in medicine; oak bark, from its plentiful supply and the strength of its astringent juices, may be properly termed the staple article of the tanning business; this bark is ground into coarse shreds in a mill, from which a decoction or liquor is made, called ooze, into which the hides or skins, after being properly cleared of their extraneous filth and juicy redundancies, are immersed, and first subjected to the action of a weak decoction of tan, in which stage they remain, according to their strength and size, from a fortnight to several weeks, during which they are frequently handled, to create a more kindly incorporation between the vegetable and animal juices, from thence they are removed to a vat containing a stronger infusion of bark, where they remain a considerable time, until they have absorbed all the tan; they are then immersed in a still stronger infusion of this liquor, and frequently taken out to be handled as before; if it is perceived that the liquor does not operate upon them with sufficient effect, a plentiful sprinkle of dry bark is thrown betwixt every layer of hides, and as soon as the outside and internal parts assume a good brown color, they may be said to be converted into leather or tanned.

II. Take 1 cwt. of the small limbs or branches of the oak, $\frac{3}{4}$ cwt. of oak saw-dust, newly cut, and $\frac{1}{4}$ cwt. of the smaller root; the branches and roots should be chopped up into chips. Boil these together in 80 gallons of water, till reduced to 50 or 60 gallons. Draw off the decoction, and set it aside for use. To the materials left in the copper, add 60 gallons of water and boil again, till reduced to from 30 to 35 gallons. The liquor produced by this second boiling is to be employed in the first stage of tanning hides, and afterwards the liquor produced by the first boiling is to be employed. The hides having undergone the above processes, add as much oak bark, or tan liquor, or both,

to the respective decoctions, as is necessary to complete the tanning. The quantity of each will depend upon the strength of the first decoctions, which strength will vary with the degree of boiling, the age and size of the tree, and other circumstances. (See *Leather, Skins, &c.*)

HIERA PICRA.

Take of socotrine aloes 1 lb., white cancello 3 oz. Powder them separately, and then mix them. Dose from 10 grains to a scruple at bed-time.

The spicy canella acts as a corrective to the aloes; but the compound is more adapted to be formed into pills, than to be used in the state of powder. It is a convenient medicine for costive habits, not subject to the piles.

HIGGINS'S, DR., PATENT CEMENT, OR STUCCO.

Take 56 lbs. of pure coarse sand, 42 lbs. of pure fine sand; mix them together, and moisten them thoroughly with lime-water; to the wetted sand add 14 lbs. of pure fresh burnt lime, and, while beating them up together, 14 lbs. of bone-ash; the quicker and more perfectly these materials are beaten together, and the sooner used, the better the cement will be. Fine sand alone, or coarse sand alone, will do for some works; but the finer the sand, the more lime must be used.

HILL'S OIL OF VITRIOL.

The native sulphuret of iron, or martial pyrites, is distilled, and oxygen gas, made from the black oxyde of manganese, is projected into the retort at the same time; the sulphurous acid arising from the distillation changes to the sulphuric by the absorption of the oxygen.

HIPPOCRAS.

This is prepared by macerating for seven days 6 pints each of Madeira and Canary, with 1 oz. of cinnamon, 2 drams of canella, and $\frac{1}{2}$ dram each of cloves, nutmeg, mace, ginger, and cardamoms. Strain, and add $\frac{1}{4}$ lb. of refined sugar.

HOARSENESS.

Take 1 drachm of freshly-scraped horse-radish root, to be infused with 4 oz. of water, in a close vessel for two hours, and made into a syrup with double its quantity of vinegar, it is an improved remedy for hoarseness; a tea-spoonful has often proved effectual; a few tea-spoonfuls, it is said, have never been known to fail in removing hoarseness.

HOFFMAN'S PILLS.

Corrosive-sublimate and muriate of ammonia, of each 5 grains, water $\frac{1}{2}$ drachm; rub them together till dissolved, then add honey $\frac{1}{4}$ drachm, liquorice powder 2 drachms. Mix these together, and divide into 40 pills, each of which will contain $\frac{1}{2}$ grain of the corrosive sublimate.

HOLLANDS GIN, HOW PREPARED.

I. Gin is prepared in Holland in a manner not allowed by our laws, as the manufacture instead of the process being necessarily divided as with us, between the malt distiller and the rectifier, is conducted by one person, and often by one operation, the ingredients to flavor the article being added even in the commencement of the process, and sometimes fermented with the grain. In the following process it is seen that they are added in the second operation. The Dutch take first, 2 quarters of malt, ground considerably finer than distillers' barley, and 3 quarters of rye-meal, or more frequently of 10 quarters of rye and 3 quarters of malt-meal; always of mixtures of these two. The 10 quarters are first mashed, with the least quantity of cold water it is possible to blend it with, and when uniformly incorporated, as much boiling water is added as forms it into a thin batter; it is then put into one, two, or more casks, or gyle tuns, with a much less quantity of yeast than is usually employed by our distillers. Generally, on the third day, the Dutch distillers add the malt or rye-meal, prepared in a similar manner, but not before it comes to the temperature of the fermenting wash; at the same time adding as much yeast as at first.

The principle secret in the management of the mashing part of the business is first thoroughly mixing the malt with the cold water, and in subsequently adding the due proportion of boiling water, that it may still remain sufficiently diluted after the addition of the fine meal; also in well rousing all together in the back, that the wash may be dilute enough for distilling, without endangering its burning to the bottom.

II. To every 20 gallons of spirit of the second extraction about the strength of proof, take of juniper berries 3 lbs., oil of juniper 2 oz., and distil with a slow fire, until the feints begin to rise, then charge the receiving can; this produces the best Rotterdam gin.

An inferior kind is made with a still less proportion of berries, sweet fennel seed, and Strasburg turpentine, without a drop of oil of juniper; and a better sort, but inferior to the Rotterdam, is made at Weesoppe. The distillers' wash at Scheedam and Rotterdam, is lighter than at Weesoppe. Strasburg turpentine is of a yellowish-brown color, a very fragrant agreeable smell, and the least acrid of the turpentines. The juniper-berries are so cheap in Holland, that they must have other reasons than mere cheapness for being so much more sparing of their consumption than our distillers.

HOLY THISTLE, INFUSION OF.

Boil 2 oz. of the leaves of the variegated thistle, or carduus benedictus, in a pint of water for a few minutes, let it stand for two or three hours, and then strain. This is a very good tonic medicine, particularly in disorders of the stomach.

HOMBERG'S PYROPHORUS.

Mix equal weights of alum and brown sugar, and stir over the fire till quite dry, put in a glass bottle and heat to redness,

without exposure to the air; on exposure to the air it takes fire spontaneously.

HONEY, TO CHOOSE.

Carefully remove the honey from the combs, straining it by wringing it through a coarse cloth, to remove any remains of bees or wax, this if produced without heat or much pressure is of a yellowish white color and delicate flavor, and is called virgin honey; if the comb be heated and pressed it produces common honey. It is often adulterated with flour, treacle, and syrup. To detect the sugar in the syrup, the honey must be gently boiled until very thick; upon cooling, grains of transparent sugar will be felt upon taking a little between the finger and thumb, or if there be much sugar present it will become hard like candy. Treacle may be detected by the smell, taste, and color. Flour or starch may be known by the sediment, when a little is dissolved in cold water. The sediment, if starch, becomes of a blue color when a little iodine is mixed with it.

HONEY, TO CLARIFY.

I. Melt the honey in an earthenware pipkin or pan, by a very gentle and regular heat, skim off what rises to the surface, let it thus simmer for half an hour, then take it from the fire, let it get nearly cold and pour off the clear portion.

A little lime water added at first and boiled with it will be an improvement, as it neutralizes the acid naturally contained in honey and which is apt to occasion griping.

II. Dissolve the honey in an equal weight of water, that is 1 pint of water to every pound of honey; boil it for a few minutes, then remove it from the fire, let it cool: in the meantime prepare a filter of two or three folds of coarse linen, upon which is laid about an inch in depth of fine sand, or a glass funnel in the stem of which a piece of sponge is placed, and having an inch of fine washed sand laid upon it; or the same quantity of finely pulverized animal charcoal will succeed perfectly, the honey filtered through this will be clean and very liquid; it is then to be boiled down in an earthenware pan to a proper consistence; an oven is very good to boil any thing of this description in, as it is not so liable to be overheated.

III. Dissolve the honey in hot water, beat up with it the white of an egg to every 2 or 3 lbs., let it cool and settle, and filter off the clear part; then boil to a proper consistence.

IV. Dissolve the honey in water, add 1 lb. each of animal charcoal and of chalk to every 20 lbs. of honey; let it boil for a quarter of an hour, skim off the top, let it cool, then filter and evaporate by boiling to a proper consistence.

Honey and syrups should always be boiled in earthen vessels.

HONEY, BALSAM OF.

Take of balsam of tolu 2 oz., gum storax 2 drachms, opium 2 do., honey 8 oz., dissolve these in a quart of spirits of wine. This balsam is useful in allaying the irritation of cough. The dose is 1 to 2 teaspoonsful in a little tea or warm water.

HONEY CERATE.

Melt together lead plaister and bees' wax of each 4 oz., olive oil 6 oz.; when melted add 6 oz. of honey. This is a very soothing application to wounds.

HONEY WATER.

Prepared with 1 gallon of Cognac brandy, 1 lb. each of virgin honey and coriander seeds, 1½ oz. of cloves, 1 oz. each of nutmegs, benzoin, and storax, 4 drachms of vanilla, and the rind of 3 large lemons. Digest for two days, and distil with a gentle heat. Add to every gallon of the water thus procured, 1½ pints each of orange-flower water, rose-water, and 5 grains each of musk and ambergris: digest again for two or three days in a gentle heat, filter and keep in a well-stopped bottle. Several other receipts are in use, but they do not differ much from this. Imitated by mixing fragrant essences, coloring them with saffron, and thickening them with honey; or take 2 lbs. each of rose water and of orange-flower water, ½ oz. of oil of cloves, 2 oz. of the essence of bergamot, ½ oz. of oil of lavender, 16 grains of musk, 1 gallon of spirits of wine, and color with saffron.

HONEY-WATER FOR THE HAIR.

Honey 4 lbs., very dry sand 2 lbs., put into a retort that will hold five times as much, distil with a very gentle heat, and a yellowish acid water will pass over, which has been recommended to promote the growth of hair.

HOOPER'S PILLS.

I. Green copperas and water each 8 oz., dissolve and add Barbadoes aloes 2½ lbs., white canella 6 oz., myrrh 2 oz., opoponax ½ oz.; make a mass, divide each drachm into 18 pills and put 40 into each box. This is a good purgative and is used frequently by females, hence often called *Hooper's Female Pills*.

II. Take 1½ lbs. of aloes, 2 oz. of myrrh, ½ lb. each of carbonate of iron and of sulphate of iron, add also a little canella bark and ivory black. Make into a mass, and divide into 4 grain pills.

HOOPING COUGH.

This distressing cough mostly attacks children and them but once in their lives. It is rarely fatal except with those who are very young, those who have weak and diseased lungs, and those who are of a plethoric habit, or gross and full of blood. The young infant falls beneath its attacks because it has

not strength to relieve itself of the phlegm which accumulates in the throat, in the child of weak lungs, it spreads from the throat to the bronchial tubes, the lungs, or the pleura, especially occasioning inflammation to the chest, and which is known by short and rapid breathing, while in the fat child it sometimes occasions a congestion of blood to the head, so that often the rupture of a small vessel occasions the blood to gush from the mouth and nose, or is diffused upon the brain and occasions death by apoplexy. The following remedies will seldom fail to cure after a week or two. In a severe case bleeding may sometimes be useful, to prevent inflammation of the internal membranes, or cupping between the neck and shoulders. Gentle antimonial emetics should be given repeatedly, because the symptoms are always relieved when the child vomits. The following remedies also are popular and efficacious.

I. Dissolve 1 scruple of salt of tartar in 1 pint of water, add 10 grains of cochineal finely powdered, sweeten this with sugar. Give an infant the fourth part of a table-spoonful four times a day. To a child two or three years old, half a spoonful; and to a child four years old or upwards, a spoonful. The relief will be immediate, and the cure, generally, in three or four weeks.

To the above may be added, as auxiliaries, a Burgundy pitch plaister on the pit of the stomach, a flannel waistcoat or shirt next to the skin, and a change of air when practicable. The diet should be light and easy of digestion, avoiding every thing of a fat and oily nature.

II. Take of ipecacuanha wine 2 drachms, syrup of white poppies 2 oz., prussic acid 15 drops, to be well mixed. The dose is from 1 to 2 tea-spoonful three or four times a day, either alone, or in barley water. It should be well shaken each time previous to its being poured out. The above prescription must be made up by an apothecary.

III. Take of sulphuret of potass, and tincture of fox-glove each 1 drachm, extract of liquorice root 2 drachms, almond emulsion 6 oz., gum Arabic powder 3 drachms—mix. A dessert-spoonful to be given to a child from three to six years of age; a table-spoonful from six to ten; two dessert-spoonful from ten to fifteen; and 2 table-spoonful from fifteen to twenty, three times a day.

IV. The most efficacious external application that can be employed as a preventive of this most distressing complaint is the plaister of the ammoniac gum, hemlock, and mercury, which is kept by most chemists. It should be spread on thin soft leather.

Embrocation.—Take of emetic tartar 2 drachms, boiling water 2 oz., tincture of cantharides 1 drachm, oil of wild thyme 3 drachms—mix. A dessert-spoonful to be rubbed upon the chest every night and morning.

A frequent change of air is exceedingly useful in whooping cough, particularly short voyages at sea; at the same time flannel is to be worn next the skin. Young children should lie with their heads and shoulders raised; and when the cough occurs, they ought to be placed on their feet and bent a little forward, to guard against suffocation. The diet should be light, and the drink warm and mucilaginous.

HOPS, TO CHOOSE.

Rub them between the fingers or the palm of the hand, and if good, a rich glutinous substance will be felt, with a fragrant smell, and a fine yellow dust will appear. The best color is a fine olive green, but if too green, and the seeds are small and shrivelled, they have been picked too soon and will be deficient in flavor. If of a dusty brown color, they were picked too late, and should not be chosen. When a year old, they are considered as losing one-fourth in strength. The best and dearest is the Farnham hop; East Kents are the next, but those of Sussex and Worcestershire are not so strong.

HOPS, EXTRACT OF

Wet hops with water, pound them in a mortar, press out the water from them and evaporate to the consistence of treacle. This is a fine tonic and anodyne bitter, administered in doses of 2 to 20 grains. It is also used to flavor pale ale, &c. The hops being weighed when dry yield much extract, nearly one-third of their weight.

HOPS, INFUSION OF.

Hops 6 oz. boiling water 1 pint, soak for four hours. Dose $\frac{1}{2}$ a wine glassful: like Bass's or East India ale this is a good tonic.

HOPS, TINCTURE OF.

Hops 6 oz., proof spirit 1 quart; soak for fourteen days. This is anodyne, and narcotic like opium, but milder in its action.

HOREHOUND, TO CANDY.

Boil it in water until the juice is extracted, then boil a sufficient quantity of sugar to a great height,* and add the juice to it. Stir it with a spoon against the sides of the sugar pan, till it begins to grow thick, then pour it out into a paper case that is dusted with fine sugar, and cut it into squares; dry the horehound, and put it into the sugar finely powdered and sifted.

* Boiling sugar to a great height signifies that it is to be boiled with a little water, so long that the water has evaporated and the sugar has become quite brittle when cold, which may be known by taking a little out on a piece of stick.

HOREHOUND, INFUSION OF.

Boil a handful of horehound leaves in a pint of water for a quarter of an hour, then let it stand to cool, afterwards filter. Half a tea-cupful sweetened with honey is a good remedy for a cough. It is also used in making candied horehound.

HOREHOUND, SYRUP OF.

Horehound leaves 1 handful, let them soak in 1 pint of boiling water for three or four hours, then strain off the liquor, and add sugar to form a syrup.

HORN, TO DYE.

I. *Black*.—(a) Is performed by steeping brass in aquafortis till it is turned green; with this the horn is to be washed once or twice, and then put into a warm decoction of logwood and water.

(b) Horns receive a deep black stain from solution of nitrate of silver (lunar caustic.) This is to be dissolved in water and diluted to such a degree as not sensibly to corrode the surface. It may be applied at two or three times, and an interval of some hours between each application. Exposing the article to the sun much hastens the blackening of the horn, which does not show at first any difference of color.

II. *Green*.—Boil the horn with alum water, then with verdigris, ammoniac, and white wine vinegar, keeping it hot therein, till sufficiently green.

III. *Red*.—First dye it green, then boil it in a strong lime water (strained), putting 3 oz. of Brazil wood in chips to every pint of lime water.

IV. *Blue*.—First boil the horns in alum water and then soak them in a solution of blue stone, or boil them in a solution of the sulphate of indigo.

HORN, TO STAIN LIKE TORTOISE-SHELL.

I. The horn to be dyed must be first pressed into proper plates, scales, or other flat form, and the following mixture prepared:—Take of quicklime 2 parts, and litharge 1 part, temper them together to the consistence of a soft paste, with soap-ley. Put this paste over all the parts of the horn, except such as are proper to be left transparent, in order to give it a near resemblance to the tortoise-shell. The horn must remain in this manner, covered with the paste, till it is thoroughly dry; when, the paste being brushed off, the horn will be found partly opaque and partly transparent, in the manner of tortoise-shell, and when put over a foil will be scarcely distinguishable from it. It requires some degree of fancy and judgment to dispose of the paste in such a manner as to form a variety of transparent parts, of different magnitudes and figures to look like the effect of nature; and it will be an improvement to add semi-transparent parts, which may be done by mixing whiting with some of the paste, to weaken its operation in particular places, by which spots of a reddish brown will be produced, which, if properly interspersed, especially on the edges of the dark parts, will greatly increase the beauty of the work, and its similitude to real tortoise-shell.

II. Take an equal quantity of quick-lime and red lead, and mix it up with strong soap lees. Lay it on the horn with a small brush, like the mottle in tortoise-shell. When dry, repeat the same two or three times.

HORSE-HAIR, TO CURL.

Let the horse-hair be spun into a rough, but hard twisted rope, it is twisted so hard that it coils up into a close knot, when loosened at the ends, the ends of the rope being tied previously to unfastening them from the twisting wheel. In this hard twisted state, the hair is put into a saucepan with water, where it is boiled for an hour; upon being taken out, and squeezing the water out of it by a further twisting, it is fastened to a stick, or the two ends are tied together, and it is then baked until quite dry and crisp. Upon being taken out, and the rope pulled to pieces, the hairs will retain their curly form, and as such, are fit for chair-stuffing.

HORSE-HAIR, TO DYE.

Forty pounds of the hair of the tail of horses are steeped in lime-water during twelve hours; then a bath is made of 20 lbs. of logwood, kept boiling for three hours, after which the fire is withdrawn, and 10 oz. of copperas are put in. When dissolved, the hair, after having been washed from the lime-water, is put into the bath, where it remains for twenty-four hours. It now only wants washing in pure water, and drying, to complete the operation.

HORSE-RADISH, GARGLE OF.

Compound spirit of horse-radish 1 fluid oz. honey 2 oz., water 4 oz.; mix. A good gargle for scurvy of the mouth and throat.

HORSE-RADISH, INFUSION OF.

I. Horse-radish, sliced, 1½ oz., boiling water 1 pint. Let it soak for an hour. This is anti-scorbutic, diuretic, and stomachic, in doses of 3 or 4 table-spoonsful taken every three or four hours.

II. Sliced horse-radish and bruised mustard seed, each 1 oz., compound spirit of horse-radish 1 oz., boiling water 1 pint. Infuse the root and the seeds in the water for two hours, strain, cool, and add the spirit. Dose from 1 to 3 oz., given frequently in dropsies, paralysis, &c.

HORSE-RADISH POWDER.

Any time from the beginning of November to Christmas, cut horse-radish root in thin slices, dry it very gradually in an oven or before the fire. When dry enough, powder it, and put it in a phial for use. With the care that can be taken in this preparation it is far inferior to the fresh root.

HORSE-RADISH, SPIRIT OF.

Sliced horse-radish root and dried orange peel, of each 20 oz., bruised nutmegs 5 drachms. proof spirit 1 gallon, water 1 quart.

Distil off 1 gallon, or, leaving out the water, make the tincture or spirit without distillation, by soaking the ingredients in the spirit for a fortnight, and then filtering.

HORSE-RADISH VINEGAR.

Scrape up a large stick of horse-radish root, add to it 1 oz. of eschallot, also scraped or minced up, and 1 drachm of cayenne; pour on it, in a bottle, a quart of vinegar, and let it stand for a week; add spices at pleasure.

HORSE SPICE.

I. Raspings or saw-dust of guaiacum wood (*lignum vitæ*) 1 lb., ginger, allspice, and seeds of cumin 2 lbs., turmeric root and canella alba 1 lb.

II. Turmeric root and cumin seed, of each 5 lbs., ginger 2½ lbs.

III. Cayenne pepper 2 oz., beans 45 lbs., mustard seed 45 lbs., cumin seed 15 lbs., powdered caraway seeds 15 lbs., powdered turmeric root 9 lbs., laurel berries 3 lbs., lamp black 1 lb.

HOT CEMENT.

Take ½ lb. of bees'-wax, 1 oz. of fine brick-dust, 1 oz. of chalk-dust or powdered chalk; sift the brick-dust and chalk through a fine hair sieve, (the brick and chalk may be beat in a mortar before it is sifted;) let all these be boiled together in a pipkin or earthen vessel for about a quarter of an hour, keeping it continually stirring with a piece of iron or a lath; then take it off, and let it stand for four or five minutes, and it is fit for use. The bricks which are to be cemented with this kind of cement must be made hot by the fire before the cement is spread upon them, and after that be rubbed to and fro, one upon another, after the same manner joiners do when they glue two boards together.

HOUSE PAINTING, COLORS FOR.

Stone color.—White lead, with a little burnt or raw umber, and yellow ochre.

Gray stone color.—White lead and a little black.

Drab.—White lead, with burnt umber and a little yellow ochre for a warm tint, and with raw umber, and a little black for a green tint.

Pearl color, or Pearl grey.—White lead with black, and a little Prussian blue.

Sky blue.—White lead, with Prussian blue.

French grey.—White lead, with Prussian blue, and a little lake. These last, used in various proportions, will make purples and lilacs of all shades.

Fawn color.—White lead, with stone ochre, and a little vermilion or burnt stone ochre.

Buff.—White lead and yellow ochre.

Cream color.—Same as the last, with more white.

Lemon color.—White lead, with chrome yellow.

Orange color.—Orange lead, or chrome yellow and vermilion.

Peach color.—White lead, with either vermilion, Indian red, purple brown, or burnt stone ochre.

Gold color.—Chrome yellow, with a little vermilion and white.

Violet color.—White lead, with vermilion, blue and black.

Sage green.—Prussian blue, raw umber, and yellow stone ochre, with a little white, and thinned with boiled oil and a little turpentine.

Olive green.—Raw umber, with Prussian blue, thinned as before.

Pea green.—White lead, with Brunswick green, or with Prussian blue and chrome yellow.

Brown.—Burnt umber, or vermilion and lamp black.

White.—White lead only, mixed with oil and turpentine, and a very small quantity of black or blue, to take off any yellowness of color arising from the oil.

Chocolate color.—Spanish brown, or Venetian red and black, thinned with boiled oil and a little turpentine.

Lead color.—White lead and black.

Plain opaque oak color.—White lead, with yellow ochre and burnt umber.

Plain opaque mahogany color.—Purple brown, or Venetian red, with a little black.

Black should be ground in boiled oil, and thinned with boiled oil and a little turpentine.

It will be obvious that the proportions of the colors above mentioned must be determined by the particular tone of color required.

HUILES ANTIQUES.

They are chiefly composed of oil of ben, or oil of hazel, which having no smell of its own, is ready to imbibe any other odour with which it may be combined. They are often, however, made with olive oil.

HUILE ANTIQUE A L'ORANGE.

With 1 lb. of oil of ben, mix 3 oz. of essential oil of orange, and put it into small bottles, well corked, with wax over them to preserve it from the air, and prevent the perfume of the orange oil from evaporating.

HUILE ANTIQUE A LA ROSE.

Procure a tin, or white iron box, about a foot square, opening by a grating on one side, and divided in the middle by a partition of white iron, drilled full of small holes, close to each other. Fold in four a cotton towel, soak it in oil of ben, and place it on the grating so as to exactly fit the box. Upon this cloth place rose-leaves, fresh gathered, leave them for about twenty-four hours, and then replace them with fresh rose-leaves. The cloth may then be removed, and the oil, now charged with the perfume, carefully expressed. This may be mixed with fresh oil of ben, and bottled for use.

HUILE ANTIQUE A LA TUBEROSE.

Mix the flowers with ground blanched bitter almonds, and then express the oil; or mix a pint of olive or almond oil with 30 drops of the essence of tuberosé flowers. In this way also several of the above *Huiles Antiques* can be prepared.

HUILE DE VENUS.

I. Flowers of the wild carrot 5 oz., spirits of wine 1 gallon, water 1 pint, soak for twenty-four hours, then distil 1 gallon and add an equal measure of syrup.

It may be made also without distillation, but the carrot flowers must then be steeped for a week. It is sometimes colored with cochineal; for the above quantity $\frac{1}{4}$ oz. may be steeped with the rest: this is a cordial not much used. It may be made as well by steeping the seeds of carrots in spirits or taking the water in which carrots are boiled.

HUILES LIQUEREUSES.

I. *De la rose*.—Rose-water and simple syrup.

II. *Des fleurs d'orange*.—Orange flower-water and simple syrup.

III. *De vanille*.—Spirits of wine and simple syrup, with the essence or tincture of vanilla to flavor.

These are used instead of sugar to flavor grog, &c. as are also sometimes the Crèmes, and more delicate cordials as Noyeau, Ratifié, &c.

HUNGARIAN LINIMENT.

Powdered cantharides and sliced garlic, of each 1 drachm, camphor, bruised mustard seed, and black pepper, of each 4 drachms, strong vinegar 6 oz., rectified spirit $\frac{3}{4}$ pint. Macerate for a week, and filter. This is a powerful stimulant and irritant.

HUNGARY WATER.

I. The original receipt for preparing this invaluable lotion is said to be written in letters of gold in the hand writing of Elizabeth, queen of Hungary. Take of spirits of wine, four times distilled, 3 parts, the tops and flowers of rosemary 2 parts. To be put together in a close-stopped vessel, and allowed to stand in a warm place, during fifty hours, then to be distilled in an alembic, and of this, once every week, 1 drachm to be taken in the morning, either in the food or drink, and every morning the face is to be washed with it, to produce clear complexion.

II. The French Hungary water is made wholly from a wine spirit, and from rosemary flowers alone, which about Montpellier (the place from whence this commodity comes,) grow in great plenty and perfection. The fragrance of these flowers is so great, as to render the waters made from them more excellent and valuable than any thing of the kind made in England.

III. Take 30 gallons of spirits of wine; put to them in a large still 6 large bunches of fine green rosemary, when the flowers are white and in full bloom, 1 lb. of lavender

flowers, and 4 oz. of true English oil of rosemary. The rosemary leaves and flowers must be stripped from all their wood and green twigs. When the whole has been in a state of digestion for twenty-four hours, distil as before, drawing off about 25 or 26 gallons, but no more. When distilled, stop it closely in a copper vessel, and keep it undisturbed for a month.

HUXHAM'S TINCTURE OF BARK.

Take of Peruvian bark, powdered, 2 oz., the peel of Seville oranges, dried, $1\frac{1}{2}$ oz., Virginian snake root, bruised, 3 drachms, saffron 1 drachm, cochineal, powdered, 2 scruples, proof spirit 20 oz. Digest for fourteen days, and strain. As a corroborant and stomachic it is given in doses of 2 or 3 drachms; but when employed for the cure of intermittent fevers it must be taken to a greater extent.

HYPOSULPHITE OF SODA.

Mix 1 lb. of finely-pulverized calcined carbonate of soda with 10 oz. of flowers of sulphur. Heat the mixture slowly, till the sulphur melts. Stir the fused mass, so as to expose all its parts freely to the atmosphere, whereby it passes from the state of a sulphuret to that of a hyposulphite. Dissolve in water, filter the solution, and boil it immediately with flowers of sulphur. On cooling, after being now filtered, it will deposit beautiful crystals of the hyposulphite.

We do not profess to insert receipts of a purely chemical nature, but have included this, because the hyposulphite of soda is a salt, chiefly and most advantageously used to fix the representations obtained by the Photogenic process, and of great use in the Daguerrotype.

HYSTERIC OR HYSTERIA.

This disorder puts on many different appearances. It always attacks persons of a nervous temperament, and at a nervous period of life, hence it is almost always confined to females, principally those who are unmarried or whose bodily constitution is weak and irritable. It is a spasmodic disorder and is often preceded or attended by other nervous and spasmodic symptoms. It occurs in fits, lasting generally but a few minutes, with violent involuntary action of sobbing, screaming, laughing, &c., during which time the patient is not aware of her condition, but recovers sensibility, with a feeling of great exhaustion and soreness. Other and very different symptoms are sometimes experienced, as fainting, hiccup, violent pain, vomiting, &c. accompanied mostly by a sense of suffocation, as if a ball were rising from the stomach to the throat and lodging there. These fits often arise from sudden emotions, such as surprise, joy, grief, &c. It is seldom or never fatal. The remedies are two-fold: first, to allay the immediate fit, and then to strengthen the

nervous system by tonic medicines, fresh air, and wholesome diet. The immediate fit may be relieved by the same treatment as fainting, that is, by sudden stimulants, as aromatic vinegar, burnt feathers, or spirits of hartshorn applied to the nostrils. While the system may be invigorated by the medicines in which assafoetida, valerian, ether, &c. are found the most efficacious.

i. Take mixture of assafoetida 6 oz., ammoniated tincture of valerian 2 drachms, spirits of sulphuric ether 1 drachm; of this mixture the patient may take two table spoonsful every four hours.

ii. Ammoniacal tincture of valerian 1 drachm, compound spirits of lavender 2 drachms, spirits of cinnamon 2 drachms, camphor mixture 6 oz. Mix them and let

the dose be two table spoonsful three or four times a day.

iii. Take cinnamon water $1\frac{1}{2}$ oz., tincture of castor 1 drachm, fetid spirits of ammonia 21 drops, spirits of sulphuric ether 30 drops. Mix for one draught, to be repeated every six hours.

iv. Fetid spirits of ammonia 30 drops in half a glass of water. The following is a good tonic medicine to be taken frequently by hysterical subjects:—

v. Extract of bark and powdered myrrh, of each 1 drachm, sulphate of iron $\frac{1}{2}$ drachm, oil of carraway 8 drops, syrup of ginger to make up into a pill mass, which may be cut up into 36 pills, of which two may be taken two or three times a day, washing them down with a little gentian or chamomile tea.

ICES.

The success of ices depends, first, upon the mixture itself, that it may be agreeable, and not likely to settle during the stillness of the process;—secondly, upon the method of changing it into ice, that the whole may be well congealed, and yet not formed into lumps, but when complete, to be perfectly smooth like butter. The vessels in which the liquid is to be frozen must be of thick metal, thus they are better of pewter than of tin, the latter, from its thinness, congealing that portion of the contents which touches the side so rapidly, that it forms into a hard crust, or into little balls like hailstones. This vessel must have a cover which fits tightly. The ice pail should be deep, and with a hole near the bottom, occasionally to let off the water arising from the melting of the ice. The process divides itself into the preparation of the icing pail, and the operation of freezing the contents of the vessel placed in it. Chemists are well aware that when bodies change from a solid to a liquid state cold is produced. Now when you add salt to snow or pounded ice, the salt first attracts water from the ice, and in fact dissolves it, that it may itself imbibe water, and be itself dissolved. Thus the ice and salt become a liquid together, and an intense cold arises; this is made use of to freeze any watery or milky liquid in contact with it. To prepare the pail, put into it about 6 lbs. of ice, or make it about half full, pound it well with a wooden mallet, and then add about one-third as much salt, stir it well together, and immediately put into it the

pewter vessel containing the liquid to be frozen, taking care that the vessel shall be well surrounded with the ice and salt. Swing the whole pail about for a few minutes, and turn the inner vessel round and round every now and then, to disturb the contents, and prevent the ice from sticking to the sides. Now lift off the lid, but without taking the vessel from the pail, and stir up the contents, taking care to scrape it well from the sides. Stir and work it well about. Put on the lid again, swing it as before; then scrape it again, and so on every five minutes, until the whole is congealed into a perfectly smooth mass, like butter, or half-melted snow. If it will not freeze readily, it is because there is too much syrup in it; if it sets in balls, it is because there is not syrup enough; for mixtures which are too watery or too milky, become too hard and crisp in the freezing. As the water accumulates in the pail, it should be drawn off, for the freezing effect only is derived from the melting of the ice and salt, and after the water is formed, it is injurious rather than beneficial, as itself carries off a part of the cold, by its contact with the atmosphere. Ices may be either of water or of cream, the only difference being the nature of the liquid, the fruit, &c., is mixed with. (See *Lemon, Apricot, Pine Apple*, and other fruits.)

There are also custard ices, but they all are frozen upon the same principle. Ice fruits are merely the ice pressed into moulds, and afterwards colored. Ices which contain isinglass cannot be frozen, though they are rendered harder by cold.

ICE CREAM.

Add a quart of cream, or for greater cheapness, half cream and half milk, to the juice of any fruit, and a sufficiency of sugar to sweeten it. Rub this through a sieve, if necessary, color it with cochineal for red, spinach for green, or saffron for yellow; put it into a freezing pot with a cover, and congeal it, as recommended for ices.

ICEING FOR CAKES.

Put 1 lb. of fine-sifted treble-refined sugar into a basin, and the whites of 3 new-laid eggs; beat the sugar and eggs up well with a silver spoon, until it becomes very white and thick; dust the cake over with flour, and then brush it off, by way of taking the grease from the outside, which prevents the icing from running; put it on smooth with a palette knife, and garnish according to fancy. Any ornaments should be put on immediately, for if the icing gets dry they will not stick on.

ICELAND MOSS JELLY.

I. This is made by boiling $\frac{1}{2}$ lb. of the dried moss in a quart of water to $1\frac{1}{2}$ pint, then straining, and adding $\frac{1}{2}$ lb. of sugar.

II. Boil 2 oz. of the lichen in water, and throw away this first decoction, then boil the lichen successively, and mix the several decoctions after the first, adding 2 oz. of isinglass separately dissolved, and then 4 oz. of white sugar. Strain, and evaporate to 1 quart, and flavor with lemon juice. This will be very nutritious, strong, and mucilaginous.

ILLUMINATION FIRE FOR FIRE-WORKS.

This, when fired, is of a very brilliant description, and gives a strong light, hence the name; it is used in cases for various devices in fire-works. The composition is saltpetre 1 lb., sulphur 8 oz., and meal-powder 6 oz.

IMPENETRABLE MORTAR, OR CONCRETE.

Mix thoroughly $\frac{1}{4}$ of fresh unslaked lime in powder, with $\frac{3}{4}$ of sand; and let three or four labourers make mortar with these ingredients, by pouring on water, with trowels, to supply one mason, who must, when the materials are sufficiently mixed, apply it instantly as cement or plaster, and it will become hard like stone. The lime used should be from limestone; previous to its use, it should be preserved from the access of air or wet, and the plaster screened for some time from the sun and wind. (See *Concrete*.)

IMPERIAL DRINK.

Cream of tartar $\frac{1}{2}$ oz., fresh orange or lemon peel 3 oz., lump sugar 4 oz., boiling water 3 pints. Mix them together, cover over the vessel till cold, then pour off the clear part for use. This is an agreeable cooling drink for hot weather, or in fevers.

IMPERIAL LIQUIDS FOR THE HAIR.

Put a gallon of sweet oil into a pan, with a bag containing 4 oz. of alkanet root, cut and bruised; give the whole a good heat, (but not a boiling one,) until the oil is completely impregnated with the red color. Now pour it into a jar, and when cold, add 4 oz. of essence of bergamot, 4 oz. of oil of jessamin, and 3 oz. of eau de millefleurs. Stir the whole well together.

IMPERIAL POP.

Cream of tartar 3 oz., ginger 1 oz., white sugar $1\frac{1}{2}$ lb., the juice of 1 lemon, water 1 gallon. Work it with yeast, and bottle it as ginger beer, which it resembles, except in being more acid in flavor, and more cooling in its medical properties.

INCANTATIONS, THEATRICAL.

Dissolve crystals of nitrate of copper in spirits of wine. Light the solution, and it will burn with a beautiful emerald green flame. Pieces of sponge soaked in this spirit, lighted, and suspended by fine wires over the stage of theatres, produce the lambent green flame now so common in incantation scenes. Strips of flannel saturated with it and applied round copper swords, tridents, &c., produce, when lighted, the flaming swords and fire-forks, brandished by demons, fairies, &c. (See *Blue Fire*.)

INDESTRUCTIBLE INK.

Take shell-lac 4 parts by weight, borax 2 parts, soft water 36 parts. Boil in a close vessel till dissolved, then filter, and take of gum arabic 2 parts, soft water 4 parts. Dissolve and mix the two solutions together, and boil for five minutes as before, occasionally stirring to promote their union. When cold, add a sufficient quantity of finely powdered indigo or lamp-black, according to the color required; lastly, let it stand for two or three hours, until the coarser powder has subsided, and bottle for use. Use this fluid with a clean pen, and keep it in a glass or earthen inkstand, as many substances will decompose it in a liquid state. When dry, it will resist the action of water, oil, turpentine, alcohol, diluted sulphuric acid, diluted hydrochloric acid, oxalic acid, chlorine, the caustic alkalis and the alkaline earths. This fluid, made in quantity, will cost about two shillings a gallon.

INDIAN CEMENT.

This is only a variation of mastic cement, and is composed of equal quantities of flint, lime, and pit-sand, slaked with water, well beaten, and suffered to remain for three or four days, then moistened and mixed up with oil, mucilage, whites of eggs, and butter-milk, and applied as rapidly as possible after being mixed.

INDIAN CORN FOODS.

This article, lately introduced as a common article of food, is at present but little appreciated in this country. From the interest and value attached to it however in America, over a great part of which it is the chief grain, we give the following American receipts for various articles of food prepared from it, though some of them scarcely come within our province, they being for domestic, rather than saleable articles.

Common journey, or Johnny cake.—Into 1 quart of meal, stir 1 pint of boiling water, with salt; spread it on a board an inch thick, and bake it before the fire, or otherwise on an iron over the fire.

Superior Johnny cake.—Take 1 pint of cream, $\frac{1}{2}$ pint of meal, 2 eggs, 2 table-spoonfuls of wheat flour, $\frac{1}{2}$ tea-spoonful of carbonate of soda, and salt to suit the taste. Bake it in a hot oven.

An excellent Johnny cake.—Take 1 quart of milk, 3 eggs, 1 tea-spoonful of carbonate of soda, 1 tea-cup of wheat flour, and Indian meal sufficient to make a batter of the consistency of pancakes. Bake quick, in pans previously buttered, and eat it warm with butter or milk.

Indian pound cake.—Take 8 eggs, the weight of the eggs in sugar, the weight of 6 of them in meal, $\frac{1}{2}$ lb. of butter, and 1 large nutmeg.

Indian cake.—Take 1 pint of sour milk, 1 tea-spoonful of carbonate of soda, 1 table-spoonful of sugar, 1 table-spoonful of butter, 1 egg, salt, and make stiff with meal.

Ginger cake.—Take 1 quart of sour milk with carbonate of soda, 1 quart of meal, 1 pint of flour, 1 gill of molasses; add salt and ginger to your taste.

A corn meal cake.—For 1 pint of meal take 1 tea-cup of sweet milk, 1 cup of sour cream, $\frac{1}{2}$ a cup of molasses or treacle, 1 egg well beaten, 1 tea-spoonful of carbonate of soda, $\frac{1}{2}$ spoonful of salt; cinnamon, nutmeg, or other spices may be used to suit the taste.

Corn dodgers.—To 1 quart of meal pour boiling water, till thoroughly wet, add 2 table-spoonfuls of flour, a tea-spoonful of salt; mix it well; spread it smooth in a plate or pan, first heat and oil the pan well, then set it on the coals till you can run a knife under and turn it round, then set it up before the fire to roast.

Hoe cake.—Take 3 table-spoonfuls of sugar, 3 of cream, 3 eggs, 1 tea-cup of buttermilk. Stir in the meal till it is a little thicker than batter, and salt and spice to your liking.

Corn muffins.—Take 1 quart of buttermilk, 3 or 4 eggs well beaten, a small quantity of flour; mix them together, and then make it quite thick with corn meal; add a

table-spoonful of melted butter, and salt to suit the taste. Butter the pan in which it is baked.

Corn and flour bread.—Prepare a thin batter by wetting sifted meal in cold water, and then stirring it into that which is boiling; salt, and when it is lukewarm, add yeast, and as much flour as there is common meal; bake in deep dishes in an oven when risen.

Yankee brown bread.—To 2 quarts of corn meal, pour 1 quart of boiling water; stir yeast into 2 quarts of rye meal, and knead together with 2 quarts of lukewarm water. Add, if you choose, 1 gill of molasses or treacle.

Corn bread.—To 1 quart of sifted meal, add 1 tea-cup of cream, 3 eggs, 1 tea-spoonful of carbonate of soda dissolved in water, buttermilk to make it quite soft; stir it well, and bake it in a bake-kettle or oven.

Brown bread biscuit.—Take 2 quarts of Indian meal, $1\frac{1}{2}$ pint of rye meal, 1 tea-cup of flour, 2 spoonfuls of yeast, and a table-spoonful of molasses. Add a little carbonate of soda to the yeast, and let it rise over night.

Hasty pudding.—Put in 3 pints of water and a table-spoonful of salt, and when it begins to boil, stir in meal, until it is thick enough for the table. Add, if you choose, sour apple chopped. Cook twenty or thirty minutes. Eaten with milk, butter, or treacle.

Fried hasty pudding.—Cut cold pudding into smooth slices, and fry brown in a little butter or pork fat.

Hasty pudding bread.—Prepare hasty pudding as before, when lukewarm, add yeast, and after rising, bake in a deep dish in a hot oven.

Corn meal pudding.—Scald 4 quarts of milk, stir into it 1 quart of sifted meal, 1 cup of molasses, a table-spoonful of salt, a little spice of any kind you like; bake it three or four hours in a pretty hot oven.

Baked pudding.—To 2 quarts of milk, add 1 quart of meal, a little salt, and a cup of sugar. Prepare by heating the milk over the fire, stirring it occasionally to prevent its burning; when it scarcely boils, remove it, put in the salt and sugar, and scatter in the meal, stirring rapidly to prevent its collecting into lumps; put in the nutmeg, and turn into a deep pan. Bake immediately or otherwise, as may be convenient, in a hot oven, three hours. When it has baked an hour or more, pour over the pudding 1 gill or $\frac{1}{2}$ pint of milk; this will soften the crust, and form a delicious whey.

Boiled pudding.—Into 2 quarts of meal, stir 3 pints of boiling water, some salt, and a gill of molasses or treacle; spice or not as you choose. Tie up in a strong cloth or pudding boiler, put into boiling water, and cook over a steady fire for three hours.

Superior boiled pudding.—To 1 quart of Indian meal, add 3 pints of hot milk, $\frac{1}{2}$ pint of molasses or treacle, a dessert-spoonful of salt, 1 oz. or more of beef suet, shred fine. Stir the materials well together, tie them in a cloth, allowing room for the pudding to swell one-eighth larger, and boil it six or eight hours. The longer it boils the better. It may be made without suet.

Indian dumplings.—Into 1 quart of meal, stir 1 pint of boiling water with salt. Wet the hands in cold water, and make them into smooth balls, 2 or 3 inches in diameter. Immerse in boiling water, and cook over a steady fire twenty or thirty minutes. If you choose, put a few berries, a peach, or part of an apple, in the centre of each dumpling.

Superior dumpling.—To 1 pint of sour milk with carbonate of soda, add 1 quart of meal, and a large spoonful of flour; roll out with flour, and put in apple, and cook as before.

Homony.—This article is considered a great delicacy throughout the Southern States, and is seen on almost every breakfast table. It is prepared thus:—The corn must be ground not quite into meal. Let the broken grains be about the size of a pin's head. Then sift the flour from it through a fine hair sieve. Next shake the grains in the sieve, so as to make the hulls or bran rise to the top, when it can be removed by the hand. The grains must then be washed in several waters, and the light articles, which rise to the surface, poured off with the water through the fingers, so as to prevent the escape of the grains. Have a pot or boiler ready on the fire with water in it; add the grains at the rate of 1 pint to 2 pints of the water. Boil it briskly about twenty minutes, taking off the scum, and occasionally stirring it. When the homony has thoroughly soaked up the water, take the boiler off the fire, cover it, and place it near, or on a less heated part of the fire, and allow it to soak there about ten minutes. It may be eaten with milk, butter, treacle, or sugar. The flour or meal sifted out can be used to make bread or cakes.

INDIAN HEMP, TINCTURE OF.

Spirituos extract of Indian hemp 24 grains, proof spirit 1 oz., dissolve, dose 10 drops every half hour in cholera, and 1 drachm every half hour in lock-jaw, till the paroxysms cease or insensibility is produced.

INDIAN HEMP, EXTRACT OF.

Boil the resinous tops of the Indian hemp plant, which has flowered and from which resin has not been removed, as it often is in inferior specimens, in spirits of wine till all the resin is dissolved, then distil off the spirit and finish the evaporation in a water bath. This is a dangerous medicine, stimu-

lant in small doses, of a grain or two, and sedative in doses of from 10 to 20 grains; used in hydrophobia, but so dangerous that a single grain has been known to produce catalepsy.

INDIAN HEMP LOZENGES.

Take 12 grains of Indian hemp, sugar 3 oz., mucilage of gum tragacanth to mix into lozenges, of which make 144. This is very stimulant to the system.

INDIAN INK, TO CHOOSE.

The ink which comes from China differs extremely in quality, some of it has glue for its basis, but the better kind has a vegetable gum. The coloring ingredients are for the coarser kinds lamp black only; for the superior article, lamp black mixed with a dark colored sepia produced from a cuttle-fish, peculiar to the Eastern seas. It is scented with musk. To try the quality of Indian ink, first, if the stick has never been used before, wet the end of it with the tongue. If it has been used this will not be necessary, the only object being to remove the outer gloss or glaze. Rub the end then upon one of the front upper teeth; if good, no grittiness will be perceptible—this is the first test. Now break the stick in half, smell it, if fresh and musk like; if the peculiar smell of mould or of lamp black is perceived it is not so good. Thirdly, wet with the tongue the two broken ends, join them together neatly as at first, and if the ink be good, the parts will adhere together as tightly as ever.

INDIAN INK, TO IMITATE.

We have given some receipts under the words *China Ink*. The following may be added:—

I. Boil common rice in water till quite soft, then strain off the water, put the rice into a wooden mortar; add to it while hot a mixture of sepia and indigo, previously prepared by well grinding together 6 parts of liquid sepia with one of dry indigo powdered, scent it with a little musk, and beat the whole well together with as little of the rice as will make it into a stiff paste; put it into moulds to dry. This is a beautiful ink but requires much working together in the making of it.

II. Instead of the above, use the rice water boiled down to a strong jelly, add 5 drops of ox-gall to each oz. of the jelly, and a pinch of powdered loaf sugar, grind this together well with dried sepia with $\frac{1}{2}$ indigo as before.

A little gum arabic will make each of these inks more glossy. When lamp black is used, the finest black is that made from gas tar. It is apt to be greasy and thus will not flow well, a little gall obviates this and is far superior for this purpose to soda and potass.

III. Boil in water some parchment or pieces of fine gloves, until reduced to a paste. Apply to its surface while still warm a porcelain dish which has been held over a smoking lamp: the lamp black which adheres to it

will become detached and mingle with the paste or glue. Repeat the operation until the composition has acquired the requisite color. It is not necessary to grind it. It flows as freely from pencil as India ink, and has the same transparency.

INDIAN PICKLE, OR PICCALILLI.

This consists of all kinds of pickles, mixed and put into a large jar; gherkins, sliced cucumbers, small onions, cauliflowers, &c. Salt them, and put them in a large hair sieve in the sun to dry for two or three days, then scald them in vinegar a few minutes, and let them get cold. Cut a large white cabbage in quarters, with the outside leaves taken off, let these be cut fine, then salt them, and put them in the sun to dry, as the others; scald them also with vinegar. Cut some slices of carrots, let these be boiled till they are half tender, and then throw them into salted vinegar. French beans, rock-samphire, radish pods, and nasturtiums, capsicums, &c. all go through the same process as the gherkins. These being all thus prepared separately, to preserve to each its flavor. The vinegar that has been used, having been just enough to cover them, may be used again for other lots, or prepared to pour over the same again when it has been properly spiced. To every gallon of it put 4 oz. of ginger, bruised, 2 oz. of whole white pepper, 2 oz. of allspice, $\frac{1}{2}$ oz. of chillies, bruised, 4 oz. of turmeric, 1 lb. of the best mustard, $\frac{1}{2}$ lb. of shalots, 1 oz. of garlic, and $\frac{1}{2}$ lb. of bay salt. The vinegar, spice, and other ingredients, except the mustard, must boil half an hour, then strain it into a pan, put the mustard into a large basin with a little vinegar, mix it quite fine and free from lumps, then add more vinegar. When well mixed, put it to the vinegar just spiced, boiled, and strained off, and when quite cold, put the pickles into a large pan, and pour the vinegar over them, stir them separately, and when well mixed, put them into a jar, and tie them over first with a bladder, and then with leather. The capsicums need no preparation.

INDIAN-RUBBER BLACKING.

I. Mix together 5 lbs. of ivory black, $3\frac{1}{2}$ lbs. of treacle, vinegar and oil of vitriol, each 1 lb., Indian-rubber oil $\frac{3}{4}$ lb. This is in a paste.

II. Ivory black 60 lbs., treacle 45 lbs., gum dissolved 1 lb., vinegar 20 gallons, oil of vitriol 24 lbs., Indian-rubber oil 9 lbs.

INDIAN-RUBBER TUBES.

A bottle of Indian-rubber, previously softened by boiling in water, is first to be distended to the utmost possible extent, by means of a condensing syringe. The rubber, thus expanded into a uniformly thin layer, is then cut into stripes of the breadth of 1 or

2 inches, and wrapped longitudinally round polished iron rods, of the same diameter as the bore of the tubes required. The rod has a hole through each end, and a tape being made fast to one hole, it is tightly wrapped in a spiral manner over the layer of elastic gum previously applied. The whole is then boiled in water for several hours; and if, when taken out, perfect adhesion has not taken place, it is again wrapped with fresh dry tape, and re-boiled until the union is complete. The roughness left upon the external surface of the tube may afterwards be removed, by binding it with a smooth plate of metal, and boiling it over again. They are in nowise to be distinguished, in their elasticity, from the bottles met with in commerce.

INDIAN-RUBBER OIL.

Put in a large saucepan over the fire 9 lbs. of rape oil, to which add 1 lb. of Indian-rubber, cut in strips, simmer gently till the Indian-rubber is dissolved.

INDIAN RED

A fine red pigment, with much body, and used both in oil and water-color painting. It is a peroxyde of iron, procured from green vitriol, by calcining it until it becomes of a beautiful red color. In this state it is called Rough Colcothar, Brown Red, or Common Indian Red; and by the French, Rouge D'Angleterre, or English Red. It is much improved and brightened in color, by washing it in water, to remove any trace of sulphuric acid or the un-decomposed sulphate. It is now the true artist's color, Indian Red or Trip.

INDIAN YELLOW.

A fine deep yellow color, but one which is not permanent. It is a urophosphate or lime. Its composition being the uric acid, phosphoric acid and lime, with sometimes the addition of hydrochlorate of ammonia. It is used chiefly as a water color.

INDIGESTION, OR DYSPEPSIA.

There is no more common ailment with persons of middle life than indigestion, nor one which arises from such varied causes, or which is oftentimes more difficult to cure. Any thing which destroys the tone of the liver, gall, stomach, or spleen, such as climate, intoxication, sedentary habits, intense study or anxiety, excess of any kind, irregularity of bodily functions or way of living, hard food, gluttony, too frequent use of warm slops, as tea, coffee, &c., will produce indigestion. Knowing the cause then enables us to find a remedy, yet often it requires a long time to restore activity and tone to those organs which have been injured by long debility, or morbid action, and if accompanied by flatulency, loss of appetite, acidity, &c., these symptoms will suggest a modification

of the remedies to be employed. The following are recommended to remove the immediate symptoms of indigestion:—

i. Magnesia 3 drachms, rhubarb in powder 1 scruple, water 4 oz., cinnamon water 1 oz., compound spirit of lavender $\frac{1}{2}$ drachm. Take 2 table-spoonsful three times a day. This will destroy acidity and restore tone to the stomach. (See also *Alkaline Medicines*.)

ii. Dill water 3 oz., spirit of cinnamon 1 oz., ammoniated tincture of valerian 2 drachms, tincture of opium 40 drops, sulphuric ether 1 drachm. This assists to allay pain and destroy flatulency. (See also *Flatulency* and *Heartburn*.)

iii. Soccotrine aloes and powdered rhubarb, each 1 drachm, compound powder of cinnamon 1 scruple, hard soap $\frac{1}{2}$ drachm, syrup to form a mass, which may be divided into 50 pills, of which two is a sufficient dose. This is an aperient, and consequently assists digestion by removing crude matters from the stomach.

iv. Infusion of calumbo 6 oz., carbonate of potass 1 drachm, compound tincture of gentian 3 drachms. Dose 2 or 3 table-spoonsful daily at noon.

v. Epsom salts 3 drachms, rose-water $\frac{1}{2}$ pint, tincture of cascarilla $\frac{1}{2}$ oz. Dose as last.

vi. Quicklime $\frac{1}{2}$ oz., slaked by sprinkling on it a little water, and when it has fallen to powder, add water 1 $\frac{1}{2}$ pint, bruised Peruvian bark 1 oz. Soak for three hours, occasionally stirring it, in a covered vessel, then decant the clear liquid, and add tincture of bark, 2 oz., sweet spirits of nitre 3 drachms, syrup of orange peel 1 oz. Mix well, and keep it in a corked bottle. Dose, a wine-glassful two or three times a day, with an aperient medicine occasionally.

vii. Carbonate of soda 1 drachm, compound tincture of rhatany 1 oz., tinctures of ginger and chamomiles, of each 3 drachms, camphor and jalep 7 oz. Dose as before.

To restore the tone of the stomach, when debilitated, use any of the tonic medicines. (See *Tonics*; also *Abernethy's Pills*.)

INDIGO, TO PREPARE.

This dye is derived from the leaves and the young shoots of several species of indigo plants by soaking them either in cold water, or still better, in water kept warm, and at about 160° Fahr. till the liquor becomes a deep green; it is then drawn off, and beat or churned till blue flakes appear, when lime water is added, the yellow liquor drawn off, and the blue liquor sediment dried, and formed into lumps.

INDIGO BLUE, FOR ARTISTS.

The blue vat of the dyer contains indigo leoxidized by protoxide of iron, and rendered soluble in its yellow green state by

lime-water. If a portion of this solution be exposed to the air in a shallow vessel, the indigo will speedily absorb oxygen, and be precipitated in its usual state of an insoluble blue powder. This being dried and digested, becomes pure indigo, by the abstraction of all the resin and lime contained in it. Thus prepared, it is a fine powder, intensely deep, but softened, tender in its tint, resembling ultramarine, and does not change when exposed to the air; it is, therefore, an acquisition to the palette of no ordinary kind, and is likely to prove the most valuable of all blues, when made into cakes for wash-drawings, for the use of miniature-painters.

INDIGO, TO OBTAIN PURE.

Powdered indigo 1 part, green vitriol 10 parts, slaked lime 15 parts, water 60 parts. Mix, and shake them till the color is destroyed, then decant the clear portion, precipitate the colorless indigo with muriatic acid, collect the powder, and wash it well first with pure soft water, and then with spirits of wine; boiling. It will soon regain its blue color by exposure to the air and sun.

INDIGO, SULPHATE OF, FOR DYEING.

This is called in commerce, indigo paste, precipitated indigo, blue carmine, and soluble indigo. To prepare it economically, common indigo, as imported, is to be dissolved in 10 times its weight of concentrated sulphuric acid. The solution, after twenty-four hours, is to be diluted with 10 times its weight of water, filtered, and imperfectly saturated with carbonate of potass, whereby a blue powder falls down, which is the sulphate required. It is of a dark blue, coppery-color, soluble in 140 parts of cold water, and in much less of boiling water. It is made use of as a dye, as a blue ink, and to mix with starch, to make the washerwoman's color, called stone blue.

The sulphate of indigo, as above, is soluble in water, but common indigo is not soluble, hence as the latter is used for dyeing it will settle in the dye vat, but the former not so much.

INFANT'S PRESERVATIVE, (ATKINSON'S.)

Bicarbonate of magnesia $\frac{3}{4}$ oz., white sugar 2 oz., oil of aniseed 20 drops, compound spirit of ammonia 2 $\frac{1}{2}$ drachms, laudanum 1 drachm, syrup of saffron 1 oz., carraway water sufficient to make the whole up to the quantity of a pint. An excellent remedy for the flatulence and restlessness of infants; a teaspoonful may be given at a time.

INFLAMMATION.

Almost every part of the body is subject to inflammation, the following remarks apply to inflammation generally, and it is to be remarked that those persons who are most subject to inflammatory disorders, are robust, healthy, and full of blood; indeed the inflammatory action is often induced and always

increased by such a habit of body—hence the disorders of young persons are more often of this description than those of old ones, from their greater fullness of blood and its more rapid circulation. Inflammation may be general, when it takes the character of a fever or erysipelas, or it may be local and confined to one organ or part. It arises in all cases from some stoppage of the blood in the part affected, hence giving rise to redness, extreme tenderness and pain, much swelling, and other well-known symptoms. If it attack an important organ, as the lungs, pleura, liver, &c. the remedy should be left to the medical attendant, who will advise blood letting, either with the lancet, cupping glasses, or leeches until the organ is relieved, accompanying this active treatment with cathartics, particularly calomel, digitalis, &c. perhaps a blister on some other part as a counter irritant, mucilaginous drinks, spare diet, and warm soothing fomentations. If the affection be local, and of little extent, as a slight burn, blow, boil, chilblain, tumour, &c. the treatment is to assuage it by warm poultices and fomentations, keeping the air from it if the skin be broken, and treating it as an abscess. (See *Abscess*.)

INFLUENZA.

This disorder, so common now at certain seasons of the year, is, if not contagious, at least prevalent at the same time throughout the whole district, and at others entirely removed. It is most frequent during the changeable weather of spring or autumn, and attacks persons of all ages. It is a disorder of a mixed character, or as it has been called, the fever-cold, or catarrhal fever. Like a fever, it comes on with shivering, and is attended with a small quick pulse, white tongue, and hot skin; and, like a cold, it is accompanied mostly by severe head-ache, discharge from the nostrils, sneezing, and general soreness and debility. It usually runs its course in four or five days, and then gradually disappears, though a relapse is very likely to occur; and to aged persons, and those who have weak lungs, or a predisposition to inflammation of the air passages or pleura, it has frequently proved more obstinate, or even fatal. The remedies are in general simple;—confinement to the house, foot warm-bath, barley water, and keeping the bowels gently relieved, are usually sufficient. If the cough is troublesome, the syrup of squills, acid linctus, or the ipecacuanha cough remedies are advisable.

INFUSIONS.

Infusions are liquid extracts of vegetables formed by soaking the leaves, wood, flowers, seeds, &c. in water, mostly hot at first and allowed gradually to get cold, in which state it remains for some time, till the qualities of the ingredients are extracted by the water.

The chief infusions will be found under the names of the substances infused; should any have been omitted, the method of forming this is to allow a handful of the dried vegetable, or two handfuls in its green state to each pint of water. It may remain soaking or infusing for the time of a week or more, when it should be filtered. Vegetable infusions in general will not keep long, as they are apt to become mouldy or putrescent; to avoid this a little spirits of wine is necessary to be added, or else the infusion may be evaporated by a gentle heat or a draught of air to a thick extract, or certain things may be boiled to this consistence without injury. When wanted in a liquid state it will now only be necessary to dilute these extracts with water. Infusions also are often preserved by the addition of sugar, when they become syrups. In making infusions of the more poisonous and active vegetables, such as hellebore, hemlock, capsicum, &c., great care as to quantity must be observed. The following infusions are of a compound character, and are arranged according to their medical properties. Infusions are often called *teas*, as chamomile tea, linseed tea, &c.

I. *Antiscorbutic tea*.—Water trefoil 2 oz., orange peel $\frac{1}{2}$ oz., boiling water 4 pints; infuse for twelve hours, then strain, and add compound spirit of horse radish $\frac{1}{2}$ pint—(b) Pour boiling water upon water-cresses pressed into a vessel, so that the water shall well cover them. Take half a pint of the liquor every morning, to purify the blood. (See *Horse Radish*.)

II. *Astringent*.—Cusparia bark 1 oz., tincture of catechu or kino 1 drachm, powdered ipecacuanha 3 grains, powdered opium $\frac{1}{2}$ a grain. Mix for a dose in diarrhœa, &c.

III. *Bitter*.—Pour upon 2 oz. of gentian root in chips a pint of boiling water; let it stand for some hours, strain, and when wanted for use sweeten it with a little sugar or honey, and reduce it by water until it is not very disagreeably bitter. A wine glassful may be taken as a tonic twice a day.

IV. *Antispasmodic*.—Valerian root 2 oz., rosemary $\frac{1}{2}$ oz., boiling water 1 quart, infuse for twelve hours; then strain and add $\frac{1}{2}$ pint of any carminative water, such as peppermint, cinnamon, clove, ginger, &c.

V. *Demulcent*.—(a) Boil 1 oz. of linseed and 4 oz. of liquorice root in a quart of water.—(b) Take of the flowers or young tops of marsh mallows 1 oz., boiling water 1 pint; leave to infuse for one hour. Used in any quantity in coughs, colds, &c., also if there be irritation in the alimentary canal, the intestines, &c., as from acrid substances, poisons, &c., particularly the former. (See also *Barley Water*, *Iceland Moss*, *Isinglass*, &c.)

VI. *Diuretic*.—Soak 1 oz. of juniper berries in a pint of water; at first boiling let them infuse for an hour. Dose half a tea-cup-ful or more two or three times a day. (See *Diuretic Medicines*.)

VII. *Laxative*.—Pour boiling water upon figs or prunes first mashed or cut up; may be taken in any quantity. This is very mild. Senna leaves being added to the amount of $\frac{1}{2}$ an oz. to a quart of water, increases its laxative effect. (See *Senna*.)

VIII. *Pectoral*.—Linseed $1\frac{1}{2}$ oz., liquorice $\frac{1}{2}$ oz., colt's-foot leaves 1 oz., boiling water 3 pints. It may be taken in any quantity in affections of the air passages, &c.

IX. *Stimulant*.—Black mustard seed, bruised, and dittander, of each $\frac{1}{2}$ an oz., boiling water 1 pint. Macerate for one hour; strain and when cold add spirits of sal volatile 1 drachm, tincture of allspice $\frac{1}{2}$ oz. Dose two table spoonsful three times a day in palsy, &c.

X. *Tonic*.—Compound infusion of gentian 1 oz., carbonate of soda $\frac{1}{2}$ a drachm, tincture of cascarilla 1 drachm for a dose. (See also *Bitter Infusion*.)

INJECTIONS.

Injectons, enemas, or clysters, are liquid medicines, which are forced by means of an elastic bottle, with an ivory tube to it, or by a squirt, or an instrument acting upon the principle of a pump, into the various cavities of the body, or into wounds. The following are useful for the purposes annexed:—

I. *Astringent*.—(a) Alum 18 grains, water 6 oz.; for the *urethra*.—(b) Alum 3 drachms, water 1 quart; for the *vagina*.—(c) Alum 4 grains, rose-water $\frac{1}{2}$ pint.—(d) Green tea 1 oz., boiling water $\frac{1}{2}$ pint; to cure *fluor albus*.—(e) Red wine 12 oz., water 4 oz.; to be injected after the operation for dropsy or hydrocele.

II. *Anodyne*.—(a) Laudanum 40 drops, water $\frac{1}{2}$ pint; good in diarrhœa, cholera, &c.—(b) Linseed tea $\frac{1}{2}$ pint, tincture of opium 1 drachm; used in pains arising from the stone and gravel.—(c) Tobacco leaves $\frac{1}{2}$ oz., boiling water 13 oz.; use half first, in strangulated hernia.

III. *Cathartic*.—(a) Manna 1 drachm, chamomile tea 10 oz., olive oil 1 oz., Epsom salts $\frac{1}{2}$ oz.—(b) Thin barley water, or common gruel 1 pint, salt 2 oz.

IV. *Nourishing*.—(a) Strong beef tea.—(b) Mutton broth, strained, and linseed oil, of each $\frac{1}{2}$ pint, brown sugar 1 oz.

Many nourishing liquid foods may thus be administered, and keep the patient alive and well for a long period; among these are jellies, eggs, milk, &c. These nourish by absorption, and are sometimes had recourse to with infants, and in temporary affections of the mouth and throat, &c.

INJECTION, METALLIC.

Melt together equal parts of bismuth, lead, and tin. The composition, with the addition

of a small proportion of mercury, is used for injecting the vessels of many anatomical preparations; also for taking correct casts of various cavities of the body, as those of the ear. The animal structure may be corroded and separated by means of a solution of potass in water; and the metallic cast will be preserved in an isolated state.

INK, BLACK.

Nut galls, sulphate of iron, and gum, are the substances usually employed in the preparation of all ordinary black inks. The other things often added merely modify the shade, and considerably diminish the cost to the manufacturer upon the great scale. Many of these inks contain little tannic acid, or tannin, and are therefore of inferior quality.

I. To make 12 gallons of ink we may take 12 lbs. of nutgalls, 4 lbs. of green sulphate of iron, 5 lbs. of gum senegal, and 12 gallons of water. The bruised nutgalls are to be put into a cylindrical copper, of a depth equal to its diameter, and boiled during three hours with three-fourths of the above quantity of water, taking care to add fresh water to replace what is lost by evaporation. The decoction is to be emptied into a tub, allowed to settle, and the clear liquor being drawn off, the lees are to be drained. Some recommend the addition of a little bullock's blood, or white of egg, to remove a part of the tannin. But this abstraction tends to lessen the product, and will seldom be practised by the manufacturer intent upon a large return for his capital. The gum is to be dissolved in a small quantity of hot water, and the mucilage, thus formed, being filtered, is added to the clear decoction. The sulphate of iron must likewise be separately dissolved, and well mixed with the above. The color darkens by degrees, in consequence of the peroxidization of the iron, on exposing the ink to the action of the air. But ink affords a more durable writing when used in the pale state, because its particles are then finer, and penetrate the paper more intimately.

II. Take $\frac{1}{2}$ pint of infusion of galls, and 1 drachm of camphor, a piece of clean iron wire of a spiral form, to present a surface of the length of the bottle, and inserted in the cork; introduce the whole into a half-pint bottle, and let it stand for a month. The infusion is 1 part galls to 8 of water. In this fluid there is no free mineral acid, there being simply tanno-gallate of iron for the basis; the iron decomposes the water and becomes oxidised in the usual manner, consequently there can be no excess of iron in the fluid to give it a rusty appearance. The tanno-gallate, not being a precipitate, requires no mucilage for its suspension, neither is it obliterated by dilute acids, and alkalies

only give it a deep brown color, the camphor prevents mouldiness.

iii. To 2 pints of water add 3 oz. of the dark colored rough skinned Aleppo galls in gross powder, and of chips of logwood, green vitriol, and gum arabic, each 1 oz. The mixture is to be put into a convenient vessel, and well shaken four or five times a day for ten or twelve days, at the end of which time it will be fit for use, though it will improve by remaining longer on the ingredients. Vinegar instead of water makes a deeper colored ink, but its action on the pens, whether of quill or of steel, soon spoils them.

iv. Logwood chips 4 oz., water 6 quarts, boil until reduced to 5 quarts—add bruised galls 1 lb., green vitriol burnt until it has become white 4 oz., brown sugar 3 oz., gum arabic 6 oz., acetate of copper $\frac{1}{2}$ oz.; agitate it well three or four times a day for a fortnight, then strain off the clear part for use.

v. Bruised galls 3 lbs., gum and sulphate of iron of each 1 lb., vinegar 1 gallon, water 2 gallons. Let them soak for a fortnight, shaking up the mixture frequently.

vi. Logwood chips 3 lbs., bruised galls 9 lbs., boil in 17 gallons of water for 2 hours, then add gum arabic and green copperas of each 4 lbs., after a few days strain it off.

vii. Logwood shavings and powdered galls of each 2 lbs., green vitriol 1 lb., gum $\frac{1}{2}$ lb., pomegranate bark $\frac{1}{4}$ lb., water 1 gallon.

viii. Bruised galls 1 lb., gum arabic 6 oz., alum 2 oz., green vitriol 7 oz., gum kino 3 oz., logwood chips 4 oz., water 1 gallon, ox-gall 1 teaspoonful.

This ink is used at the Prerogative Office, and will flow readily upon parchment and other slightly greasy substances, on account of the gall contained in it. Indeed a little gall is a good addition to all ink.

ix. Take 1 oz. of common crocus or rust of iron, mix it in fine powder with 2 quarts of water, in which 3 oz. of nut galls have been boiled for an hour and a half; having mixed these together well, add $\frac{1}{2}$ oz. of sugar candy, $\frac{1}{2}$ oz. of gum arabic, and $\frac{1}{2}$ oz. of sulphate of indigo. Let it remain for fourteen days before use.

x. Take 8 oz. of galls in coarse powder, 4 of logwood in chips, 4 of green copperas, 1 of blue stone, 2 of gum arabic powder, 1 of sugar candy. Boil the two first in $1\frac{1}{2}$ gallons of water till it is reduced to half—strain through a cloth, to the liquid add the other ingredients and stir well.

xi. Take any quantity of the rust of iron, and boil it in water along with five or six times its weight of oak bark, galls, catechu, valonia, acorns or acorn shells, or a little more of the bark of the willow. When boiled let it get cold, and then strain and add 1 oz. of gum arabic, or what will do as well, cherry-tree or plum-tree gum. This simple way of making a tolerable ink may be useful to a colonist.

The preceding are chemical inks, for many others of a like character and of different colors, we refer to the words *Blue, Green, Red, &c.* Also *Marking, Exchequer, Japan, Sympathetic, Writing Fluid, Zinc, &c.* The following are mechanical or incorrodible inks; that is, they are formed not by chemical decomposition, so much as by a mechanical suspension in the liquid of lamp black, charcoal, or other powders. Of the above receipts we believe the first, third, eighth, and ninth, are the best. Any of the above without the water would be a good ink powder.

xii. Pour upon some powdered loaf sugar twice its weight of strong sulphuric acid in a phial, shake it up well, and in a few minutes it will become of an intense black, in fact, it has by the action of the acid been changed into charcoal, wash this well two or three times in water to wash away the acid. Then take of this fine powder as much as will lie in the phial to the depth of half an inch, add to this, as much gum, in fine powder as will lie upon a shilling, with a like quantity of white sugar candy, fill up the phial with water and shake it well together. The ink will be ready for use.

xiii. Take 25 grains of gum copal in powder, dissolve them in 200 grains of oil of lavender, by the assistance of a gentle heat, then stir in $2\frac{1}{2}$ grains of lamp black, and $\frac{1}{2}$ grain of indigo. Or, for red ink use 120 drops of oil of lavender, 17 grains of copal, and 60 grains of vermilion, dilute it to a proper thickness by oil of turpentine.

xiv. Take equal parts of black resin, burnt peach stones, copperas and gall nuts, and 2 of gum arabic, grind the whole well together, and when wanted for use mix it up with brandy.

xv. Take $\frac{1}{2}$ lb. of honey, and the yolk of an egg, mix them well together, add 2 drachms, of gum arabic finely powdered, thicken the whole with lamp black to a stiff paste, and then dilute it with water to a proper consistence to write with. This is a very inferior ink and one that can be wholly removed by water.

xvi. Asphaltum 1 part, oil of turpentine 4 parts; when dissolved, add lamp black to a proper consistence. It may be colored with printer's ink.

xvii. Common ink and India ink mixed together in equal proportions.

xviii. Mastic varnish diluted with oil of turpentine, or spirits of wine, and colored with printer's ink. If the mastic be a spirit varnish, it must be colored with Frankfort black to a proper consistence.

xix. To a pint of water add $\frac{1}{2}$ oz. of gum arabic, a little lamp black to color, and 1 drachm of caustic soda.

The above inks, except 14 and 15, are used to write upon bottles, or labels, which are in contact with corrosive liquids or their fumes, as chlorine, acids, alkalis, &c., none of which affect them; most of them may be washed off with spirits of wine, they are also used for marking on linen with stamps or letters.

xx. Caustic soda 1 drachm, water 1 pint. India ink pounded to give proper color.

xxi. Shell lac 4 oz., borax 4 oz., water 1 quart, boil till dissolved, then add 2 oz. of gum arabic, boil till dissolved, strain, then add a mixture of calcined lamp black and indigo equal parts, previously ground into a fine powder. Let it stand for two or three hours and then bottle off the upper portion, leaving any sediment undisturbed. (For other inks of this nature, see *Gold, Silver, Indian, and China.*)

INTOXICATION, INSENSIBILITY FROM.

Intoxication greatly resembles that of an incipient palsy or apoplexy. Inebriated persons stagger in all directions; they stammer; every thing appears double; the tongue is in a manner paralytic, and they are deprived of the faculty of speech. This imbecility extends to the mind, which is thus rendered totally incapable of reflection. As the brain is overcharged with blood, the vessels pressing on that part are very liable to burst from the least accidental concussion; and the unfortunate victim of such folly may expire while he remains insensible of his danger. Hence he ought to be conveyed into a cool, rather than a warm room, and placed between blankets, with his head considerably raised; but the legs should be in a pendant situation, and the feet bathed in luke-warm water. Every tight ligature of the shirt, waist-band, garter, &c. must be immediately relaxed, and diluent drinks, such as barley or rice-water, plentifully given, though in small portions. Next, a gentle emetic is to be introduced, and the throat stimulated with a feather dipped in oil: after vomiting, the patient generally falls into a profound sleep, from which he awakes weak, trembling, and affected with a violent heart-burn.

INTOXICATION, APPARENT DEATH FROM.

When persons are found in this situation, if the countenance be swollen, and of a dark red, or purple color, and these appearances do not go off upon keeping the body for a short time in an erect posture, it will be proper to take some blood from the jugular veins, or apply cupping-glasses to the neck.

i. *Cold*.—When the pulse and breathing continue, and the body is hot, cloths dipped in cold water, and applied to the head, neck, stomach, and breast, have often been of service in restoring intoxicated persons to life and sense; these applications will frequently render bleeding unnecessary.

ii. *Emetics*.—Of all the remedies that have been tried in such cases, an emetic contributes most speedily to recovery. For this purpose, 3 or 4 table-spoonsful of ipecacuanha wine, or 30 or 40 grains of ipecacuanha in powder, may be administered, and the operation promoted when it has begun, by plenty of luke-warm water. Should the

person be incapable of swallowing, the emetic may be introduced into the stomach by means of a syringe.

iii. *Position*.—The best position for the body to be placed in, is, lying on one side, with the head and shoulders raised by pillows. After the person is so far recovered as to be suffered to go to sleep, he should be carefully watched, lest his neck being anywise bent, or his head slip down under the clothes, or hang over the side of the bed. Care should also be taken, that nothing tight be allowed to remain about the neck. If the hands and feet become cold, they must be put into warm water, or wrapped in flannels well wrung out of the same, to be changed for others as they cool; and, if necessary, bottles of hot water, or heated bricks, covered with flannel, may afterwards be applied to the feet, &c. When the ordinary signs of life have disappeared, the same measures, recommended for drowned persons, will be proper; observing, however, always to administer a brisk emetic, as soon as the pulse and breathing are fully renewed.

INSECTS, THE BITES AND STINGS OF.

i. The local pain produced by the bites and stings of insects, in general, is greatly relieved by the following application:—Make a lotion of 5 oz. of distilled water, and 1 oz. of tincture of opium. To be applied immediately.

ii. Mix 5½ oz. of distilled water, and ½ oz. of water of ammonia. Wash the part repeatedly with this lotion, until the pain abates. (See *Bee*.)

IODINE, TO PROCURE.

Digest 8 oz. of pulverized kelp or seaweed in a quart of water, and filter it through paper. Evaporate it by a gentle heat, in a Wedgewood's vessel; the muriate of soda will be formed into crystals at the bottom. Mix 4 oz. of sulphuric acid with the uncrystallized solution, and boil it about five minutes; next, put this mixture into a tubulated retort with 4 oz. of the black oxide of manganese, and place the whole over a lamp; let a receiver be attached to it. The iodine will soon rise in the form of a violet-colored vapour, and be condensed on the sides of the receiver in dark shining speculæ, something like plumbago. Preserve it in a phial, having a ground stopper.

Iodine was discovered in Paris by a saltpetre manufacturer, who observed a rapid corrosion of his metal vessels, in preparing different sorts of seaweeds, which he used in making carbonate of soda.

IODINE, SOLUTION OF.

Add 1 grain of iodine to a pint of distilled water. This will make a yellow solution, used as a test for starch, and as a medicine in doses of a wine-glassful twice a day, gradually increasing the dose to ½ pint.

IODINE, MEDICINES OF.

I. *Eye lotion*.—Take 36 drops of the tincture of iodine, 36 drops of laudanum, and 4 oz. of distilled water. This is used for obstinate ophthalmia.

II. *Liniment*.—Take 1 oz. of compound soap liniment, 1 drachm of tincture of iodine. Mix, and apply to scrofulous tumours.

III. *Ointment*.—One part of iodine with 24 parts of hog's-lard.

IV. *Pills*.—Mix iodine with the crumbs of bread into pills, and take 1 dose a day, of from $\frac{1}{2}$ grain to 4 grains of iodine, according to the urgency of the case, whether required as a preventive or as a cure.

V. *Plaister*.—Take 2 scruples of litharge plaister, 30 grains of iodine in powder, 2 scruples of iodide of potassium, $\frac{1}{2}$ dram of extract of opium, to form a plaister.

VI. *Solution*.—Take 1 scruple of iodine, 2 scruples of iodide of potassium, and dissolve them in 7 oz. of distilled water. The dose is 6 drops of the solution in a glass of water sweetened with sugar, twice a day, increasing it to 36 drops.

VII. *Tincture*.—(a) Dissolve 1 drachm of iodine in $2\frac{1}{2}$ oz. of spirits of wine, rub them together in a mortar, till dissolved.—(b) Add 48 grains of pure iodine to 1 oz. of spirits of wine.

The iodine medicines are all applied to glandular swellings, particularly to white swellings, the goitre, bronchycele, or Derbyshire neck, and scrofulous swellings of all kinds. The external application produces a great warmth of the part, and a conspicuous redness; the continued use internally produces leanness, lowness of spirits, and often cholera. Small doses are always to be recommended.

IODURETTED MEDICINES.

This term is applied to those medicines which contain iodine, in a smaller degree, than the above, or of which the iodine forms but a portion; their properties partake of course of those of iodine.

I. *Atrophic solution*.—Take 9 oz. of distilled lettuce water, 2 drachms and 10 drops of distilled peppermint water, 30 drachms of iodide of potassium, 1 oz. and 1 drachm of syrup of marsh-mallows. Dose 5 drachms to double that quantity night and morning. Used in affections of the heart.

II. *Anti-epileptic solution*.—Take 30 drachms of iodide of potassium, 2 grains of iodine, 3 oz. and 3 drachms each of peppermint and orange-flower water. Dissolve. Dose 5 drachms three times a day, to be used in epilepsy.

III. *Bath*.—When inflammation and other causes forbid the internal use of iodine, it may be administered as a bath, putting about 36 grains of iodine, and 50 or 60 grains of the iodide of potassium, to every 5 gallons of water used.

IV. *Dog's grass*.—Take $32\frac{1}{2}$ oz. of the decoction of dog's grass, (*Triticum repens* or couch grass,) 30 grains of iodide of potas-

sium, $2\frac{1}{2}$ oz. of peppermint syrup. Mix, and give the whole in divided doses in twenty-four hours.

V. *Caustic*.—Take 2 oz. of iodine, 1 oz. of iodide of potassium. Dissolve them in 2 oz. of distilled water. Applied to fungous ulcers.

VI. *Eye water*.—Take $6\frac{3}{4}$ oz. of rose-water, $21\frac{3}{4}$ grains of iodide of potassium, from 1 to 2 grains of iodine.

VII. *Injection*.—Take from 2 to 4 grains of iodine, 4 to 8 grains of iodide of potassium, and 1 pint of distilled water.

VIII. *Iodide of potassium*.—Dissolve 36 grains of iodide of potassium, and 10 grains of iodine, in 1 oz. of distilled water. Dose from 6 to 10 drops in syrup twice a day.

IX. *Mercurial ointment*.—Take from 2 to 4 scruples of iodide of mercury, rub them well with 2 oz. of fresh pork lard. Used for glandular ulcers, both of a syphilitic and a scrofulous kind.

X. *Mineral water*.—Take $\frac{3}{4}$ grain of iodine, $1\frac{1}{2}$ grain of iodide of potassium, $\frac{1}{2}$ pint of distilled water.

XI. *Ointment*.—Take 12 grains of iodine, 4 scruples of iodide of potassium, and 2 oz. of fresh lard, to form an ointment, in ulcers, &c.

XII. *Rubifacient solution*.—Take 4 drams of iodine, 1 oz. of iodide of potassium, and 8 oz. of distilled water, to form a solution. A little of this applied on a linseed poultice is a good application to indolent swellings. A little of this solution applied with a feather upon a knee or foot, affected with gout, and re-applied every day, has much efficacy in removing the complaint.

XIII. *Sarsaparilla*.—Take $32\frac{1}{2}$ oz. of decoction of sarsaparilla, 40 grains of iodide of potassium, $2\frac{1}{2}$ oz. of syrup of orange peel. Mix, and give the whole in divided doses in twenty-four hours.

XIV. *Sulphuric acid*.—Take 1 oz. of sulphuric ether, 6 grains of pure iodine. Mix, and give in doses from 5 to 10 drops, in cancer, schirrus, and bronchycele. Thirty drops contain a grain of iodine.

XV. *Waters*.—Add to 1 pint of salt water from $\frac{1}{2}$ a grain to a grain of iodine, and dissolve 6 grains of iodide of potassium, and 1 grain of iodine in a quart of water. Use it sparingly as a common drink at meals, about a tumbler full may be taken at once.

Before each of the above medicines, put the word 'ioduretted.' It will be observed that the quantities prescribed of the above medicines are often inconvenient. This arises from their being French receipts, and the translation of the weights into our own renders this sometimes unavoidable.

IPECACUANHA, EXTRACT OF.

Evaporate a tincture prepared from powdered root of ipecacuanha 2 lbs., proof spirits 7 lbs.

We cannot see any advantage of this preparation over the tincture or wine.

IPECACUANHA LINCTUS.

Oil of almonds and syrup of lemons, of each 1 fluid oz., powdered ipecacuanha 6 grains, confection of hips 1 oz., compound powder of tragacanth 3 drachms. This mixture, in quantity about half a tea-spoonful at a time, is good for coughs, &c.

IPECACUANHA LOZENGES.

Take sugar 4 lbs., ipecacuanha 1 oz., apothecaries' weight, with dissolved gum, sufficient to make a paste. Make 960 lozenges, each containing $\frac{1}{2}$ grain of ipecacuanha. Two or three at a time promote expectoration and perspiration, hence they are good in coughs and colds.

IPECACUANHA PILLS.

Compound powder of ipecacuanha (Dover's powder) 3 drachms, powdered squills and ammoniacum, of each 1 drachm, gum water to mix them. These pills, of which from 4 to 16 grains, or from 1 to 4 pills, may be taken at once, are useful in allaying irritating coughs, and in the chronic cough so frequently attendant upon old age.

IPECACUANHA, POWDER OF.

I. Ipecacuanha and opium, of each 1 drachm, vitriolated tartar 1 oz.

II. Calomel 1 drachm, powdered ipecacuanha 2 drachms, powdered cinnamon $\frac{1}{2}$ drachm, white sugar $1\frac{1}{2}$ drachm; mix together. Dose from 2 grains to 5. (See *Dover's Powder*.)

IPECACUANHA, TINCTURE AND WINE OF.

Ipecacuanha root 2 oz., spirits of wine 1 pint. Useful in dysentery, and not so powerfully emetic as the root in substance. The ipecacuanha wine is the same as the above, diluted with $1\frac{1}{2}$ pint of water, or by using a quart of sherry wine. This is used as an emetic. A little dried orange peel added to it is an improvement.

IRISH MOSS JELLY.

Soak Carrageen moss in cold water, then boil to a proper consistence; strain, and flavor with lemons and sugar.

The Carrageen or Irish moss, (*Chondrus crispus*.) is a sea-weed, very common on our coasts, and by no means confined to Ireland. When fresh it is green, but laying some time on the beach it becomes white; at the same time it becomes less tonic, by losing some of its bitter and tonic principle. The whitest moss then is not the best, though sold as such. Brown specimens are decayed plants, and should be rejected as inferior.

IRON, TO IMPREGNATE WATER WITH.

Place a few pieces of silver coin, alternating with pieces of sheet iron, in water. It will soon acquire a chalybeate taste, and a yellowish hue, and in twenty-four hours flakes of oxide of iron will appear. Hence if we replenish with water a vessel in which such pile is placed, after each draught, we may have a competent substitute for a chalybeate spring.

IRON CEMENT.

I. This is formed of the borings of cast iron guns, or turnings of cast iron, which should be clean and free from rust until used. By slight pounding or triturating, they are broken, but not powdered, and then coarsely sifted. At the time of using, they are to be mixed with powdered sal ammoniac and sulphur, and slightly moistened with water; when the composition must be rammed or caulked into the joints with a blunt caulking chisel and hammer, and the joint screwed up by its bolts as tightly as possible. No more of this cement must be made than can be used at one time, because it soon spoils; but if good, it will become as hard as the iron itself in a few days; 2 oz. of sal ammoniac, and 1 oz. of sulphur, is sufficient for 5 lbs. of iron borings.

II. To 6 parts of yellow potter's clay, add 1 part of steel filings, and a sufficient quantity of oil. Make the paste of the consistence of glazier's putty.

IRON, GILDING OF.

I. The iron bar, instrument, or vessel, is first made perfectly bright, then soaked in an acidulated liquor, and afterwards rubbed dry with whiting. Now prepare a solution of the sulphate of copper, and immerse the iron in it; in a few seconds the whole will become covered with a very beautiful but thin coat of copper, so as to appear entirely composed of that metal. The amalgam of gold is now to be applied, as in gilding copper, and put into the furnace for the separation of the mercury.

This mode of giving a gold coat to iron is certainly very ingenious, as it comprehends several processes and affinities.

II. Pour some of the ethereal solution of gold into a wine glass, and dip therein the blade of a new pen-knife, lancet, or razor; withdraw the instrument, and allow the ether to evaporate. The blade will be found to be covered by a very beautiful coat of gold. A clean rag, or small piece of sponge, may be dipped in the ether, and used to moisten the blade, with the same result. This coating of gold will remain upon the steel for a length of time, and will preserve it from rusting.

IRON LIQUOR FOR THE DYERS.

I. Suffer iron filings, or old iron hoops, or other scraps of iron, to remain in a tub, covered with water. The water soon becomes of a brown color, from containing the rust of iron in mixture with it.

II. Sprinkle iron, as above, with pyroligneous acid, or with sour wine, sour beer, or vinegar; repeat this occasionally, and return the liquor again and again over the iron, until it is sufficiently dissolved.

III. Fill a vessel with scraps of iron, and then fill up with brewers' grains and water; or, as in France, with vine leaves, rhubarb leaves, or sour fruit.

IRON, MEDICINES OF.

I. *Albuminate*.—Precipitate a filtered solution of white of egg with another of persulphate of iron, wash the deposit in water, and dissolve it in spirits of wine, holding caustic potass in solution.

II. *Alkaline liquor*.—Iron filings $2\frac{1}{2}$ drachms, dissolve in nitric acid 2 oz., distilled water 6 oz., add by degrees, water of subcarbonate of potass 6 oz. Let it stand, and pour off the clear. From $\frac{1}{2}$ drachm to a drachm two or three times a day.

III. *Ammoniated*.—Subcarbonate of iron 1 lb., dissolve in muriatic acid 1 lb., evaporate to dryness, add sal ammoniac 1 lb., and sublime. Used as a tonic and astringent, in doses of from 3 to 15 grains, in glandular enlargements of the breasts, &c.

IV. *Compound mixture*.—Take 2 drachms of powdered myrrh, 1 drachm of carbonate of potass, 18 oz. of rose-water, $2\frac{1}{2}$ scruples of sulphate of iron in powder, 1 oz. of spirit of nutmeg, and 2 drachms of sugar. Rub the myrrh with the spirit of nutmeg and the carbonate of potass, and to these add, while rubbing, first the rose-water with the sugar, and then the sulphate of iron; put the mixture into a glass vessel, and cork or stopper it up from contact with the air, otherwise it readily absorbs oxygen, and becomes decomposed. Dose from 1 to 2 oz. an hour before each meal, to improve the appetite, and give tone to the stomach, nerves, &c.

V. *Electuary*.—(a) Take of the potassio-tartrate of iron $\frac{1}{2}$ oz., confection of red roses 1 oz., syrup to mix.—(b) Precipitated sesqui-oxyde of iron, (crocus, colcothar, red rust, or jeweller's rouge,) 1 oz., honey 2 oz., ginger syrup $\frac{1}{2}$ oz.—(c) Carbonate of iron, made into an electuary with treacle, or the jam of fruit. A tea-spoonful two or three times a day as a general tonic.

VI. *Iodide*.—This should be made in a glass vessel, broad at foot, and with a narrow stem or neck. Put into it first 3 oz. of iodine, then iron filings 1 oz., with $2\frac{1}{2}$ pints of water, the vessel being large enough to hold 2 quarts, boil by a gentle heat, till the liquor turns to a pale green; filter, wash the residuum with a little water, and evaporate to dryness. The iodide will at last appear like a cake at the bottom of the vessel, when cold, the vessel must be broken to remove it; during the drying, you must ascertain if the water be evaporated, by holding anything cold over the mouth to see if steam arises. If not, it is dried enough; after this, a little extra heat will decompose it, and by holding a bit of starch over the mouth of the flask, it will turn blue, showing that free iodine escapes.

VII. *Lozenges*.—(a) Take of ammonio-citrate of iron 1 drachm, water $\frac{1}{2}$ oz. Dissolve, and add $2\frac{1}{2}$ oz. of sugar. Evaporate

to dryness, powder, make a mass with gum water, and divide into 15 grain lozenges.—(b) Lactate of iron $\frac{1}{2}$ drachm, white sugar $\frac{1}{2}$ oz., mucilage of gum tragacanth to mix. Make into 30 lozenges. Tonic, to restore to a proper tone the digestive organs. (See also *Steel Medicines*.)

VIII. *Pills*.—Take 2 drachms of myrrh in powder, and 1 drachm each of carbonate of soda, sulphate of iron, and treacle; rub the myrrh with the carbonate of soda, then add the sulphate of iron, triturate again, and beat the whole together in a vessel, previously warmed, until the substances are well incorporated together. The pills must be formed when wanted. They are tonic, in doses of 10 grains to 15 grains, twice or thrice a day.

IX. *Plaster*.—Lead plaister 3 oz., yellow resin $\frac{3}{4}$ oz., bees'-wax 3 drachms; melt together, then add 1 oz. of red oxyde of iron, previously rubbed up with $3\frac{1}{2}$ fluid drachms of olive oil. This is strengthening and stimulant. It is therefore good to place upon a limb or muscle which is relaxed or over-fatigued, weakness of the joints, &c., particularly to bind round the ancle, when weak by over-exertion.

X. *Scales*.—Scales of iron beaten off by a blacksmith at his work, separated from the dirt by means of a magnet, reduced to powder in a mortar, and washed well. Used as a tonic in medicine. These are a protoxyde of iron.

XI. *Sweet carbonate*.—Sulphate of iron 4 oz., carbonate of soda 5 oz. Dissolve each separately in a quart of water, mix the solutions, collect the precipitate, wash it well with cold water, drain on a cloth, squeeze out as much of the water as possible, and add powdered lump sugar 2 oz. Mix and dry, at a temperature not exceeding 120° . A sweet-tasted mass or powder. Dose 5 to 10 grains in half a glass of water.

XII. *Tartarized*.—(a) Rub iron filings 1 lb. with cream of tartar 2 lbs., and water 1 lb.; expose to the air for a week, then dry and powder, add water 1 lb., again expose to the air for a week, dry, and powder.—(b) Rust of iron 1 oz., cream of tartar 2 oz., water 1 lb.; boil, filter, cool, filter again, evaporate to a pellicle, cool; it will form a saline mass, which is to be powdered. These are both tonics in doses of 10 grains to $\frac{1}{2}$ drachm.

XIII. *Tincture*.—Take 6 oz. of the rust of iron, 1 pint of muriatic acid, and 3 pints of spirits of wine. Add the acids to the oxyde in a glass vessel, and shake it occasionally for three days; then pour off the clear liquor, and add the spirit to it. This is an active preparation, good as a tonic and diuretic, in doses of 10 drops, cautiously increased to 1 drachm, in indigestion, &c.

IRON-MOULDS, TO REMOVE.

I. Rub the spot with a little powdered oxalic acid, or salts of lemon and warm water. Let it remain a few minutes, and well rinse in clear water.

II. Wash the spots with a strong solution of cream of tartar and water. Repeat, if necessary, and dry in the sun.

IRON FROM RUST, TO PRESERVE.

Polished iron-work may be preserved from rust by a mixture not very expensive, consisting of copal varnish intimately mixed with as much olive oil as will give it a degree of greasiness, adding thereto nearly as much spirit of turpentine as of varnish. The cast iron-work is best preserved by rubbing it with black-lead. But where rust has begun to make its appearance on grates or fire-irons, apply a mixture of tripoli with half its quantity of sulphur, intimately mingled on a marble slab, and laid on with a piece of soft leather; or emery and oil may be applied with excellent effect; not laid on in the usual slovenly way, but with a piece of flannel, sponge, or linen, fully saturated with the mixture. This will not only clean but polish, and render the use of whiting unnecessary. (See *Steel*.)

IRON SAND FOR FIRE-WORKS.

Having broken a cast-iron plate or iron saucepan to pieces on an anvil, pulverize the fragments till the grains are not larger than radish seed, then sift them through sieves of different degrees of fineness, and preserve the different siftings in a very dry place, in closely-corked bottles, to secure them from rust, which would render them totally unfit for the intended purpose. The grains which pass through the first or finest sieve are called sand of the first order; those which pass through the second, sand of the second order, &c. This sand, when it inflames, emits a light exceedingly vivid, and fragments of the size of a poppy-seed form luminous flowers or stars, about an inch in diameter. These flowers are of different forms and colors, according to the size of the inflamed grains, and the matter with which they have been mixed. Rockets or other fire-works, into the composition of which the finest sand has been introduced, will not keep longer than eight or nine days, and with the coarsest sand fifteen days.

IRON, TO TIN.

Iron which is to be tinned must be previously steeped in acid materials, such as sour whey, distiller's wash, &c.; then scoured, and dipped in melted tin, having been first rubbed over with a solution of sal ammoniac. The surface of the tin is prevented from calcining, by covering it with a coat of fat. Iron vessels must be well cleansed; and then a sufficient quantity of

tin with sal ammoniac is put therein, and brought into fusion, and the iron vessel moved about. A little resin is sometimes added. The sal ammoniac prevents the iron from scaling, and causes the tin to be fixed wherever it touches. Lately, zinc has been proposed for lining vessels instead of tin, to avoid the ill consequences which have been unjustly apprehended.

IRON-WORK BLACK.

Put 48 lbs. of foreign asphaltum into an iron pot, and boil for four hours. During the first two hours, introduce 7 lbs. of litharge, 3 lbs. of dried copperas, and 10 gallons of boiled oil; add $\frac{1}{2}$ lb. of dark gum lac, with 2 gallons of hot oil. After pouring the oil and gum, continue the boiling two hours, or until it will roll into hard pills like japan. When cool, thin it off with 30 gallons of turpentine, or until it is of a proper consistence. This varnish is intended for blacking the iron-work of coaches and other carriages, &c.

IRON PLATES, TINNING OF.

Clean with coal ashes a plate of sheet iron, and put it in a vessel containing a quart of water and a dram of sulphuric acid. Let it remain in this *pickle*, as it is called, for twenty-four hours; then take it out, dry it well, grease it with a piece of tallow, and put it in a hot place. Now melt any quantity of tin in a crucible or ladle, and dip the clean plate, while hot, in it, taking care that the tin shall cover every part, when it will be completely united to the iron, forming a coat of tin, and penetrating into the substance of the iron, so that when cut with shears, the whole body appears white, hence it is called white iron, and by those unacquainted with the process, considered to be real tin; and, therefore, the manufactures of these sheets of iron are called generally tin-ware. That commonly called block-tin is but a superior kind of the same description of articles, and is called in the trade double plate.

ISINGLASS CEMENT.

This is used by the modellers in cardboard, and especially so by those who form architectural models in plaster of Paris, to join together the various joints; it holds firmly, is easily cleaned off, and gives no glossiness, as gum alone does. It is merely formed of isinglass glue, made of such a consistence, that it sets, when cold, into a strong jelly. This being a little warmed, and therefore dissolved by immersing the cup which holds it in another cup of warm water, stir up into it for pasteboard works a little flake white, till of a good full color; for plaster of Paris works, add instead a little superfine plaster. Thus made and suffered to get cold, it will keep for any length of time, and is to be used by putting the

cup holding it near the fire, till hot, when it will be a stiff liquid paste or glue. Care must be taken to stir it up when wanted for use, lest the plaster should have settled at the bottom; to prevent this, a little gum arabic may be added, and indeed is an improvement. When dried up, a little warm water will make it as good as ever.

ISINGLASS GLUE

Is made by dissolving beaten isinglass in water by boiling, and having strained it through a coarse linen cloth, evaporating it again to such a consistence, that, being cold, the glue will be perfectly hard and dry.

ISINGLASS JELLY.

Put 1 oz. of isinglass and $\frac{1}{2}$ dram of cloves into a quart of water. Boil it down to a pint, strain it upon 1 lb. of loaf-sugar, and when cold add a little wine, when it will be fit for use. A very nourishing beverage may be made by merely boiling the isinglass with milk, and sweetening with lump-sugar.

ISINGLASS MUCILAGE.

A vehicle for water colors, invented by Mr. Robertson, of Worton Lodge. It is prepared by macerating shreds of good isinglass in water, till thoroughly soft, dissolving these in boiling alcohol, so that a compound fluid be produced when cold. It gives water-color paintings great power and permanence.

ISSUE PEAS.

I. Yellow wax 1 lb., turmeric root 8 oz., Florentine iris root 4 oz., Venice turpentine to make into peas.

II. Yellow wax 6 oz., Florentine iris root 2 oz., vermilion 4 oz., Venice turpentine as before.

III. Yellow wax 6 oz., verdigris and white hellebore root, of each 2 oz., cantharides 1 oz., Florentine iris root $1\frac{1}{2}$ oz., Venice turpentine as before. This last is caustic, and will therefore open issues itself; the others are used to put into issues, that begin to close up, to keep them open longer.

ISSUE PLAISTERS.

I. Bees'-wax $\frac{1}{2}$ lb., Burgundy pitch and Chio turpentine, of each 4 oz., vermilion and orrice powder, of each 1 oz., musk 4 grains. Melt, spread upon linen, polish with a smooth piece of glass moistened with water, and cut the plaister into pieces for use.

II. Simple diachylon plaister 1 lb., Florentine iris root 1 oz. Spread and polish.

III. Simple diachylon 2 lbs., Burgundy pitch and sarcocolla, of each 4 oz., common turpentine 1 oz.

Orrice root and Florentine iris root are the same.

ITALIAN BREAD.

Take 1 lb. of butter, 1 lb. of powdered loaf sugar, 1 lb. 2 oz. of flour, 12 eggs, $\frac{1}{2}$ lb.

of citron and lemon-peel. Mix as for pound cake, that is, mix all first without the flour. If the mixture begins to curdle, which it is most likely to do from the quantity of eggs, add a little of the flour. When the mixture is perfectly completed, and the eggs, which should have been used only two or three at a time, are all incorporated, add the flour by degrees. Bake it in long narrow tins, either papered or buttered. First, put in a layer of the mixture, and cover it with the peel, and which must have been kept back for this purpose; then put in another layer of the mixture, and then peel again, and so on till the tin is three-parts filled; bake it in a moderate oven.

ITALIAN CREAM.

Dissolve $\frac{1}{2}$ oz. of isinglass in a small stew-pan, with about $\frac{3}{4}$ of a tea-cupful of milk, then strain it into a tea-cup. Rub a lemon and an orange upon sugar, until the peel is all grated off, scrape this off, and put it into a pan or basin, add the juice of 1 lemon and $\frac{1}{2}$ the juice of another, with a wine-glassful of brandy, and $\frac{3}{4}$ pint of good cream, whisk all to a strong froth, and add sufficient powdered loaf-sugar to sweeten it. Put in the isinglass, and mix it well; when it begins to set, pour it into a mould; turn it out when set, which will be in about an hour, it being put in as cold a place as possible.

ITALIAN VARNISH.

Boil Chio turpentine till brittle, then powder it, and dissolve in oil of turpentine. It may be dissolved in oil of turpentine at once, but it does not dry so well, as if previously boiled. Used to varnish prints, &c. (See *Prints*.) There are many varnishes better than this.

ITCH, OR PSORA.

This vile disease is thought by some to be caused by the attachment and burrowing of a peculiar insect, called the itch insect, into the more sheltered parts of the skin, as between the fingers, in the hollow of the elbow joint, under the arm pits, &c., though not wholly confined to those parts; though others maintain that these insects are the result, and not the cause of the disease. The utmost distress is occasioned to the patient by the intolerable itching occasioned by the irritation. It is communicated by contact with another person so affected, as taking hot money from his hand, sleeping in the same bed, &c., and sometimes comes without infection, owing to unwholesome food, bad air, and want of cleanliness. It appears first as minute pimples, on the parts before alluded to; these increase in size, and become red and confluent, at last they break, and the acrid fluid discharged extends to the neighbouring parts, and thus increases the disorder. The most effective remedies are

sulphur, corrosive sublimate, and hellebore, particularly the first, though it is disagreeable in its operation, as it occasions a very penetrating and well-known odour to arise from the skin, stains the linen yellow, and blackens any silver money, &c. carried about the person. The application of sulphur is by taking it internally, as brimstone and treacle, and externally by rubbing the whole surface of the body over with the ointment. The following are useful receipts on this subject:—

I. *Ointments*.—Pork lard 1½ lb., flowers of sulphur ½ lb., white hellebore root 2 oz., saltpetre 1 drachm, soft soap ½ lb. This ointment is apt to irritate.

II. Simple ointment ½ lb., flowers of sulphur 2 oz., essence of lemon 1 scruple.

III. Pork lard ½ lb., flowers of sulphur 3 oz.

IV. Powder of white hellebore 1 oz., prepared lard 4 oz.

V. Corrosive sublimate 10 grains, the yolk of an egg, lard 2 oz.

VI. Sulphuric acid ½ drachm, lard 1 oz.

VII. White precipitate of mercury 1 drachm, submuriate of mercury ½ drachm, washed sulphur 2 drachms, lard 2 oz.

VIII. White precipitate of mercury 2 drachms, acetate of lead and sub-carbonate of potass, of each 10 grains, lard 2 oz., essential oil of bergamot 30 drops. (See *Edinburgh and Jackson*.)

IX. Elecampane root and the leaves of the pointed-leaved dock, (*Rumex pratensis*.) of each 3 oz., water 2½ pints, vinegar 1 pint. Boil to half the quantity, press, add liquor of water-cresses 10 oz., lard 4 lbs., boil to dryness, and further add bees'-wax and oil of laurel berries, of each 4 oz.

X. Palm oil 1 lb., lard 5 lbs., white lead ½ lb., corrosive sublimate 4 drachms.

XI. *Lotions*.—Oxy-muriate of mercury 4 grains, sal ammoniac 10 grains, distilled water 12 oz.

XII. Take white hellebore root, bruised 1 oz., pure water 2 pints; boil them down to 1 pint, and add to the strained liquor, when cold, spirits of wine 2 oz.

XIII. Decoction of white hellebore 12 oz., corrosive sublimate 6 grains, sal ammoniac 1 drachm.

XIV. Sulphuret of potassium 1 drachm, soft soap 2 drachms, water 8 oz. This leaves but little smell behind, and does not soil the linen. Each of these ointments and lotions must be applied once a day, as at bed-time, and rubbed or washed over the whole body.

XV. *Bath*.—Immerse the patient in a bath containing 1 oz. of chloride of lime to every 5 gallons of water.

IVORY BLACK, TO MAKE.

Put into a crucible, surrounded by burning coals, fragments or turnings of ivory, and it closely. The ivory, by exposure to

the heat, will be reduced to charcoal. When no more smoke is seen to pass through the joining of the cover, leave the crucible over the fire for half an hour longer, or until it has completely cooled. There will then be found in it a hard carbonaceous matter, which, when pounded and ground on porphyry with water, is washed on a filter with warm water, and then dried. Before it is used, it must be again subjected to the muller or be ground. Black furnished by bones is reddish, that produced by ivory is more beautiful; it is brighter than black obtained from peach stones.

IVORY, TO BLEACH.

Ivory is very apt to take a yellow-brown tint by exposure to air. It may be whitened or bleached, by rubbing it first with pounded pumice-stone and water, then placing it moist under a glass shade luted to the sole at the bottom, and exposing it to sunshine. The sunbeams without the shade would be apt to occasion fissures in the ivory. The moist rubbing and exposure may be repeated several times.

IVORY, TO DYE.

I. *Black*.—(a) If the ivory be laid for several hours in a dilute solution of neutral nitrate of pure silver, with access of light, it will assume a black color, having a slightly green cast.—(b) A still finer black may be obtained by boiling the ivory for some time in a strained decoction of logwood, and then steeping it in a solution of red sulphate or red acetate of iron.

II. *Blue*.—When ivory is kept immersed for a longer or shorter time in a dilute solution of sulphate of indigo (partly saturated with potash), it assumes a blue tint of greater or less intensity.

III. *Green*.—This is given by dipping blued ivory for a little while in solution of nitro-muriate of tin, and then in a hot decoction of fustic.

IV. *Yellow and Orange*.—(a) This is given by impregnating the ivory first with the above tin mordant, and then digesting it with heat in a strained decoction of fustic. The color passes into orange, if some Brazil wood has been mixed with the fustic.—(b) A very fine unchangeable yellow may be communicated to ivory by steeping it eighteen or twenty-four hours in a strong solution of the neutral chromate of potash, and then plunging it for some time in a boiling solution of acetate of lead.

V. *Scarlet and Red*.—This may be given by imbuing the ivory first with the tin mordant, then plunging it in a bath of Brazil wood, cochineal, or a mixture of the two. Lac-dye may be used with still more advantage to produce a scarlet tint. If the scarlet ivory be plunged for a little while in a solution of potash, it will become cherry red.

VI. Violet, Lilac, and Purple.—These are given in the logwood bath to ivory previously mordanted for a short time with solution of tin. When the bath becomes exhausted, it imparts a lilac hue. Violet ivory is changed to purple-red by steeping it a little while in water containing a few drops of nitro-muriatic acid.

With regard to dyeing ivory it may in general be observed, that the colors penetrate better before the surface is polished than afterwards. Should any dark spots appear, they may be cleared up by rubbing them with chalk; after which the ivory should be dyed once more to produce perfect uniformity of shade. On taking it out of the boiling hot dye-bath, it ought to be immediately plunged into cold water, to prevent the chance of fissures being caused by the heat.

IVORY, TO ETCH.

For etching ivory, a ground made by the following receipt is to be applied to the polished surface:—Take of pure white wax and transparent tears of mastic, each 1 oz., asphalte $\frac{1}{2}$ oz. The mastic and asphalte having been separately reduced to fine powder, and the wax being melted in an earthenware vessel over the fire, the mastic is to be first slowly strewed in and dissolved by stirring; and then the asphalte in like manner. This compound is to be poured out into lukewarm water, well kneaded, as it cools, by the hand, into rolls or balls about 1 inch in diameter. These should be kept wrapped round with taffety. If white rosin be substituted for the mastic, a cheaper composition will be obtained, which answers nearly as well;—2 oz. of asphalte, 1 oz. of rosin, $\frac{1}{2}$ oz. of white wax; being good proportions. Either of the grounds being applied to the ivory, the figured design is to be traced through it in the usual way, a ledge of wax is to be applied, and the surface is to be then covered with strong sulphuric acid. The effect comes better out with the aid of a little heat; and by replacing the acid, as it becomes dilute by absorption of moisture, with concentrated oil of vitriol. Simple wax may be employed instead of the copper-plate engraver's ground; and strong muriatic acid instead of sulphuric. If an acid solution of silver or gold be used for etching, the design will become purple or black, on exposure to sunshine. The wax may be washed away with oil of turpentine. Acid nitrate of silver affords the easiest means of tracing permanent black lines upon ivory.

IVORY JELLY.

The raspings of ivory impart to boiling water a very pleasant jelly, which has been found more easy of digestion, and more untritious than that of the hartshorn shavings or isinglass. Mixed with the jelly of the arrow-root, in the proportion of 1 part to 7,

it is much recommended for weakly and ricketty children, and consumptive or emaciated invalids.

IVORY, TO PREPARE FOR MINIATURES.

Take the ivory leaves, or tables on which the painting is to be made, and having cleansed them, rub them over with the juice of garlic. This takes off that greasiness which is so much complained of, as preventing the colors from taking on the ground, and which is not otherwise to be remedied by the use of soap, or even gall. (See *Ivory, Bleaching of*.)

IVORY, TO SMOOTH AND POLISH.

Some painters use a large scratcher; others an instrument with a blade three or four inches long, and of a triangular shape. To either of these the use of a razor is preferable; to benefit completely by it, be sure it has not the smallest notch in it, or that it be not too sharp. Open it so that the back part of the blade touches the handle; in that way use it to scrape the ivory from angle to angle. When the whole is thus polished, begin again from the contrary angles, in order that no traces of the saw may remain upon the side required to be painted. Having provided some putty powder, pulverized and passed through a silk sieve, place the ivory in the middle of the bottom of a hand box, holding it firm with one hand, while with the other take a small bit of paper, and rub the pounce on the side of the ivory which has been polished; being always careful to do it with a circular movement. If the ivory be now of a dead white, and has lost the shine given to it by the razor, take it out of the box, holding it so that the fingers do not touch the surface, and brush off lightly with a painting brush any grits that may have adhered to it; for this purpose take one of the largest hair-pencils; it may be serviceable to remove in the same way any specks or dust while painting. Never suffer the fingers to touch the ivory; hold it always at the extremities, for the color will not settle in a place touched by the hands. If, however, such an accident happens, have recourse to the pumice-powder, and with a paper stump, rather pointed, gently rub the place affected. But to avoid as much as possible a recurrence of such accidents, when at work, take a sheet of paper to rest the hand upon, and when there is occasion to use body-color, have a piece of wood or pasteboard made for the same purpose, in such a way that it touch not the miniature; for in consequence of the gum which is in the colors, the heat of the hand might cause the paper to stick to the painting.

JACKSON'S ITCH OINTMENT.

Mix together equal parts of prepared lard, palm oil, flowers of sulphur, and white hellebore root.

JALAP AND SQUILLS, DRAUGHT OF.

Tincture of jalap 2 fluid drachms, vinegar of squills 1 fluid oz., peppermint-water $1\frac{1}{2}$ fluid oz.

JALAP, ELIXIR OF.

Jalap 4 oz., scammony 4 drachms, gamboge 2 drachms, rectified spirit 1 quart.

JALAP, EXTRACT OF.

I. Jalap $2\frac{1}{2}$ lbs., rectified spirits of wine 1 gallon; macerate for four days, and express the liquid. Boil the residue in 2 gallons of water, and strain. Distil off the spirit from the tincture, till the latter acquires the consistence of honey, then mix it with the decoction, also brought to the same consistence by boiling; stir both well together, and continue the boiling till hard enough.

II. Boil jalap root, previously well bruised, for four hours in water; strain through a cloth, and boil the liquor which passes through the cloth, until the extract is of proper consistence.

Jalap medicines should always have a little aromatic powder mixed with them to prevent griping, as cloves, cinnamon, ginger &c., or else a little sulphate or sub-carbonate of potass.

JALAP POWDER.

Jalap powder 3 oz., cream of tartar 6 oz., ginger 2 drachms. Mix all well together, and take from 20 to 60 grains as a purgative in habitual costiveness.

JAMAICA PEPPER WATER.

Take of Jamaica pepper $\frac{1}{2}$ lb., water $2\frac{1}{2}$ gallons; draw off 1 gallon with a pretty brisk fire. The oil of this fruit is very ponderous, and therefore this water is made in an alembic.

Jamaica pepper is the fruit of a tall tree growing in the mountainous parts of Jamaica, where it is much cultivated, because of the great profit arising from the cured fruit, sent in large quantities annually into Europe.

JAMES'S ANALEPTIC PILLS.

Take 1 drachm each of James's powder, rufus pill mass, and gum guaiacum; make a mass with tincture of castor, and divide into 40 pills. They are usually made however with compound ammoniacal powder, instead of James's powder.

JAMES'S POWDER.

Oxyde of antimony 57 parts, partly vitrified, and 43 of phosphate of lime. A medicine very uncertain in its action, the common antimonial powder is therefore always substituted. Dose 30 grains.

JAMS OF FRUIT.

A jam, or marmalade, is the whole or

nearly the whole of a fruit, boiled down to a pulp, with such an addition of sugar as to preserve it from fermenting. The fruit therefore does not retain its form and appearance, in which circumstance it differs from a preserve; neither is it transparent, or like a jelly. Fruits for the making of jam should be gathered in dry weather, when fully, but not over ripe, carefully picked over to remove any decayed or imperfect parts, and used as early as possible afterwards. Apples, pears, and other large fruits, should be peeled and have their cores removed; the smaller fruit, such as currants, strawberries, &c., have their stalks taken away. They are then put into a shallow pan, of copper, iron, or brass, made of thick metal, (to prevent burning,) and with about $\frac{3}{4}$ their weight of sugar, and are to be simmered over a gentle clear fire, till a part of the water of the fruit has evaporated, and the sugar has become well incorporated with the pulp; this will take from half an hour to an hour, according to the nature of the fruit, and somewhat of the season, as is explained under the name of each particular fruit, as *Apricot*, *Apple*, *Gooseberry*, *Currant*, &c. When a jam is boiled enough may be known by its congealing into a jelly-like substance when a drop is put upon a cold plate. If it ferments after it is made, it shows want of sufficient sugar; if it crystallizes at the top after a time, it is a sign of too much sugar. In all cases jams are to be skimmed during the boiling.

Jams, jellies, and preserves, will not keep for any length of time, if made of any other sugar than loaf-sugar, or West Indian sugar. That which comes from the Mauritius, and from the East Indies, is much weaker, while the grape sugar, potatoe sugar, that from beet root, (so common in France,) and the maple sugar of North America, are wholly inadequate to the purpose, as the jam made from these invariably ferments.

JAMS, TO KEEP FROM MOULD.

To keep jams from mould, and with which they are very apt to be covered in the autumn and winter, it is necessary that they should be kept in a dry place, and if on open shelves in a shop, warehouse, or other place where the air is frequently changed, they will keep much better than in a cupboard. Some persons pour upon the jam a thin layer of mutton suet, to keep the air from them. This is unnecessary, as if jams are well made, nothing more is required than covering the jam itself within the pot with a piece of writing paper, cut to proper size and shape, and soaked in brandy or gin, and still better, if a drop or two of any essential oil be mixed with the spirit. A drop or two of the oil of lemons, essential oil of almonds, or rose, or lavender, in $\frac{1}{4}$ pint of brandy, will not injure the delicacy of any jam, but materially tend to preserve it from mould.

JANIN'S EYE OINTMENT.

White oxyde of zinc, and finely-powdered Armenian bole, of each 2 drachms, white precipitate 1 drachm, lard $\frac{1}{2}$ oz. Useful for inflammation of the eyelids, and for excessive watering of the eyes, or excessive secretion of tears.

JAPAN FOR LEATHER, ETC.

I. Boiled linseed oil 1 gallon, burnt umber 8 oz., asphaltum 3 oz., boil, and add oil of turpentine to dilute to a proper consistence.

II. Boiled oil 1 gallon, the black of Prussian blue to color.

Prussian blue, when heated, turns of a black color, thus the black japanned cloth, used for table covers, is prepared by painting the cloth with Prussian blue and boiled oil, and then drying it by the heat of a stove, when in the drying it takes its intense color.

JAPAN FOR TIN-WARE.

I. Oil of turpentine 8 oz., copal 2 oz., camphor 1 drachm.

II. Common copal varnish.

III. Tar varnish.

Either of the two first may be colored with lamp black, or vermilion. To the first, some receipts advise 1 oz. of oil of lavender to be added, but this is preposterous—first, because of the expense; and secondly, because no essential oil is useful in varnish.

JAPAN GOLD SIZE.

Gum ammoniacum 4 oz., linseed oil 1 oz. Dissolve by boiling, and thin by adding oil of turpentine.

JAPAN INK.

This differs from the ordinary ink in being blacker when first written with, and more glossy when dry; but it does not flow so readily from the pen, nor keep its color so well afterwards. The receipt is the same as for common ink, doubling however the quantity of gum, and adding 1 oz. to the gallon of brown sugar, or still better, of sugar candy. The first blackness is occasioned by burning the copperas in a ladle, till white or yellow; or by sprinkling it with a few drops of nitric acid. This last, however, is very destructive to the pens used.

JAPANESE CEMENT, OR RICE GLUE.

This elegant cement is made by mixing rice-flour intimately with cold water, and then gently boiling it; it is beautifully white, and dries almost transparent. Papers pasted together by means of this cement will sooner separate in their own substance than at the joining, which makes it useful in the preparation of curious paper articles, as tea-trays, ladies' dressing-boxes, and other articles that require layers of paper to be cemented together.

JAPANNER'S COPAL VARNISH.

I. Copal 4 lbs., melt in a glass matrass, till any water attached to it is evaporated, pour in boiling linseed oil 1 pint, take the matrass from the fire, and mix the varnish, while hot, with about its own weight of oil of turpentine.

II. Copal 7 lbs., melt, and when melted, add $\frac{1}{2}$ gallon of linseed oil; boil for five minutes, then remove to the open air, add boiling oil of turpentine 3 gallons; mix and strain. This dries in fifteen minutes.

JASMINE, ESSENCE AND OIL OF.

I. Take any quantity of sweet almonds, blanch them, and to every lb. add $\frac{1}{4}$ lb. of fresh flowers of the white jasmine; pound them well together, and express the oil. This will be found strongly impregnated with the peculiar scent of the flowers. The cake left is used to make jasmine water.

II. Soak 2 oz. of the fresh jasmine flowers in olive oil, so that they are just covered with the oil. Let them thus remain for three or four days, and then strain.

The Florence oil of jasmine, and which is considered the best, is made from this latter receipt. The Leghorn and Genoa oil is made by the former, and is considered inferior. The difference between the oil and the essence is, that the latter is made from the oil of the ben nut, and by a double operation, that is, by first soaking one quantity of flowers, and when these have yielded their odour, by replacing them with a second quantity. When the operation is thus repeated three or four times, it constitutes jasmine butter. Orange flower-water is generally substituted by the perfumers for jasmine water, &c.

JASMINE HAIR POWDER.

There is little or no true jasmine hair powder, that so called is starch finely powdered, and scented with orange flower-water.

JASMINE POMATUM.

Lard 1 lb., suet 4 oz., jasmine water 1 pint, essence of jasmine 1 oz. Mix.

JASMINE WATER.

I. Take 12 oz. of white jasmine flowers, essence of bergamot 8 drops, spirits of wine 1 gallon, water 2 quarts. Digest for two days in a close vessel; then draw off by distillation 1 gallon, and sweeten with loaf-sugar.

This receipt is given in Jonas's Distiller's Guide. The sugar seems unnecessary, and the quantity of flowers exceedingly disproportionate to the quantity.

II. Take 6 lbs. of the white sweet almond cakes, from which jasmine oil has been made abroad; beat and sift them to a fine powder, and put to it as much fresh oil of jasmine as will be required to make it into a stiff paste. Let this paste be dissolved in about 6 quarts of spring water, which has been previously well boiled, and left until it has become about half cold. Stir and mix the whole well together; and when the oil and water have been well combined, let the whole stand until the powder has fallen to the bottom of the vessel. Now pour the liquid off gently, and filter it through cotton, in a large tin funnel, into the glass bottle in which it is to be kept for use.

JAUNDICE.

The jaundice is characterized by a yellowness of the skin, and of the eye, a bitter taste

in the mouth, whitish feces, and reddish urine, which tinges things dipped into it of a yellow color. It arises from a superabundance of bile, or from an obstruction of the flow of its redundancy into the intestines, on which account it is absorbed into the blood-vessels, and thus passes to the skin. It may arise from many causes. A redundant secretion of this fluid, as in those persons called bilious is not uncommon, particularly with those who reside long in hot countries; this is not likely to occasion more than a slight attack, if the biliary duct is free; but if this be constricted by spasm, gall stones, or pressure of the adjoining viscera, it is more serious. An enlargement of the liver from a hot climate, or from frequent use of intoxicating liquors, particularly those which are spirituous, is a common cause; and the persons most subject to it are those who lead a sedentary life, or who are liable to the formation of gall stones. During the passage of these, and the consequent interruption thus occasioned to the flow of the bile into the duodenum, is when an attack is very liable to occur. Where jaundice arises from the pressure of surrounding parts, we can scarcely hope to effect a cure; in recent cases, when it arises from the temporary stoppage of the duct, we may often, by a course of laxative medicine, much alleviate, and for the time, cure the disorder, though the cause which produces it being still in action, other attacks will be apt afterwards to recur. The following remedies are serviceable, but if great yellowness of the skin be observed and violent pain about the region of the navel, a quick pulse, much fever and anxiety, or melancholy, medical aid should be had recourse to immediately.

I. Powdered rhubarb 1 scruple, extract of dandelion $\frac{1}{2}$ drachm, calomel 12 grains. Mix up into a pill mass with syrup, and divide into 24 pills, of which take 2 or 3 at bed-time, as an aperient.

II. Calomel 5 grains, jalap $\frac{1}{2}$ drachm, honey to mix for a bolus. Take 1 now and then.

III. Aleotic pills with myrrh 15 grains, calomel 4 grains; mix with syrup of ginger. Make into 5 grains for a dose.

IV. Scammony in powder 5 to 10 grains, super-tartrate of potass and powdered ginger, each 12 grains. Mix for a dose.

V. Gum ammoniacum and hard soap, each 1 drachm, oil of juniper 8 drops, syrup of ginger to make a mass. Divide it into 24 drops. Take 4 or 5 twice a day.

VI. Powdered rhubarb 1 drachm, compound powder of cinnamon $\frac{1}{2}$ drachm, hard soap 2 drachms, oil of juniper 8 drops. Make up into 50 pills with common syrup, of which 3 or 4 are to be taken morning and night.

VII. Take of Castile soap 1 oz., oil of juniper 30 drops. Mix well together, and divide the mass into 96 pills; 2 to be taken twice a day.

VIII. Mix together 4 drachms of hard soap, 1 drachm of compound powder of cinnamon, 2 drachms of rhubarb in powder, and 16 drops of oil of juniper, with a sufficient quantity of syrup of ginger. Make the whole into 100 pills, of which 3 are to be taken morning and evening.

JAUNDICE OR YELLOWS IN CATTLE.

As soon as this disease makes its first appearance, it may, for the most part, be removed by administering the following drink:—Reduce to powder cumin seeds, aniseeds, and turmeric root, each 2 oz., grains of Paradise and salt of tartar, each 1 oz.; now slice 1 oz. of Castile soap, and mix it with 2 oz. of treacle; put the whole into a pitcher, then pour a quart of boiling ale upon the ingredients, and cover them down till luke-warm, then give the drink. It will often be proper to repeat this two or three times every other day, or oftener if required. If the beast be in good condition, take away from 2 to 3 quarts of blood; but the animal should not be turned out after bleeding that day, nor at night, but the morning following it may go to its pasture as usual. After this has had the desired effect, let the following be given:—Take of balsam of copaiva 1 oz., salt of tartar 1 oz., Castile soap 2 oz. Beat them together in a marble mortar, and add of valerian root, in powder, 2 oz., ginger root and Peruvian bark, in powder, each 1 oz., treacle 2 oz. Mix for one drink. Let this drink be given in a quart of warm gruel, and repeated, if necessary, every other day. It will be proper to keep the body sufficiently open through every stage of the disease; for if costiveness be permitted, the fever will increase, and if not timely removed, the disorder will terminate fatally.

JAUNDICE OF HORSES.

I. Take of Barbadoes aloes, from 4 to 5 drachms, white antimonial powder and Castile soap, each 2 drachms, calomel 1 drachm. Mix, and beat them into a ball, with a sufficient quantity of syrup of buckthorn. The horse should have a couple of mashes the day before the ball is given, by way of preparation, and the ball should be given fasting the morning following; let him fast for two hours after, then give him a mash of scalded bran and oats, with warm water, and treat him in the same manner as for other physic. The following mixture may be taken as a restorative after the above.

II. Take of gentian and caraway seeds, in powder, of each 3 oz., powdered ginger and precipitated sulphur of antimony, of each 6 drachms, Castile soap 1 $\frac{1}{2}$ oz., and

honey sufficient to form into 6 balls. One of these balls should be given every other day for some time.

JAUNEMANGE.

Made in the same way as blanc mange, except that the yolks of eggs are used instead of the whites, which gives the desired color.

JAVELLE, EAU DE.

This is the ordinary bleaching liquid of France, and is almost invariably used by the laundresses. It is rarely to be found in this country. Take common salt 2 lbs., manganese 1 lb., water 2 lbs.; put into a retort, and add, gradually, oil of vitriol 2 lbs. Pass the vapour through a solution of the sub-carbonate of potass, putting 3 oz. of the salt to 29 oz. of water, applying heat towards the last.

The above process shows that the Eau de Javelle is a chloride of potass.

JELLIES.

Jellies are either made from animal substances, as isinglass, ivory, glue, &c., (see these terms,) or from the juice of fruits; these last are made in the same manner as jams, except that the juice is poured from the jam, when made, and set aside to congeal by itself, or the juice of the fruit is squeezed from it in the first instance, and boiled with the sugar without the dregs of the fruit. (See the names of the various fruits for particular directions, and the word *Jam* for general ones, on making and preserving.)

JESUITS' DROPS.

Gum gusiicum 7 oz., Peruvian balsam $\frac{1}{2}$ oz., sarsaparilla root 5 oz., spirits of wine 2 $\frac{1}{2}$ lbs. A good anti-venereal and general purifier of the blood. (For another kind of Jesuits' Drops, see *Friar's Balsam*.)

JETS OF FIRE.

Jets are a kind of fixed rockets, the effect of which is to throw up into the air jets of fire, similar in shape to the jet of water thrown up by a fountain. When arranged in a circular manner, radiating from a centre, they form what is called a fixed sun. The thickness of the cases for brilliant fire must be a fourth part of the diameter, and for Chinese fire a sixth part; the case is loaded on a nipple as a rocket, having a point equal in length to the diameter, and in thickness to a quarter part of it, but as it generally happens that the mouth of the jet becomes larger than is necessary for the effect of the fire, the case should be first charged by filling it to a height equal to a fourth part of the diameter with clay, which must be rammed down. When the charge is completed with the composition, the case should be closed with a plug of wood, and then choked. The train or match must be the same as that employed for loading, otherwise the jet would be apt to burst. Jets intended to represent

sheets of fire, ought not to be choked. These last must be placed in a horizontal position, or inclining a little downwards.

I. *Compositions*.—Saltpetre 1 lb., meal-powder 1 lb., sulphur 8 oz., charcoal 2 oz. This is a Chinese fire.

II. Saltpetre 1 lb., meal-powder 8 oz., sulphur 3 oz., charcoal 2 oz., iron sand of the finest quality 8 oz. This is a white fire.

III. Meal-powder 1 lb., iron filings 5 oz. This is a brilliant fire.

IV. Saltpetre 1 lb., sulphur 8 oz., charcoal 2 oz. For a white fire.

V. Saltpetre 1 lb. 4 oz., sulphur 5 oz., charcoal 5 oz., coarse iron sand 12 oz. Chinese fire.

VI. Saltpetre 1 lb. 4 oz., sulphur 7 oz., charcoal 5 oz., mixed iron sand 12 oz.

Receipts 1 and 2 are for jets less than half an inch in diameter; 3, 4, and 5, are for jets from half an inch to an inch; and 6, for those above an inch. The saltpetre, meal-powder, and charcoal, are three times sifted through a hair sieve. The iron sand is sprinkled with the sulphur, after being moistened with brandy, that the sulphur may adhere to it, and then they are mixed together. The sulphuretted sand is then spread over the first mixture, and the whole is mixed with the hands only, for if a sieve were employed, it would separate the sand from the other ingredients.

JEWELLER'S ROUGE.

Take green vitriol, dissolve it in water; then by degrees add carbonate of soda, (used in washing) a powder will fall, which is one kind of rouge. It should be washed in water, and afterwards dried. Another kind is made by putting green vitriol in a crucible, and making it red hot, in which state it may be kept for a quarter of an hour. In the first case a carbonate of iron will be left; in the last case an oxyde of iron.

JORDAN'S BALM OF RAKASIRI.

Mr. Rennie, in his Supplement to the Pharmacopœia, states this to be nothing more than common gin, scented with the oil of rosemary.

JOSSE'S PURIFIED OPIUM.

Work opium under water, to separate the glutino-resinous part, which remains in the hand, the real opium dissolving in the water; filter the water, and evaporate to an extract. It still contains some resin, but is much less disagreeable in its smell, and considerably improved as an anti-spasmodic.

JUJUBE PASTE.

I. Jujubes 1 lb., water 4 lbs. Boil for half an hour, strain with pressure, let it settle, then decant the clear part, and clarify with white of eggs; add a strained solution of gum arabic 6 lbs. in 8 lbs. of water, and to the mixture add white sugar 6 lbs. Gently evaporate, often stirring the mixture; when reduced to a soft extract, add 6 oz. of orange flower-water, and place the pan in a vessel of hot water; let it rest for some hours,

then take off the scum at the top, pour into oiled tin moulds, and let it dry till of the consistence of soft glue.

That ordinarily sold for jujube paste is nothing but dissolved gum senegal, or the commoner kind of gum arabic, colored with cochineal, or red currant juice, and flavored with orange flower water.

II. Take of raisins, stoned, 1 lb., currants, picked, and jujubes, opened, each 4 oz. water a sufficient quantity. Boil, strain with expression, add sugar $2\frac{1}{2}$ lbs., gum arabic $2\frac{1}{2}$ lbs., previously made into a mucilage with some water, and strain; evaporate gently, pour into moulds, finish by drying in a stove, and then divide it.

JULIN'S AQUAFORTIS.

Rough nitre, and Fahlun aquafortis vitriol No. 3, of each 4 lbs. Distil, a white inflammable substance comes over, the nature of which is unknown. (Gray.)

JUNIPER BERRIES, DECOCTION OF.

Juniper berries 2 oz., cream of tartar 3 drachms, water 4 pints. Boil to a quart, strain, and add compound spirit of juniper 2 fluid oz. Diuretic.

JUNIPER BERRIES, INFUSION OF.

I. Juniper berries 1 oz., boiling water 1 pint. Infuse for one hour.

II. Bruised juniper berries 2 oz., boiling water 1 pint. Macerate for two hours, then

filter, and add tincture of juniper 1 oz., super-tartrate of potass $1\frac{1}{2}$ oz.

JUNIPER, EXTRACT OF.

Macerate juniper berries in warm water for twenty-four hours, strain, repeat the operation with more water, mix the liquors, filter, and evaporate.

JUNIPER, OIL OF.

This is obtained by distilling juniper berries along with water. These should be bruised, because their oil is contained in small sacs or reservoirs, which must be laid open before the oil can escape. It is limpid and colorless, or sometimes of a faint greenish yellow color. Its specific gravity is 0.911. It has the smell and taste of the juniper. Water, or even alcohol, dissolves very little of it. Gin contains a very minute quantity of this oil. Like oil of turpentine, it imparts to the urine of persons who swallow it the smell of violets.

JUNIPER, SPIRIT OF.

I. Bruised juniper berries 15 oz., bruised caraway and fennel seed, of each 2 oz., proof spirit 1 gallon, water 1 quart. Distil off 1 gallon.

II. Oil of juniper 2 drachms, oils of caraway and sweet fennel, of each $\frac{1}{2}$ drachm, proof spirit 5 quarts.

These medicines, and all others containing juniper, have the same diuretic properties, and much the same flavor as gin, which see.

KALI PRÆPARATUM.

Kali is but an old name for potass, the preparations of this substance will therefore be found under the words *Potass*, *Pearlash*, and *Salt of Tartar*. The present preparation is the sub-carbonate of potass, thus procured:—Pour upon the burnt lees of wine an equal weight of boiling water, filter and evaporate till the liquor grows thick, then remove the fire, and stir the salt frequently, until it concretes into small grains. The same as salt of tartar. Pearlash is of the same nature, and is generally substituted, it being more easily procured than a sufficiency of the lees of wine.

KEENE'S MARBLE CEMENT.

This is described as a combination of sulphate of lime and alum. The gypsum undergoes the same preparation as for plaster of Paris, being deprived of its water of crystallization by baking. It is then steeped in a saturated solution of alum; and this compound, when recalcined and reduced to a powder, is in a fit state for use. The cement has been most extensively applied as a stucco; but the finer qualities, (when colored by the simple process of infusing

mineral colors in the water with which the cement powder is finally mixed for working,) being susceptible of a high degree of polish, produce beautiful imitations of mosaic, and other inlaid marbles, scagliola, &c. This cement is not adapted to hydraulic purposes, or for exposure to the weather, but has been used as a stucco in the internal decorations of Windsor and Buckingham Palaces. From its extreme hardness, it has been found serviceable, when used for imbedding and setting the tiles of tessellated pavements, &c. and it has been adopted for this purpose at the French Protestant Church, the new fire-proof chambers in Shorter's Court, and the Reform Club House. The extreme hardness of the cement is its principal recommendation, when applied as stucco and for mouldings.

KEMP'S WHITE.

To crude carbonate of baryta, add hydrochloric acid, which will dissolve it. Then filter, and add to the filtered solution, sub-carbonate of ammonia, to precipitate the white. Wash and dry in cakes for use. This pigment is therefore precipitated carbonate of baryta.

KENNEDY'S CORN PLAISTER.

Yellow wax 1 lb., Venice turpentine 2 oz., verdigris 1 oz. Spread upon leather.

KENNETT OR READING ALE.

Take 1 quarter of good amber malt and 8 lbs. of brown hops. Three liquors to make two boilings. First boil for $\frac{1}{2}$ an hour—second $\frac{3}{4}$ of an hour. Use in the first wort in the copper when boiling $1\frac{1}{2}$ oz. of coriander seeds and $\frac{1}{2}$ an oz. of chillies. First mash set at 170° , with a barrel and a half of liquor: the second at 182° , with the same quantity of liquor; the third at 156° , with 2 barrels of liquor. Set it to work at 64° , and cleanse it at 74° with a good head; this will make rather more than 2 barrels. This much resembles Burton ale, but is not so strong. (See *Ale, for the method of making.*)

KERMES LOZENGES.

Kermes mineral 2 drachms, powdered white sugar 17 oz., powdered gum arabic 1 oz., orange flower-water 1 oz. Mix, and divide into 12 grain lozenges. Each lozenge contains $\frac{1}{3}$ of a grain of kermes mineral. A medicine to produce expectoration and perspiration; 2 or 3 may be taken at once.

KERMES MINERAL.

I. Common antimony, finely ground, 4 lbs., sub-carbonate of potass 1 lb., soft water 2 gallons. Boil for half an hour, filter, and cool very slowly. The kermes mineral settles as it cools. The antimony left upon the filter may be boiled again, several times with fresh carbonate of potass and water.

II. Common antimony, finely ground, 1 lb. sub-carbonate of potass $\frac{1}{2}$ lb., flowers of sulphur 1 oz. Mix, melt together, and pour out. When cold, reduce the mass to powder, and boil in water. The kermes settles as it cools, and is to be well washed.

KEYSER'S PILLS.

Acetate of mercury 12 grains, manna $1\frac{1}{2}$ drachm, starch 6 grains, mucilage of gum tragacanth to mix. Divide into 6 grain pills; take 2 night and morning as an alterative.

KID GLOVE CLEANER.

Add to $\frac{1}{2}$ pint of spirits of turpentine, 15 or 16 drops of the strongest ammonia. Tree up the gloves, that is, put them on glove-trees or wooden hands, and use a small plate brush, dipped in the above mixture, and afterwards with the brush dipped in fine sifted sand, or pumice-stone powder. Then rub the gloves with a piece of flannel, linen, or sponge, dipped in the mixture, then rub the sand clean off; repeat this two or three times. Hang them in the air to dry, and when dry, place them in a drawer with any pleasant scent, such as verbena or rosemary, or you may make a scent of 6 drops of otto

of roses, 10 drops of oil of cinnamon, and 10 drops of oil of lavender.

KIDDER'S SWEET SAUCE.

Cloves, mace, nutmegs, cinnamon, and sugar, of each 1 lb. Mix them together. It is used in pastry.

KIDDER'S SAVOURY SPICE.

Cloves, mace, nutmegs, pepper, and salt, of each 1 lb.; mix. Used in cookery.

KING'S CORDIAL.

For 2 gallons, take of Maderia wine 2 quarts, English brandy 2 quarts, 3 lbs. of rich black cherries, mashed in a pan, 2 drachms of the oil of carraway, 1 drachm of the oil of cinnamon, (kill the oils in $\frac{1}{2}$ pint of spirits of wine,) 1 nutmeg grated; mix them well, and add 1 gallon of syrup, color it with annatto or red sanders wood.

KING'S YELLOW.

A beautiful yellow pigment, procured from orpiment by sublimation. It is therefore the sesqui-sulphuret of arsenic, or yellow sulphuret of arsenic, and is imported from China, Japan, and the Birman Empire.

KING WOOD, TO IMITATE.

Boil $\frac{1}{2}$ lb. of French berries in 2 quarts of water, till of a deep yellow, and while boiling hot, give two or three coats to the work. When nearly dry, form the grain with the black stain, which must also be used hot. You may, for variety, to heighten the color, after giving it two or three coats of yellow, give one of strong logwood liquor, and then use the black stain as directed.

KINO, IMITATIVE.

Logwood 6 parts, tormentil 2 parts, madder root $1\frac{1}{2}$ parts, catechu 2 parts, water to make a decoction. Boil, set it aside to settle, and pour off the clear, or filter it off. Boil this down to a hard consistence. The produce from the above quantity would be 4 parts.

KINO, POWDER OF.

Gum kino 15 drachms, cinnamon 4 drachms, opium 1 drachm. Astringent in doses from $\frac{1}{2}$ a scruple to a scruple, which latter contains 1 grain of opium.

KIRKLAND'S NEUTRAL CERATE.

Diachylon 8 oz., olive oil 4 oz., prepared chalk 4 oz. When nearly cool, add distilled vinegar 4 oz., and sugar of lead 3 drachms. Stir till cold. A cooling application to indolent ulcers, &c.

KIRSCHWASSER.

A liquor esteemed in Germany—procured from cherries. This fruit is of various kinds, and somewhat similar to our Kentish cherries and small black cherries. It is suffered to hang on the trees till very ripe, when it is knocked down by children with switches. The cherries being collected, are placed in

tubs, partially bruised, so as to break some, but not all their kernels. Water is added, and the whole well stirred about. After two or three days, fermentation will commence. When this has subsided, it is put into the still, and the spirit extracted. It is lastly sweetened with a little sugar.

KITCHEN PEPPER.

Ginger 1 lb., cinnamon, black pepper, nutmegs, and Jamaica pepper, of each 8 oz., cloves 2 drachms, salt 6 lbs.; grind together.

KITCHINER'S ESSENCE OF HERBS.

For ten days steep in a pint of spirits of wine, $\frac{1}{2}$ oz. each of lemon thyme, winter savoury, sweet marjoram, and sweet basil, with 2 drams each of grated lemon peel and shallots, and 1 dram of bruised celery seed.

KITCHINER'S PILLS.

Turkey rhubarb 2 drachms, syrup 1 drachm, oil of carraway 10 drops. Mix, and divide into 40 pills. Stomachic and aperient.

These simple rhubarb pills are called by the extraordinary name of "Kitchiner's Peristaltic Persuaders."

KITCHINER'S RELISH.

I. Ground black pepper and salt, of each 1 oz., ground allspice, scraped horse-radish, minced shallots, of each $\frac{1}{2}$ oz., walnut pickle 1 pint. Steep fourteen days, and strain. Those who dislike the flavor of walnuts may use mushroom ketchup instead of it.

II. Take of Kitchiner's sauce superlative 4 pints, add $\frac{1}{2}$ pint of soy, or thick browning.

KITCHINER'S SUPERLATIVE SAUCE.

Port wine and mushroom ketchup, of each 2 pints, walnut pickle 1 pint, anchovies pounded $\frac{1}{2}$ lb., lemon peel, minced shallots, and scraped horse-radish, of each 2 oz., allspice, black pepper, powdered, of each 1 oz., cayenne pepper 2 avoirdupois drams, or curry powder 6 drams, bruised celery seed 2 drams. Steep fourteen days, and strain.

KNOX'S DISINFECTING POWDER.

Mix 8 parts of chlorinated soda with 3 parts of chlorinated lime. An ounce of this dissolved in a tumbler of water is similar to Labarraque's liquid.

KÆCHLIN'S LIQUID.

Copper filings 96 grains, liquor of ammonia 2 oz. Digest till the liquor turns of a full blue. Filter, add muriatic acid 5 drachms 12 grains, distilled water 5 lbs. Dose 1 to 2 tea-spoonsful daily in scrofula.

KOUMISS.

An intoxicating liquor made of mare's milk by the Tartars. The milk is kept in bottles made of hides, till it becomes sour; it is then shaken till it casts up its cream, and is then set aside in earthen vessels in a warm place to ferment, no yeast being required, though sometimes a little old koumiss is added. It is afterwards distilled in a rude vessel of baked clay. From 21 pints of milk are thus drawn 14 oz. of spirit, from which about 6 oz. of strong koumiss are obtained by redistillation.

KUNCKEL'S PHOSPHORUS.

I. This is made from putrid urine, distilled in an iron pot, with a glass or stone-ware head. The residuum taken out, ground, put into small earthen retorts, and distilled with a violent heat into cold water.

II. Pour a solution of sugar of lead into urine, which precipitates a white powder. This is to be mixed with powdered charcoal, and distilled at a violent heat into water.

III. Mix bone-ash 15 lbs., with 3 gallons of water, add oil of vitriol 6 lbs., the next day add more water, strain through a sieve, and wash the sediment well with hot water, evaporate the waters mixed together to the consistence of a syrup, add charcoal dust sufficient to absorb it, and distil into water.

This phosphorus inflames at a very low temperature, and is that used for the German silent lucifers.

KUSIQUE POWDER.

Nitre and sulphur, of each 50 parts, powdered charcoal and antimony, of each 1 part. Mix and divide into doses of 3 grammes each, ($46\frac{1}{2}$ grains English,) and put 3 doses in each packet. Given to dogs in a ball of butter, to prevent the disorders to which they are liable. A popular French nostrum.

KUSTITIEN'S METAL FOR TINNING.

To 1 lb. of malleable iron, at a white heat, add 5 oz. of regulus of antimony, and 24 lbs. of the purest Molucca tin. This alloy polishes without the blue tint, and is free from lead or arsenic.

A material for fastening knives or forks into their handles is much needed. The best cement which is used for this purpose is made by melting one pound of colophony, bought of any druggist, and eight ounces of sulphur. It may be kept in a bar or reduced to powder. Take one part of the powder and mix with iron filings, fine sand or brick dust, and fill the cavity of the handle, heat the stem of the handle, then heat the stem of the knife or fork and insert. When cold it will be found to be firm in its place.

PLEMENT.

Y, AUGUST 11, 1888.

SUBSCRIPTION:—

15s. HALF YEARLY, 28s. YEARLY. POST FREE.

INTS.

GAS OIL AND LIGHTING:—

LABDANUM, SPURIOUS.

I. The very high price of the true gum labdanum gave rise to the following good imitation:—Gum anime, gum copal, gum mastic, and gum lac, of each 2 lbs., gum arabic 3 lbs., catechu and Spanish liquorice, of each 1 lb., syrup of tolu 8 oz., essence of ambergris and essence of musk, of each 2 oz.

II. Yellow wax and pork lard, of each 4 oz., ivory black 4 oz. A vile article.

LABELS OF BOTTLES, TO PRESERVE.

Lay a coat of strained white of egg over the label, then hold it to the fire, or expose it to steam, till the albumen coagulates; when dry, it will be transparent, and resist the action of oils, spirits of wine, and water. Paper, however it may be prepared, will not resist the strong acids, the names then of these must be engraved on the bottles which contain them. Writing upon bottles themselves with pitch, and afterwards laying gold leaf upon them, according to the required names, has been used, but it is useless after a very short time.

LAC, TO BLEACH.

Dissolve shell lac in a lye of pearlash by boiling, filter, pass chlorine through it in excess, wash and precipitate; afterwards melt it into sticks.

This makes an excellent varnish with spirits of wine; also, its color renders it good for white and delicate colored sealing wax.

LAC LAKE, OR DYE.

Boil stick-lac in water, filter the decoction, and evaporate the clear liquor to dryness over a gentle fire. The occasion of this easy separation is, that the beautiful red color here separated, adheres only slightly to the outsides of the sticks broken off the trees along with the gum-lac, and readily communicates itself to boiling water. Some of this sticking matter also adhering to the gum itself, it is proper to boil the whole together; for the gum does not at all prejudice the color, nor dissolve in boiling water; so that after this operation the gum is as fit for making sealing-wax as before, and for all other uses which do not require its color.

LAC SPIRIT.

Muriatic acid 20 lbs., tin 3 lbs.; dissolve. This forms, of course, a muriate of tin, and which is much used in dyeing with lac dye.

LAC, TINCTURE OF.

Gum lac 4 oz., gum myrrh 2 oz., tincture of horse-radish 6 pints. To wash spongy gums.

LAC-WATER VARNISH.

Pale shell-lac 5 oz., borax 1 oz., water 1 pint. Digest at nearly the boiling point till dissolved, then strain. An excellent

vehicle for water colors, inks, &c., and as a varnish for prints, is made thus of bleached lac. When dry, it is transparent and waterproof.

LACQUER FOR BRASS.

I. Seed-lac, dragon's blood, annatto, and gamboge, of each 4 oz., saffron 1 oz., spirits of wine 10 pints.

II. Turmeric 1 lb., annatto 2 oz., shell-lac and gum juniper, of each 12 oz., spirits of wine 12 oz.

III. Seed-lac 3 oz., amber and gamboge, of each 2 oz., extract of red sanders $\frac{1}{2}$ drachm, dragon's blood 1 drachm, saffron $\frac{1}{2}$ drachm, spirits of wine 2 pints 4 oz.

IV. Turmeric 6 drachms, saffron 15 grains, spirits of wine 1 pint 4 oz.; draw the tincture, add gamboge 6 drachms, gum sandarac and gum elemi, each 2 oz., dragon's blood and seed-lac, of each 1 oz.

V. Put into a pint of alcohol, 1 oz. of turmeric powder, 2 drams of annatto, and 2 drams of saffron; agitate during seven days, and filter into a clean bottle. Now add 3 oz. of clean seed-lac, and agitate the bottle every day for fourteen days.

LACQUER FOR TIN.

Put 3 oz. of seed-lac, 2 drams of dragon's blood, and 1 oz. of turmeric powder, into a pint of well rectified spirits. Let the whole remain for fourteen days, but during that time agitate the bottle once a day at least. When properly combined, strain the liquid through muslin. It is brushed over tin-ware which is intended to imitate brass.

LACQUER FOR PHILOSOPHICAL INSTRUMENTS.

This lacquer or varnish is destined to change, or to modify the color of those bodies to which it is applied. Take $\frac{3}{4}$ oz. of gum guttæ, 2 oz. of gum sandarac, 2 oz. of gum elemi, 1 oz. of dragon's blood, of the best quality, 1 oz. of seed-lac, $\frac{3}{4}$ oz. of terra merita, 2 grains of Oriental saffron, and 20 oz. of pure alcohol. The tincture of saffron and of terra merita is first obtained by infusing them in alcohol for twenty-four hours, or exposing them to the heat of the sun in summer. The tincture must be strained through a piece of clean linen cloth, and ought to be strongly squeezed. This tincture is poured over the dragon's blood, the gum elemi, the seed-lac, and the gum guttæ, all pounded.

LACQUERING, TO PREPARE BRASS FOR.

As the object of lacquering is not to give a brilliancy, but to preserve one already obtained, it will be evident that in the preparation of any thing, the brighter surface obtained the better. Some goods are turned in the lathe, and then polished; sometimes, as in philosophical instruments, burnished also; this makes them sufficiently bright.

Other goods, as, for example, many which have chased surfaces, and which cannot therefore be turned with a cutting tool, are held against a scratch brush or brush of wire, which is fixed to the lathe like a chuck, and is made to revolve rapidly. This removes all asperities and renders the surface fit to receive the lacquer. A third and more common process is after the surface is got by other means as clean as possible, the goods are put into pickle, that is, into aquafortis and water, and there suffered to remain some hours, according to circumstances. The acid eats away the outer coat, leaving a bright surface beneath. The goods are now put into bran, and there shaken about to dry and clean them, when they will be ready for lacquering.

LACQUERING OF OLD WORK.

Such things as have been lacquered before are easily cleaned by boiling them in pearl-ash, when the old lacquer will be destroyed, though it will perhaps still lay upon the surface as a whitish kind of varnish. To remove this, and restore the articles to their proper color, let them be soaked in pickle, the same as for new work, examining them from time to time to see if they are sufficiently cleaned.

LACQUERING, PROCESS OF.

This is done in two ways, called cold lacquering and hot lacquering. By the former, a little lacquer being taken on the brush, which should be a common camel-hair varnish one, it is laid carefully and evenly over the work, which is then placed in an oven or on a hot stove; the heat from this continued only a minute or two is sufficient to set the lacquer, and the work is finished. By the second method, the work is heated first to about the heat of a flat iron as used by the laundress, and the lacquer quickly brushed over it in this state, the work being subjected to the oven for a minute afterwards or not, according to the pleasure and judgment of the lacquerer. The article, if very small, will require this, because it will have parted with most of its heat in laying on of the lacquer; if heavy, it will retain sufficient to perfect the process. The greatest difficulty is to know the exact degree of heat, and this knowledge cannot be attained except by experience, so different is the nature of the materials, the quality of different lacquers, and the effect to be produced.

LACTATE OF IRON LOZENGES.

Lactate of iron $\frac{1}{2}$ drachm, white sugar 6 drachms, mucilage of gum tragacanth, enough to mix into a mass, which make into 30 lozenges. These are tonic, particularly to assist digestion.

LACTIC ACID LOZENGES.

Lactic acid 2 drachms, powder

1 oz., oil of vanilla 4 drops, or the essence of vanilla $\frac{1}{2}$ drachm, mucilage of gum tragacanth to make a mass, which divide into $\frac{1}{2}$ drachm lozenges.

Lactic acid is prepared by distilling sour milk, or by saturating sour milk with carbonate of soda; now evaporate by heat, procure thus the crystals of lactate of soda, and decompose these carefully with sulphuric acid. This last will seize the soda and let the acid escape.

LADY KENT'S POWDER.

Crab's claws 8 oz., powdered pearls and red coral, of each 2 oz., oriental bezoar stone 1 oz.

A cordial said to have been once in great esteem; an enormous expense to make an almost valueless medicine.

LAENNEC'S SEDATIVE DRAUGHT.

Potassio-tartrate of antimony 2 grains, orange water $1\frac{1}{2}$ oz., syrup of poppies 2 fluid drachms. Dose as above every two hours in inflammation of the chest, &c.

LAENNEC'S REMEDY FOR TOOTH-ACHE.

Mix 1 drachm of creosote and 13 drams of spirits of wine; to be applied on cotton wool.

LA FAYETTE CAKES.

Mix into a paste $\frac{1}{2}$ lb. each of butter, sugar, and flour, 6 eggs, and $\frac{1}{2}$ oz. of volatile salt, pounded fine. Spread this paste out into thin round cakes, about 6 inches in diameter. Bake them to a light brown upon tins or paper. When baked, take them off the paper or tin, cover the top of two-thirds in number of them with jam, and put 3 together. Bake them again for three or four minutes, let them get cold, and then turn them round the edges, and cut them in six, eight, or more sections from the centre.

LAKE COLORS.

This name was originally given to designate merely the purplish color called crimson, and when employed alone it always bears that appellation; but in its more extended sense it is applied to all colors prepared by combining a coloring matter or tincture with a basis, which is commonly alumine; hence we have yellow, green, violet lake, &c. The manufacturers commence the preparation by preparing that which is called "the white body of lake," which is composed of a paste of pure alumine, or of alumine and chalk, upon which the coloring matter being thrown, fixes itself in a manner more or less durable. To prepare this paste, a quantity of alum is to be dissolved in water; and this solution is then precipitated by subcarbonate of soda or potass, in the proportion of 3 parts of good potass to 5 of alum. (Soda is preferable for this purpose; $4\frac{1}{2}$ parts of this material are required to saturate 5 parts of alum.) It is easy to ascertain whether the whole of the alumine is precipitated without of alkali; when the precipitate

has fallen to the bottom of the vessel, some of the clear liquid should be drawn off into two glasses; into one of these is thrown some drops of a solution of potash, and into the other a little alum water. If the precipitation is perfectly formed, no other subsidence will take place in either of the glasses; when the sediment is formed, the liquid is to be drawn off, and the deposit is to be washed with a great quantity of water, until at last it comes off without smell; it is then extended upon a filter of linen to drain, and when it is of the consistence of soft paste, it must be mixed with a warm decoction of cochineal, which colors it more or less strongly, according to the quantity of coloring matter contained in the decoction; it only now remains to separate the lake from the surplus liquid, to wash and strain it through a filter, to put it into forms, and dry it in the shade.

I. *Red*.—(a) Coarsely powdered cochineal 1 oz., water and rectified spirits of wine, of each 2 oz. Digest for a week, filter, and precipitate with a few drops of the solution of tin, added every two hours, till the whole coloring matter is thrown down.—(b) Coarsely powdered cochineal 1 lb., water 2 gallons. Boil one hour, decant, strain, add a solution of pearlsh 1 lb. or more, and precipitate with a solution of alum. If the alum be added first, and the lake precipitated with the alkali, the color will be slightly varied.—(c) Pearlsh 1 lb., clean shreds of scarlet cloth 3 or 4 lbs., water 4 or 5 gallons; boil till the cloth has lost its color, filter, and precipitate with a solution of alum.

II. *Yellow*.—(a) To a decoction of Persian or French berries, add some potash or soda; into the mixture a solution of alum is to be poured as long as any precipitate falls. The precipitate must be filtered, washed, and formed into cakes, and dried.—(b) A lake may be made in the same way with quercitron, taking the precaution to purify the decoction of the dye-stuff with buttermilk or glue. After filtering the lake, it may be brightened with a solution of tin.—(c) Annatto lake is formed by dissolving the dye-stuff in a weak alkaline lye, and adding alum water to the solution. Solution of tin gives this lake a lemon yellow cast; acids a reddish tint.—(d) Take 1 lb. of turmeric root, in fine powder, 3 pints of water, and 1 oz. of salt of tartar; put all into a glazed earthen vessel, and boil them together over a clear fire, till the water appears highly impregnated, and stains a piece of white paper of a beautiful yellow. Filter this liquor, and gradually add to it a strong solution of roche alum, in water, till the yellow matter is all curdled and precipitated. After this, pour the whole into a filter of paper, and the

water will run off, and leave the yellow matter behind. Wash it with fresh water, till the water comes off insipid.—(e) Make a ley of potashes and lime sufficiently strong; in this boil gently fresh broom-flowers, till they are white; then take out the flowers, and put the ley to boil in earthen vessels over the fire; add as much alum as the liquor will dissolve; then empty this ley into a vessel of clean water, and it will give a yellow color at the bottom. Settle, and decant off the clear liquor. Wash this powder, which is found at the bottom, with more water, till all the salts of the ley are washed off; then separate the yellow matter, and dry it in the shade.—(f) Gum guttæ and terra merita give very beautiful yellows, and readily communicate their color to copal varnish, made with turpentine. Aloes gives a varied and orange tint.

III. *Purple*.—A decoction of Brazil wood and logwood affords, with carbonate of potash, a permanent purple.

IV. *Orange*.—Boil 4 oz. of the best annatto and 1 lb. of pearlashes, half an hour, in 1 gallon of water, and strain the solution through paper. Mix gradually with this $1\frac{1}{2}$ lb. of alum in another gallon of water, desisting when no ebullition attends the commixture. Treat the sediment in the manner already directed for other kinds of lake, and dry it in square bits or lozenges.

In this manner make a lake of any of the substances that are of a strong texture, as madder, Brazil wood, logwood, &c., but it will not succeed in the more tender species, as the flowers of roses, violets, &c., as it destroys the nice arrangement of parts in those subjects, on which the color depends. (See these terms, and also *Carmin*, *Carminated Lake*, *Florentine Lake*, *Brown Pink*, &c.)

LAMP BLACK, TO MAKE.

Suspend over a lamp a funnel of tin plate, having above it a pipe, to convey from the apartment the smoke which escapes from the lamp. Large masses, of a very black carbonaceous matter, and exceedingly light, will be formed at the summit of the cone. This carbonaceous part is carried to such a state of division as cannot be given to any other matter, by grinding it on a piece of porphyry. This black goes a great way in every kind of painting. It may be rendered drier by calcination in close vessels. The funnel ought to be united to the pipe, which conveys off the smoke, by means of wire, because solder would be melted by the flame of the lamp.

LANGELOTTE'S PREPARED OPIUM.

Opium 1 lb., juice of quinces 10 lbs., prepared kali 1 oz., sugar 4 oz. Ferment for some time, filter, and evaporate to the consistence of honey, upon which digest spirits of wine. Filter, and distil off the spirit.

LAPIS DIVINUS.

i. Blue vitriol, alum, nitre, and camphor, equal parts, melted together, adding the camphor last.

ii. Verdigris, nitre, and alum, equal parts, melted together.

iii. Alum, nitre, and blue vitriol 3 oz. each, camphor 1 drachm. Used formerly to make an astringent eye water, putting 1 oz. to a pint of water.

LAPIS MEDICAMENTOSUS.

Alum, litharge, Armenian bole, and colcothar, of each 3 oz., vinegar 4 oz.; mix and evaporate. Used formerly to make a detergent astringent lotion for ulcers, &c., using 1 oz. to a pint of water.

LARD, PREPARED.

Pork lard, in the state in which it appears in commerce, is always mixed with salt, this must be well washed away from it, before it is fit for ointments. When washed with rose-water, it is called lard ointment, and by French accoucheurs, pommade à toucher.

LARDNER'S PREPARED CHARCOAL.

Triturate chalk with charcoal or ivory black.

LASTEYRIE'S LITHOGRAPHY INK.

Dry tallow soap, mastic in tears, and carbonate of soda in wine powder, of each 30 parts, shell-lac 150 parts, lamp black 12 parts; mix as last. (See *Lithographic*.)

LAUDANUM.

i. Hard purified opium 10 drachms, proof spirit 2 lbs.

ii. Opium 2½ oz., proof spirit 2 lbs.

iii. Opium 2 oz., proof spirit 2 lbs.

iv. *Tartarized*.—Opium 2 oz., crocus 1 oz., cinnamon, cloves, nutmegs, mace, and aloes wood, of each 1 drachm, tincture of salt of tartar 2 lbs. Digest, strain, and evaporate to one half. (See also *Ford's Laudanum* and *Sydenham's Laudanum*.) All these tinctures are narcotic, anodyne, and anti-spasmodic, in doses from 20 to 40 drops.

LAUDANUM OF QUINCES.

Opium 4 oz., crocus 2 oz., quince juice 2½ lbs., yeast 4 spoonful. Ferment till the opium and saffron separate, then express and filter; to the liquor add cinnamon 2 oz., cloves, aloes wood, and yellow sanders wood, each 1 drachm; let it stand for fourteen days, then filter and evaporate to one half. Narcotic in doses from 10 to 30 drops. (See *Newman*.)

LAUGHING NUTS, OR CATCH NUTS.

Mix up with 1 lb. of gingerbread dough 3 oz. of butter, 3 oz. of sugar, and 1 drachm of cayenne pepper; drop into very small masses, on greased tins, and bake to a brown.

LAUREL OINTMENT.

Laurel leaves 1 lb., laurel berries ½ lb., cabbage leaves 4 oz., neat's-foot oil 5 lbs., suet 2 lbs. Boil, express, and cool slowly.

This is a soothing application to painful ulcers and swellings, and acts by the sedative effects of the prussic acid contained in the laurel leaves and berries.

LAVENDER DROPS, RED LAVENDER.

i. Simple spirits of lavender 3 lbs., spirits of rosemary 1 lb., cinnamon and nutmeg, of each ½ oz., red sanders wood 3 drachms, or more if wanted very dark.

ii. Raspings of red sanders wood 1 lb., allspice and cassia wood, each 8 oz., spirits of wine 12 pints. Digest, strain, and then add oil of lavender 4 oz., oil of rosemary 2 oz., proof spirit 4 gallons.

iii. Red sanders wood 1 lb., cassia wood 2 oz., nutmeg 1 oz., saffron 4 drachms, orange pips 1 oz., flowers of rosemary 2 oz., spirits of wine 1 gallon. Make a tincture, it will produce 6 pints; to 4 pints of this tincture add foreign oil of lavender 14 oz., aromatic spirits of hartshorn 6 oz., spirits of wine 5 gallons, water 10 pints.

iv. Red sanders wood 4 oz., spirits of wine 4 pints. Digest, strain, and add oil of lavender 4 drachms, oil of rosemary 1 oz., oil of cassia 8 drops, oil of cloves 4 drops, compound spirits of hartshorn about 6 drachms, to produce the proper quantity. These mixtures are stimulant, anti-spasmodic, in doses of ½ drachm to 2 drachms.

LAVENDER VINEGAR.

i. Infuse the flowering tops in vinegar, and then distil.

ii. Vinegar, distilled in glass, 1 lb., oil of lavender ½ drachm.

These are very cooling odoriferous cosmetics.

LAVENDER, OIL OF.

This is extracted from the flowering spike of the *lavandula spica*. It is yellow, very fluid, has a strong odour of the lavender, and a burning taste. The specific gravity of the oil found in commerce is 0.898 at the temperature of 72° F., and of 0.877 when it has been rectified. It is soluble in all proportions in alcohol of 0.830, but alcohol of 0.887 dissolves only 42 per cent. of its weight. The fresh oil detonates slightly when mixed with iodine, with the production of a yellow cloud. There occurs in commerce a kind of oil of lavender known under the name of oil of *aspic*, or oil of *spike*, extracted by distillation from a wild variety of the *lavandula spica*, which has large leaves, and is therefore called *latifolia*.

This oil is manufactured in the south of Europe. Its odour is less characteristic than that of the lavender, resembling somewhat that of oil of turpentine, with which it is indeed often adulterated. It is also so cheap, as to be sometimes used instead of the latter oil. Oil of lavender deposits, when partially exposed to the air, a concrete oil, which resembles camphor, to the amount of one-fourth of its weight.

LAVENDER WATER, OR SPIRIT.

I. Soak $1\frac{1}{2}$ or 2 lbs. of lavender flowers in a gallon of proof spirits.

II. Oil of English lavender 2 oz., essence of ambergris $\frac{1}{2}$ oz., spirits of wine 2 gallons.

III. Oil of English lavender 5 oz., spirits of wine 3 gallons, distilled water 2 gallons. Fine it with burnt alum.

IV. Lavender flowers 14 lbs., spirits of wine 15 gallons; draw off by distillation 10 gallons, but if the flowers are fresh a little more may be drawn.

V. Foreign oil of lavender 2 oz., oil of rosemary 1 oz., green oil of cinnamon 4 drops, proof spirit 1 gallon.

VI. English oil of lavender 3 oz., essence of bergamot 1 oz., essence of ambergris 5 drachms, spirits of wine 14 pints, best rose water 1 quart.

VII. Oil of lavender 2 drachms, essence of bergamot 1 drachm, essence of ambergris 30 drops, oil of rhodium 6 drops, spirits of wine 1 pint.

VIII. Oil of lavender 2 drachms, oil of rosemary 1 drachm, essence of ambergris 1 drachm, spirits of wine 2 lbs.

IX. Mitcham oil of lavender 8 oz., essence of bergamot $1\frac{1}{2}$ oz., essence of musk 4 oz., rectified spirits of wine 2 gallons. This may be diluted with water, according to price.

X. English oil of lavender 2 oz., essence of ambergris 1 oz., Eau de Cologne 1 pint, rectified spirit 1 quart. (See *Smith's British Lavender*.)

The above, when used in medicine, are called spirits or tinctures of lavender; when used as articles of perfumery, they obtain the name of lavender water. At all times, 1 oz. or $1\frac{1}{2}$ oz. of oil is enough for a gallon of spirit, and the spirit should be strong, or the mixture will be cloudy; in this case, it may be fined by a little powdered alum, shook up with it, and then suffered to rest for a day or so, it being then filtered for use; or else it may be filtered through blotting paper, with a little magnesia in the funnel.

LAVENDER WATER, AMMONIACAL.

English oil of lavender 2 oz., essence of ambergris 1 oz., eau de luce 1 pint, spirits of wine 2 pints.

LAXATIVE MEDICINES.

Laxative medicines are such as act upon the system aperiently, but gently; not as a cathartic, or sudden and violent disturbance of the bowels, but gradually so to act upon it, as to produce a slightly perceptible effect. The following are of this character:—

I. Manna, a piece of which the size of a nut dissolved in warm water, may be added to the food of an infant.

II. Castor oil in small doses, half a tea-spoonful for an infant, half a dessert-spoonful for an adult.

III. One Seidlitz powder, dissolved in water, and drank in the morning.

IV. Put $1\frac{1}{2}$ oz. of salts in a wine bottle full of rose water, and take a wine-glassful every morning.

V. Brimstone and treacle, putting 1 oz. of the flowers of sulphur to $\frac{1}{4}$ lb. of treacle, take a tea-spoonful every morning for four or five mornings.

This is a well-known remedy for children in the spring of the year, when cutaneous eruptions are prevalent with them.

VI. Flowers of sulphur and cream of tartar in equal parts; mix with treacle or honey, and take a tea-spoonful every morning.

An excellent remedy to cool the blood, and of great advantage as a cure for the piles.

VII. *Enema*.—Linseed and senna, of each $\frac{1}{2}$ oz., water $1\frac{1}{2}$ pint; boil to a pint, strain, and add Glauber or Epsom salts, from 2 to 3 drachms. (See also *Lenitive Electuary*.)

LAXATIVE BALLS FOR CATTLE.

I. Barbadoes aloes and hard soap, of each 3 drachms, syrup to make a ball.

II. *Also Alternative*.—(a) Barbadoes aloes 10 to 12 drachms, Castile soap 21 drachms, anniseed, powdered, 12 to 16 drachms, ginger 4 drachms. Make up into 4 balls with syrup or treacle.—(b) Barbadoes aloes 10 to 12 drachms, calomel 2 to 4 drachms, carraway seed, powdered, 12 drachms, ginger 4 drachms, oil of cloves 40 drops, syrup to make 4 balls.—(c) Flowers of sulphur 6 oz., emetic tartar 6 or 8 drachms, corrosive sublimate 10 grains. To make 6 balls.

LAXATIVE DRENCHES FOR CATTLE.

I. *For Horses*.—(a) Barbadoes aloes 3 drachms, canella alba $1\frac{1}{2}$ drachm, salt of tartar 1 drachm, mint water 8 oz. Mix for a drench.—(b) Barbadoes aloes 3 drachms, prepared kali $1\frac{1}{2}$ drachm, castor oil 4 to 6 oz., mint water and plain water, of each $\frac{1}{4}$ pint; in fevers, if costive.—(c) Epsom salts 6 to 12 oz., whey or gruel 2 pints, castor oil 6 to 12 oz.; mix.—(d) Castor, olive, linseed, or rape oil, or hog's lard, of either 8 oz., water $\frac{1}{2}$ pint.—(e) Barbadoes aloes 2 to 3 drachms, prepared kali 2 drachms, castor oil and warm water, each $\frac{1}{2}$ pint.—(f) Barbadoes aloes 2 to 3 drachms, salt of tartar 1 drachm, mint water and castor oil, of each $\frac{1}{2}$ pint.—(g) Common salt 4 oz., cream $\frac{1}{2}$ pint, water 2 pints.—(h) Barbadoes aloes 6 drachms, common salt 6 oz., flour of mustard 1 oz., water 2 pints; used in the staggers.—(i) Epsom or Glauber salts 6 to 8 oz., whey 2 pints; mix. Useful when the animal is feverish, as a cooling purge after bleeding, in influenza, chills, &c.—(j) Barbadoes aloes $\frac{1}{2}$ drachm, salt of tartar 2 drachms, Glauber's salt 6 oz., water 2 pints. Used after plentiful bleeding.

II. *For Cows*.—(a) Common salt 4 to 6 oz., flour of mustard a table-spoonful, grated ginger or ground pepper, of either a tea-spoonful, gin or other spirit $\frac{1}{4}$ pint, water 2 pints.—(b) Barbadoes aloes 4 drachms, common salt 4 oz., ginger 1 drachm, anodyne carminative tincture 2 oz., water 2 pints.—

(c) Epsom salts 6 or 8 oz., castor or olive oil 6 or 8 oz., water 1 pint; for fever and quick pulse.

LEAD AS A POISON, ANTIDOTE FOR.

Administer an emetic of 10 to 20 grains of sulphate of zinc, or of 8 or 10 grains of sulphate of copper. These not being at hand, give immediately a tea-spoonful of mustard, mixed in a tea-cupful of warm water, afterwards tickle the throat with the finger or a feather, to excite vomiting as early as possible. The antidotes are Epsom salts, or Glauber salts, or alum, dissolved in any ordinary liquid, and to be taken as soon after the poison as possible. These salts are decomposed, and the sulphuric acid contained in each of them seizes the lead, and forms with it the insoluble and harmless sulphate of lead. The symptom of poisoning by lead, is the formation of a narrow leaden blue line, about $\frac{1}{10}$ of an inch thick, bordering the edges of the gums, and attached to the neck of two or more teeth of either jaw.

LEAD IN WINES, TO DETECT.

Lead in wines is detected by a black precipitate, which will be instantly produced by the following mixture:—Expose equal parts of sulphur and powdered oyster-shells to a white heat for a quarter of an hour. When cold, add an equal quantity of cream of tartar, and boil them with water in a strong bottle for an hour. Transfer to ounce phials, and add to each 20 drops of muriatic acid.

LEAD DUST AND GRAINS.

Melt new lead, and pour it into a pail of water, letting it pass through an iron plate with small holes in it, through which the lead may pass in drops. This will give granulated lead. For lead dust, pour it when melted into an iron mortar, which has been heated almost to the heat of the liquid lead; half fill the mortar thus heated with charcoal, broken small. The lead being diffused among the charcoal, pound them together till sufficiently reduced; then wash away the charcoal with water, and save the lead powder. This is much used by potters and glass makers.

LEAD, LOTION OF.

Sugar of lead 1 drachm, pure water or rose water 8 oz. This is a good application to burns, sprains, swellings, excoriations, &c. For many lead medicines, see *Goulard*.)

LEAD PLAISTER.

I. Finely-powdered litharge 6 lbs., olive oil 1 gallon, water 1 quart; boil to the consistence of a plaister, adding more water if necessary.

II. Litharge 5 oz., olive oil 12 oz., water 3 oz.

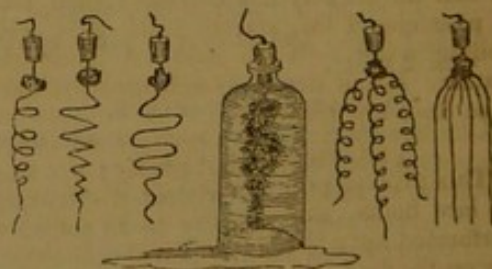
III. For each lb. of litharge employed, add $1\frac{1}{2}$ pints of olive oil, and $\frac{1}{2}$ pint of colorless vinegar; boil till all moisture is evaporated, and until only a very few scales of litharge rise to the surface, then remove the heat, add gradually one-third as much vinegar as before, and boil to a proper consistence.

IV. Wholesale.—(a) Olive oil 60 lbs., litharge 30 lbs., water 2 or 3 gallons.—(b) Oil 70 lbs., litharge 30 lbs., water 2 or 3 gallons.

Used as a simple strapping plaister, and also as a basis for other plaisters.

LEAD TREE.

Put $\frac{1}{2}$ oz. of sugar of lead, in powder, into a clean glass globe, wine decanter, or large phial, filled with water. Add 10 drops of nitric acid, or a little vinegar, and shake the mixture well. Then take a small piece of zinc, about the size of a hazel nut, tie it to a string which passes through a cork that fits the phial; twist once or twice round the zinc a piece of fine brass or copper wire, and let the end of the wire depend from it in any agreeable form. Place the zinc and wire, thus prepared, so that it shall hang as near as possible in the axis of the bottle, and that no part shall touch either the top, bottom, or sides of it. Let the whole rest quietly for a short time, metallic lead will soon deposit itself on the zinc, and along the wire, forming a brilliant illustration of chemical affinity. The zinc having a greater affinity for the acetic acid, which forms part of the sugar of lead, than the lead with which it is combined has united with it, and suffers the lead to be deposited. The liquid will change to the acetate of zinc. The use of the nitric acid is to dissolve a white cloudy precipitate, often formed when sugar of lead is dissolved in common water, or if it contain of itself any impurity. Filtering will also remove the cloudiness.



LEAKE'S PATENT PILLS.

Made with colocynth, sulphate of potass, and sulphate of peroxide of mercury.

LEATHER, DYEING OF.

The following colors may be imparted to leather, according to the various uses for which it is intended:—

Blue.—(a) Blue is given by steeping the subject a day in urine and indigo, then for an hour in hot alum-water; or it may be given by tempering the indigo with red wine, and

washing the skins therewith.—(b) Boil elderberries, or dwarf elder, then smear and wash the skins therewith, and wring them out; then boil the berries as before in a solution of alum water, and wet the skins in the same manner, once or twice; dry them, and they will be very blue.

Red.—Red is given by washing the skins, and laying them two hours in galls; then wringing them out, and dipping them in a liquor made with privet berries, alum, and verdigris in water; and lastly in a dye made of Brazil wood boiled with ley.

Purple.—Purple is given by wetting the skins with a solution of roche alum in warm water, and when dry, again rubbing them with the hand, with a decoction of logwood in cold water.

Green.—Green is given by smearing the skin with sap-green and alum water boiled.

Dark green is given with steel filings and sal ammoniac, steeped in urine till soft, then smeared over the skin, which is to be dried in the shade.

Yellow.—Yellow is given by smearing the skin over with aloes and linseed oil, dissolved and strained, or by infusing it in weld.

Light orange.—Orange color is given by smearing with fustic berries, boiled in alum water; or, for a deep orange, with turmeric.

Sky color.—Sky color is given with indigo steeped in boiling water, and the next morning warmed and smeared over the skin.

Black.—Wash the leather over once or twice with blacking, or with the iron liquor of the dyers, or still better, with copperas dissolved in water.

Should the leather in any case be greasy, and not take the dye readily, let a little stale urine, or ox gall water, be first brushed over it.

LEATHER, TO CLEAN.

Take of French yellow ochre 1 lb., sweet oil a dessert-spoonful; mix well together, so that the oil may not be seen; then take of pipe clay 1 lb., starch $\frac{1}{4}$ lb. Mix with boiling water. When cold, lay it on the leather. When dry, rub and brush it well. (See *Boot-top Liquid*.)

LEATHER, TO CURRY.

This process prepares leather to be made up into boots, shoes, saddles, &c., and is performed upon the flesh or grain. In dressing on the flesh, the first operation is soaking the leather until it be thoroughly wet, then the flesh side is shaved on a wooden beam. The knife used is of a rectangular form, with a handle at each end, and a double edge; after the skin is properly shaved, it is thrown into water again and scoured upon a board, by rubbing the grain or hair side with a piece of pumice-stone, by which means a substance is produced out of the leather called *the bloom*. The hide is then conveyed to the drying place, when a material is applied,

consisting of a mixture of cod oil and Russian tallow, principally upon the flesh side; it is now waxed, which is done by rubbing it with a brush dipped in oil and lamp black on the flesh side; it is then sized with a brush or sponge, dried and tallowed; this is called wax leather. To black leather on the grain, the operation is the same till it is scoured. Then a brush, dipped in urine, is rubbed over the leather, and after it is dry, it is again rubbed over with a brush dipped in copperas water, and after, the grain is raised by a fine graining board, when it is finished, and fit for the shoe-maker's use.

LEATHER, TO GILD.

First brush it over with white of egg, then lay on gold or silver leaf; lastly, burnish with a tooth or knob of ivory.

The leather for putting round doors, &c. is covered thus with silver leaf or zinc leaf, and then lackered with the lacker fit for tin-ware.

LEATHER, TO PRESERVE.

Pyroigneous acid may be used with success in preserving leather from the attacks of mouldiness, and is serviceable in recovering it after it has received that species of damage, by passing it over the surface of the hide or skin, first taking due care to expunge the mouldy spots by the application of a dry cloth. This remedy will prove of equal service if applied to boots, shoes, &c., when damaged in the same manner.

LEATHER, TO VARNISH.

The best varnish for leather is thin gum water, mixed with an equal quantity of the white of egg. This is very shining, but sticky; for the covers of books, and such leather as is to be handled, use only white of egg and water, beaten together in equal parts. (See *Glaire, Blacking, Boot Liquid, Japan, Harness Jet, &c.*)

LEAVES, CASTING FROM.

The leaf, as soon as convenient after being gathered, is to be laid on fine-grained moist sand, in a perfectly natural position; having that surface uppermost which is to form the cast; and being banked up by sand, in order that it may be perfectly supported. It is then, by means of a broad camel-hair brush, to be covered over with a thin coating of wax and Burgundy pitch, rendered fluid by heat. The leaf being now removed from the sand, and dipped in cold water, the wax becomes hard, and at the same time sufficiently tough to allow the leaf to be ripped off without altering its form. This being done, the wax mould is placed on moist sand, and banked up as the leaf itself was; it is then covered with plaster of Paris, made thin, care being taken that the plaster is accurately forced into all the interstices of the mould by means of a camel-hair brush. As soon as the plaster is set, the wax is

thus produced softens the wax, which in consequence of the moisture of the plaster is prevented from adhering thereto; and with a little dexterity it may be rolled up, parting completely from the cast, without injuring it in the smallest degree.

Casts thus obtained are very perfect, have a high relief, and are excellent models, either for the draughtsman, or for the moulder of architectural ornaments.

LEAVES, TO TAKE IMPRESSIONS FROM.

I. Take green leaves of trees or flowers, and lay them between the leaves of a book till they are dry. Then mix up some lamp-black with drying oil, and make a small dabber of some cotton wrapped up in a piece of soft leather. Put the color upon a tile, and take some on the dabber. Laying the dried leaf flat upon a table, dab it very gently with the oil color, till the veins of the leaf are covered; but you must be careful not to dab it so hard as to force the color between the veins. Moisten a piece of paper, or rather have a piece laying between several sheets of moistened paper for several hours, and lay this over the leaf which has been blackened. Press it gently down, and then subject it to the action of a press, or lay a heavy weight upon it, and press it down very hard. By this means you obtain a very beautiful impression of the leaf and all its veins; even the minutest will be represented in a more perfect manner than they could be drawn with the greatest care. These impressions may also be colored in the same manner as prints.

II. Take a piece of good letter paper, and smear it over with olive oil on one side; it is then hung up by one corner for two or three days; it is next to be blackened by the smoke of a tallow candle on the side that was oiled, taking care that you do not scorch it; then place a fresh leaf, with the upper side or face on the blackened oil paper, covering it with another piece of soft paper, and smoothing it over with the hand, using gentle pressure. The leaf must then be placed carefully on a piece of clean white paper, covered over, and rubbed, as before, for a short time, when you will find that it has made a beautiful impression on the paper below. The oiled paper must be smoked each time that you take an impression. The leaves should be fresh gathered.

LE BLOND'S VARNISH FOR PRINTS.

Copaiba balsam 4 lbs., copal in powder 1 lb., adding 1 oz. per day, stirring it up, and putting it in the sun, till each portion is dissolved; when all dissolved, add Scio turpentine till of a proper consistence.

LE BOSSE'S HARD VARNISH.

Take of Greek or Burgundy pitch and resin, or colophony of Tyre, or common resin, each 2 oz. Melt them together upon

a moderate fire, in a new earthen pot, well glazed; and, these ingredients being thoroughly mixed, put to them 8 oz. of good nut or linseed oil, and incorporate the whole well together over the fire, for a full half-hour. Continue afterwards to boil the mixture, till such time as, having taken a little of it out, and suffered to cool, it ropes on touching it with the finger, like a very thick syrup. Take the pot then from the fire, and the varnish being a little cooled, pass it through a new linen cloth into some vessel that will not soak it up, and can be well corked.

Varnish made in this manner may be kept for twenty years, and will be better for age. This is an etching ground for copper and steel plates.

LE DRAY'S MARMORETUM.

A composition to fill the cavities of decayed teeth, formed of a rather stiff amalgam of quicksilver and tinfoil, which is brought up to a stiffer consistence by half its weight, or about its own bulk of finely powdered glass.

LEECHES, APPLICATION OF.

In the applying of leeches to the human body, success is rendered more certain by previously drying them, or allowing them to creep over a dry cloth. To attract them, the part should be moistened with cream, sugar, or blood, and if this should be insufficient, the leech may be cooled by touching it with a cloth dipped in cold water. The escape of leeches from the part is to be prevented by covering them with a wine-glass or tumbler.

LEMERY'S SOLVENT FOR ANTIMONY.

Spirit of nitre 10 oz., oil of vitriol and muriatic acid, each 4 oz. This readily dissolves the metal antimony and its oxydes.

LEMONADE IN BOTTLES.

This differs in no degree in manufacture from ginger beer, the ginger being left out, and 18 drops of the essence, or of the oil of lemon being first ground up with the sugar. The essence is the same as the oil of lemon, but mixed with spirits of wine; it therefore unites readily with the other ingredients, and is more convenient in use. (See *Ginger Beer*.)

LEMONADE SHRUB.

Juice of 8 lemons, juice of berberries 3 oz., white sugar $\frac{1}{2}$ oz., white wine $\frac{1}{2}$ pint. Dilute at pleasure with water or milk as a beverage, cooling and refreshing.

LEMONADE FOR ICEING.

Rub off the yellow peel of 3 or 4 fruits with hard loaf-sugar 5 oz., water 2 pints; cut the fruits in half, and squeeze the juice into the water.

Orangeade is made in the same way. Lemonade in hot countries, taken in excess, is apt to produce cholera.

LEMONADE POWDERS.

Pound and mix together $\frac{1}{2}$ lb. of loaf-sugar, 1 oz. of carbonate of soda, and 3 or 4 drops of the oil of lemon; divide the mixture into 16 portions, and use them instead of the soda alone, as recommended under soda water.

LEMONS, TO PRESERVE WITH SUGAR.

Choose clear fresh lemons, wipe them clean, and cut upon the rind any devices of stars, rings, flowers, &c., being careful not to cut lower than the white pith. Throw them into a saucepan of cold water, put this on the fire, and let them boil till rather soft, then throw them into cold water; when they are cold, drain them and wipe them dry, then put them into boiling syrup, and let them boil there for three or four minutes; afterwards, empty out the whole together into an earthen pan to cool. The next day, and for three or four successive days, repeat the boiling in rather stronger syrup each day; lastly, put them into proper jars or glasses, pour syrup upon them till they are covered, and then tie a piece of bladder over the top of each.

When the peels are done without the pulp, it will only be necessary to pour the syrup over them for three or four days, boiling it each day, the peels being kept out; but they should, after the first squeezing to take the juice away, be thrown into salt and water for three or four days previous to the use of the sugar.

LEMON BISCUITS.

Mix together well $5\frac{1}{2}$ lbs. of flour, 12 oz. of butter, 1 lb. of sugar, 1 pint of water or milk, flavoring the latter with the essence of lemon. Roll out the paste in the manner of pie-crust, cut it into form, bake in a moderate oven, till about three-parts done, and then dry in a stove.

LEMON BRANDY.

Put 5 quarts of water to 1 gallon of brandy; take 2 dozen of lemons, 2 lbs. of the best sugar, and 3 pints of milk. Pare the lemons very thin, and lay the peel to steep in the brandy twelve hours. Squeeze the lemons upon the sugar, then put the water to it, and mix all the ingredients together. Boil the milk, and pour it in boiling. Let it stand twenty-four hours, and then strain it.

LEMON CAKES.

1. Take a small earthen pan, and fill it half full with treacle, prepared as recommended for gingerbread, add half a tea-cupful of water and flour, to make of a soft batter, pour this batter into little pans well buttered, and bake in a moderate oven. When a few are baked, if they do not stand up enough, add more flour; if too stiff, more treacle. After they are baked, they are rendered crisp by putting them for four or five hours in the drying stove.

Having been originally flavored with essence of lemon, they obtained, and are still called lemon

cakes; treacle cakes would be more appropriate. They are chiefly for children's use, and are sold at three for a half-penny.

11. Flour and sugar, of each 1 lb., eggs 1 dozen, grated peel and juice of 4 lemons. Whisk the eggs to a high froth, then gradually add the rest; bake in small oval tins, well buttered, and place a card under each tin.

LEMON CHEESE CURD.

Put new milk in a pan near the fire, with a little rennet added to it. When turned into curds and whey, filter it, and to the curd add lemon juice and essence of lemon, according to taste. Beat the whole well together, pour it into a dish, and add a few pieces of candied lemon peel, cut thin, over the top of it.

LEMONS, CONCRETE OIL OF.

Saturate lemon or lime juice with powdered chalk, wash the sediment with cold water, and dry it; each gallon of lemon juice thus forms from 8 to 13 oz. of the salt, which is the citrate of lime. Upon this powder pour dilute sulphuric acid 9 fluid oz. to each oz. of chalk previously used. Strain through a cloth, and evaporate in shallow vessels, that it may crystallize by spontaneous evaporation. This is a very agreeable acid, $\frac{1}{2}$ drachm in water is equal to 1 oz. of lemon juice, as a substitute for which it is used.

LEMON CREAM AND JELLY.

This is milk, thickened in some degree with isinglass, and flavored with lemon juice, essence of lemon, and sugar. When the ingredients are united, they must be well beaten together, then melted, poured into a mould, and suffered to rest till cold. It may be colored by a chip or two of fustic wood. Lemon jelly is made with water instead of milk.

LEMON DROPS.

Sugar 1 lb. in very fine powder, dissolve half along with salt of sorrel 3 drachms, in the smallest quantity of water, as soon as it boils, add the other half of the sugar, and essence of lemons 8 drops; drag it out immediately with a crooked wire into drops upon a slab.

Citric acid or tartaric acid is as good as the salt of sorrel. The drops may be made white or yellow.

LEMON DROP CAKES AND BISCUITS.

Make a paste of $1\frac{1}{2}$ lb. of flour, the same of sugar, $\frac{1}{2}$ lb. of butter, 3 eggs, $\frac{1}{2}$ oz. of sal volatile, and flavor with essence of lemon. A little milk may be used to work up the flour. Make 12 biscuits out of 5 oz. of flour, and bake upon greased tin, not letting them touch each other. For biscuits, use flour 2 lbs., sugar 1 lb. 2 oz., butter $\frac{1}{2}$ lb., sal volatile $\frac{1}{2}$ oz., eggs 5, with a little milk and essence of lemon.

LEMON, ESSENCE OF.

Cut off very thin the rinds of any number of lemons, put the pieces of peel in a phial, and cover them with spirits of wine; after a day or two, this will have taken up all the oil of the lemon peel, and become far better in quality than that usually sold.

LEMONS, ESSENTIAL SALT OF.

This is a salt used for removing iron stains from linen and other fabrics. It is prepared by mixing together equal weights of bitartrate of potass and superoxalate of potass, which last is found in wood-sorrel and common sorrel. (See *Sorrel*.)

The two acids, the tartaric acid in the first salt, and the oxalic acid in the last, unite with the iron, and oxalate of iron is formed, which is nearly colorless, and thus the stain is removed.

LEMON JUICE, ARTIFICIAL.

White vinegar 1 pint, white sugar $\frac{3}{4}$ oz., essence of lemon peel 30 drops.

LEMON JUICE, TO PRESERVE.

Squeeze it into a glass or earthenware basin, filter it through muslin or flannel, to free it entirely of pulp, put this into very dry $\frac{1}{2}$ or $\frac{3}{4}$ oz. bottles, and put into each bottle $\frac{1}{2}$ spoonful of sweet oil before you cork them. Set them upright in a cool place, and when wanted for use, remove the oil by dipping in a skewer wrapped round with clean cotton-wool.

LEMON JUICE, SYRUP OF.

I. To every pint of clear-strained lemon juice, add 2 lbs. of loaf-sugar. If not thick enough, put it in a slow oven for a little while to evaporate some of the moisture.

II. Squeeze the juice of lemons into a tall jar, let it settle, pour off the clear part, or filter the whole first, and add 2 lbs. of loaf-sugar to every pint. A little of this in water makes lemonade at once. For this purpose it is better to have a little of the peel added.

III. Clarified syrup 1 pint, citric acid $\frac{1}{4}$ oz., lemon peel 1 oz.

IV. Syrup of lemon peel $\frac{1}{2}$ pint, simple syrup $\frac{1}{2}$ pint, citric acid $\frac{1}{4}$ oz.

LEMON LOZENGES AND PIPE.

I. Add 10 or 12 drops of the essential oil of lemons to $\frac{1}{4}$ oz. of gum arabic; dissolve in $\frac{1}{2}$ pint of water, and add $1\frac{3}{4}$ lbs. of loaf-sugar. Work all together into a stiff paste on a marble slab, and to keep it from sticking dust the slab with starch powder. Roll it out into a thin sheet, stamp it out for lozenges. If for pipe, roll it out by a piece of wood from a lump.

II. Acidulated.—Citric acid 3 drachms, white sugar 16 oz., essence of lemon 16 drops, gum tragacanth $\frac{1}{2}$ oz. Mix with water, and cut into 12 grain lozenges.

III. Tartaric acid 2 drachms, white sugar $\frac{1}{2}$ lb., essence of lemon 10 drops. Mucilage to mix.

LEMON MARMALADE AND PASTE.

Squeeze the lemons, boil the peels in water till soft, then take out the pith, and pound the rest in a mortar, till quite fine, mixing with them a little of the juice; pass it all, with the remainder of the juice, through a sieve into a preserving pan. For every lb. add $\frac{3}{4}$ lb. of loaf sugar, boil it for half an hour or more, till it sets, when cold, into a jelly, when it may be poured into jelly-pots for future use. With double the above weight of sugar, it is called lemon paste.

LEMONS, OIL OF.

This is extracted by pressure from the yellow peel of the fruit of the lemon, or *citrus medica*. In this state it is a yellowish fluid, having a specific gravity of 0.8517; but when distilled along with water till $\frac{2}{3}$ of the oil have come over, it is obtained in a colorless state, and of a specific gravity of 0.847 at 72° F. This oil does not become concrete till cooled to 4° below 0° F. The oil of lemons has a very agreeable smell of the fruit, which is injured by distillation. It is soluble in all proportions in anhydrous alcohol, but only 14 parts dissolve in 100 of spirits of wine of specific gravity 0.837. This oil, especially when distilled, forms with muriatic acid similar camphorated compounds with oil of turpentine, absorbing no less than 280 volumes of acid gas. Oil of lemons kept long, in ill-corked bottles, generates a quantity of steareness, which when dissolved in alcohol, precipitated by water, and evaporated, affords brilliant, colorless, transparent needles. Some acetic acid is also generated in the old oil. According to Brande, the specific gravity of oil of lemons is 0.8786.

LEMON PEEL.

This is made by boiling lemon peel with sugar, and then exposing it to the air until the sugar crystallizes.

LEMON PEEL, SYRUP OF.

Lemon peel 3 oz., boiling water $1\frac{1}{2}$ pint. Steep for a night, strain, and add white sugar 2 lbs.

LEMON PICKLE.

I. Lemon juice and vinegar, each 3 gallons, ginger 1 lb., allspice, pepper, grated lemon peel, of each 8 oz., common salt $3\frac{1}{2}$ lbs., cloves and cayenne pepper, each 2 oz., mace and nutmegs, each 1 oz.

II. Lemons cut in quarters, 6 in number, salt 1 lb., garlic, 6 cloves, horse-radish, scraped, and mustard flour, of each 2 oz., cloves, mace, nutmegs, and cayenne pepper, of each 2 drachms, vinegar 2 quarts.

This is used as a table sauce with fish, steaks, oysters, &c.

LEMON SUGAR, OR CANDY.

Melt and clarify loaf-sugar over a gentle fire, till of the candy height, then add to

every 4 lbs. of sugar, 3 oz. of citric acid, and 2 drachms of essence of lemon peel. Stir them up well, and pour into a plate. If to be spongy or porous, add the white of egg.

LEMON TWISTS.

Make a paste of 1 lb. of flour, $\frac{3}{4}$ lb. of loaf-sugar, in coarse dust, $\frac{1}{2}$ lb. of butter, essence of lemon to flavor, and eggs or milk to make it of a proper stiff consistence. Roll out the dough, cut it into narrow twists, plait 3 of these together loosely, wash them with milk, dust loaf-sugar over them, and bake in a moderate oven upon greased tins. There may be added to the dough a little sal volatile to make them light.

LEMON WATER, OR CORDIAL.

Take dried lemon peel 4 lbs., clean proof spirit $10\frac{1}{2}$ gallons, and 1 gallon of water. Draw off 10 gallons by a gentle heat. This sweetened with a little sugar is a fine aromatic cordial. Some add 1 lb. of dried orange peel to the above quantity of lemon peel, which considerably modifies the flavor, and aids its stomachic effect.

LEMON WATER ICE.

Half a pint of lemon juice, and the same of water, to which put 1 pint of syrup, the peels of 6 lemons rubbed off on sugar; strain, mix and freeze. Then mix up the whites of 3 eggs to a strong froth, with a little sugar. When the ice is beginning to set, work this well into it, and it will be very soft and delicious.

LEMON WINE, OR BEER.

Raisins, cut in half, 2 lbs., brown sugar 2 lbs., boiling water 2 gallons, rind of 2 lemons. Ferment for two days, strain, bottle in half-pint stone bottles, and wire the corks. It will be fit to drink in three or four days.

LEMON WINE.

Pare off the rinds of 6 large lemons, cut them, and squeeze out the juice. Steep the rinds in the juice, and put to it a quart of brandy. Let it stand three days in an earthen pot close stopped; then squeeze 6 more, and mix with it 2 quarts of spring water, and as much sugar as will sweeten the whole. Boil the water, lemons, and sugar together, and let it stand till it be cool; then add a quart of white wine, and the other lemons and brandy; mix them together, and run it through a flannel bag into some vessel. Let it stand three months, and then bottle it off. Cork the bottles well; keep it cool, and it will be fit to drink in a month or six weeks.

LE MORT'S OINTMENT.

Pork lard 7 lbs., Venice turpentine 1 lb., litharge 1 lb., white lead 1 lb., alum 6 oz., corrosive sublimate 1 lb., vermillion 1 oz.

LENITIVE ELECTUARY.

I. Senna 8 oz., figs 1 lb., cassia pulp, tamarind pulp, and pulp of French plums, of each $\frac{1}{2}$ lb., coriander seed 4 oz., liquorice 3 oz., white sugar $2\frac{1}{2}$ lbs. This is a gentle laxative in doses from 2 drachms to $\frac{1}{2}$ oz., or more.

II. Senna leaves 4 lbs., coriander seed 2 lbs., raisins 10 lbs., stick liquorice 1 lb. 8 oz., prunes 10 lbs., tamarinds 10 lbs., treacle 32 lbs.

III. Figs 20 parts, prunes 14, tamarinds 14, cassia fistula 20, white sugar 50, stick liquorice $4\frac{1}{2}$, senna 12, coriander seed 8.

IV. Figs 49 parts, tamarinds 28, treacle 56, jalap 1, ivory black 2, senna 10, coriander seed 7.

V. Senna leaves and cream of tartar, each $1\frac{1}{2}$ drachm, pulp of prunes $1\frac{1}{2}$ oz., syrup to flavor. This is a very common article. (See *Senna, Electuary of*, also *Laxative*.)

LENSES, CEMENT FOR HOLDING.

In grinding small lenses, Mr. Pritchard found that shell-lac, the cement usually employed for them, was by no means sufficiently strong to retain them. He was fortunate enough, however, to attain his object by adding to the shell-lac an equal weight of finely levigated pumice, carefully melting them together in an iron vessel, and stirring them till well incorporated. Great care is required in using it, not to heat it hotter than is absolutely required in melting it, and in fixing the lens securely, otherwise it becomes unfit for use; and the same caution is equally required in using shell-lac alone.

LETTERS, TO DISINFECT.

The best method of disinfecting letters, and other articles coming from places that are supposed to be visited by the plague, is to expose them to the fumes of burning sulphur, mixed with saltpetre.

LETTUCE, EXTRACT OF.

I. Take a garden lettuce run to flower, and about the time that the flowers open, break close off most of the leaves, and otherwise wound the stalk; a white juice will exude; it may be scraped off in a few minutes, or sopped up with a piece of sponge or cotton wadding, or it may be suffered to dry in the sun, and then peeled off for use. That which is taken liquid, must be spread out to dry, or washed out of the sponge, &c., and then dried by a gentle evaporation. This is of the best quality.

II. Take the stalks of the garden lettuce, pound them in a mortar, press out the juice, and dry it. This is more abundant, but inferior to the last in quality. Both are anodyne, anti-spasmodic, and soporific, in doses of 3 to 5 grains, or more. Lettuce juice yields about $\frac{1}{10}$ its weight of extract; or, 1 plant, by the first process, yields

$\frac{1}{2}$ drachm, 30 grains, or 6 doses. A person then eating $\frac{1}{2}$ part of such a lettuce would take a dose. A young succulent lettuce, such as is generally eaten, contains a very small quantity, however large the plant may be.

This extract is used in medicine where opium is objectionable, and is a favorite anodyne medicine in France, particularly for children.

LEVURE.

The yeast and lees of beer, put into canvas bags to drain, and some water added, to assist in carrying off the bitter flavor of the hop.

Exported from Flanders to Paris for the use of the bakers. It has lately been brought into this country, and is sold under the name of German Yeast.

LIGHT BALLS.

These are thrown from mortars at night to discover the operations of an enemy's working parties. They are formed of the following composition, made up into a ball, and thrown by the hand with a small charge of gunpowder, covered over with a case of paper, and having a fusee attached. Ground saltpetre 6 lb. 4 oz., sulphur 2 lb. 8 oz., rosin pounded 1 lb. 14 oz., linseed oil boiled $7\frac{1}{2}$ oz.

LIGHTNING, TO ESCAPE ITS EFFECTS.

When persons happen to be overtaken by a thunder-storm, although they may not be terrified by the lightning, yet they naturally wish for shelter from the rain which usually attends it; and, therefore, if no house be at hand, generally take refuge under the nearest tree they can find. But in doing this, they unknowingly expose themselves to a double danger; first, because their clothes being thus kept dry, their bodies are rendered more liable to injury, the lightning often passing harmless over a body whose surface is wet; and secondly, because a tree, or any elevated object, instead of warding off, serves to attract and conduct the lightning, which, in its passage to the ground, frequently rends the trunks or branches, and kills any person or animal who happens to be close to it at the time. Instead of seeking protection, then, by retiring under the shelter of a tree, hay rick, pillar, wall, or hedge, the person should either pursue his way to the nearest house, or get to a part of the road or field which has no high object that can draw the lightning towards it, and remain there until the storm has subsided. It is particularly dangerous to stand near leaden spouts, iron gates or palisadoes, at such times; metals of all kinds having so strong an attraction for lightning, as frequently to draw it out of the course which it would otherwise have taken. When in a house, avoid sitting or standing near the window, door, or walls, during a thunder storm. The nearer a person is to the middle of a room, the better.

LIGNUM'S ANTISCORBUTIC DROPS.

These consist of a disguised preparation of bichloride of mercury.

The proprietor's name was originally *Wood*, which he thought it advantageous to translate into Latin.

LILAC, TO DYE SILK.

For every pound of silk, take $1\frac{1}{2}$ lb. o. archil, mix it well with the liquor; make it boil a quarter of an hour, dip the silk quickly, then let it cool, and wash it in river water, and a fine half violet, or lilac, more or less full, will be obtained.

LIME, CHLORIDE OF.

I. To cause a large quantity of lime to combine with the chlorine gas, the lime is mechanically suspended in the water, into which the gas is made to pass, and agitated, so as to present fresh matter to the gas. By this means the chloride of lime is formed in a very convenient manner; it is dissolved in water, and used as bleaching liquor.

II. The chlorine gas may also be combined with lime in a dry state, or the water may be evaporated, when it is employed for the formation of chlorides, which may then be very conveniently transported to any distance without injury to its deterative power.

LIME CYLINDERS, FOR OXY-HYDROGEN MICROSCOPES.

The lime cylinders are about $1\frac{1}{2}$ inch long, and $\frac{3}{4}$ inch in diameter, with a hole through them. To make them, we may procure a piece of chalk, marble or lime-stone, and cut it to a proper shape and size; put several of these in a crucible, and keep them red hot in a fire for three or four hours. They should afterwards be kept in stoppered bottles till wanted for use. Those of chalk are to be preferred.

LIME LINIMENT.

Linseed or common olive oil, and lime water equal parts; to be shaken up together every time of use, for scrofula and syphilitic sores, and still more for burns and scalds.

LIME, SULPHURET OF.

Take of sulphur or brimstone, in fine powder, 4 lbs., lime, well slacked or sifted, 20 lbs., water 16 gallons; these are to be well mixed, and boiled for about half an hour in an iron vessel, stirring them briskly from time to time. Soon after the agitation of boiling is over, the solution of the sulphuret of lime clears, and may be drawn off free from the insoluble matter, which is considerable, and which rests upon the bottom of the boiler. The liquor in this state is pretty nearly the color of small beer, but not quite so transparent.

LIME WATER.

Fresh burnt lime 8 oz., pour upon it boiling water 1 gallon; cover up close, and when cold keep the whole in a glass bottle,

pour off the clear when wanted. It is astringent, antacid in draughts of from $\frac{1}{4}$ pint to a pint, its taste being covered with about $\frac{1}{5}$ part of milk.

LINCTUS, OR LOHOCH.

A linctus is a medicine which is taken with a spoon, or licked by the tongue. Thus honey and borax, brimstone and treacle, or any powder, mixed with jam, forms a linctus, or as it is sometimes called a lohoch. The following are the chief linctuses used in medicine:—

I. *Common*.—Oil of almonds and syrup of tolu, of each $\frac{1}{2}$ oz., powdered white sugar 2 drachms. This is demulcent, and used in colds.

II. *Acid*.—(a) Conserve of roses rendered slightly acid with oil of vitriol. This is excellent in coughs, asthmas, and in fevers. (b) Honey of roses 10 drachms, syrup of poppies 2 drachms, muriatic acid 20 drops.

III. *Anacid or Alkaline*.—Honey rendered slightly disagreeable with salt of tartar. Administered in hooping cough to remove the accumulation of phlegm from the throat.

IV. *Demulcent*.—(a) *Spermaceti* and powder of gum tragacanth, of each $\frac{1}{2}$ oz., syrup of poppies to make it of a proper consistence. Dose a tea spoonful occasionally, to ease irritation and inflammation of the throat. This is sometimes called *Linctus Bechicus* and *Cough Linctus*.—(b) Oil of almonds and syrup of capillaire, manna, and cassia pulp, of each 2 oz., powdered gum tragacanth 16 grains, orange flower-water 2 fluid oz. This is for coughs, and is the quantity for two days, which is as long as it will keep.—(c) Yolk of 1 egg, oil of almonds 2 oz., syrup of marsh-mallows 1 oz., rose-water 3 oz.

V. *Expectorant*.—(a) Oxymel of squills, syrup of marsh-mallows, mucilage of gum arabic, of each $\frac{1}{2}$ oz.—(b) Kermes mineral 4 grains, manna 6 oz., oil of almonds, syrup of squills, and mucilage of gum senegal or arabic, of each 2 drachms. This is laxative, demulcent, and expectorant, and is useful in coughs.

VI. *Oily*.—(a) Oil of almonds and syrup of mulberries, of each 1 oz., conserve of dog roses 1 oz., powdered tragacanth 3 drachms. (b) Olive oil, oxymel of squills, and syrup of poppies, of each 1 oz. Dose 1 drachm.

VII. *Opiate*.—Syrup of poppies 2 oz., mucilage of gum arabic 1 oz., conserve of dog roses 1 oz., sulphuric acid diluted 2 drachms.

VIII. *Stimulant*.—Honey 1 oz., oil of turpentine 2 drachms. Dose a tea-spoonful night and morning as a cure for worms.

IX. *Green*.—White linctus, colored with syrups of saffron and violets.

X. *Pectoral*.—*Spermaceti* and Spanish liquorice juice, of each 8 oz., water to soften the liquorice; make a soft electuary, and add

honey 3 lbs., and oil of anniseed 1 drachm. Mix well. A popular remedy for coughs.

XI. *White*.—Jordan sweet almonds 4 $\frac{1}{2}$ drachms, bitter almonds $\frac{1}{2}$ drachm; blanch by steeping in hot water and removing the skins, then add $\frac{1}{2}$ oz. of white sugar, and 15 grains of gum tragacanth; beat to a smooth paste, and further add oil of almonds and orange flower water, of each 4 drachms, pure water 4 oz. A pleasant demulcent for coughs. (See *Soap, Manna, and Spermaceti*.)

LINEN, TO BLEACH.

I. *By Chlorine*.—To ascertain the strength of this acid for bleaching, a solution of indigo in the sulphuric acid is employed. The color of this is destroyed by the chlorine; and according to the quantity of it that can be discolored by a given quantity of the liquor, its strength is known. In this country machinery is employed for rinsing and beating; the apparatus must be arranged according to the objects to be bleached; the skeins of thread must be suspended in the tub destined for them, and the cloth must be rolled upon reels in the apparatus. When every thing is thus disposed, the tubs are filled with oxygenated muriatic acid, by introducing a funnel, which descends to the bottom of the tub, in order to prevent the dispersion of the gas. The cloth is wound on the frame-work on which the skeins are suspended, is turned several times, until it is judged, by taking out a small quantity of the liquor from time to time, and trying it by the test of the solution of indigo, that it is sufficiently exhausted. The weakened liquor is then drawn off, and may be again employed for a new saturation.

II. *By Chloride of Lime*.—This liquor is found to be preferable to chloride and potass. At the great bleach-field in Ireland, four leys of potass are applied alternately with four weeks' exposure on the grass, two immersions in the chloride of lime, a ley of potash between the two, and the exposure of a week on the grass between each leys and the immersions. During summer, two leys and fifteen days' exposure are sufficient to prepare cloth for the chloride; the three alternate leys, with immersions in the liquor, will be sufficient to complete the bleaching: nothing then will be necessary, but to wind the cloth through the sulphuric acid.

LINIMENT.

A thin oily or soapy preparation, to be used by rubbing it on any swelled, diseased, or injured part, by friction with the hand, or a piece of linen rag. It is also called an embrocation, and differs from a lotion, in its being oily or soapy, and rubbed on the part, whereas, a lotion is only washed over or dabbed on, thus if the surface be broken, a lotion is most convenient; if not broken, a liniment may be employed.

I. Acid.—Honey of roses 1 oz., muriatic acid 20 drops. For putrid sore throat, &c.

II. Alkaline.—Liquor of carbonate of potass 2 oz., olive oil 4 oz., yolk of 2 eggs.

III. Anodyne.—Soap liniment 4 fluid oz., tincture of opium 3 fluid oz. This is very nearly the same as opium liniment.

IV. Diuretic.—Tincture of squills, digitalis and colchicum of each $\frac{1}{2}$ oz., liquor of ammonia $\frac{1}{2}$ oz., camphorated oil 1 oz.

V. Escharotic.—Honey 4 oz., spirits of salts and verdigris of each 1 oz. This is used by farriers as a drying ointment or liniment for ulcers, &c.

VI. Green.—Powdered camphor and extract of hemlock, of each 1 oz., compound spirit of ammonia 2 oz., olive oil and liquor of ammonia of each 4 oz.

VII.—Simple.—White wax 1 oz., olive oil 4 fluid oz., melt together, and stir till cold. This is the same as white liniment, and, except in consistency, spermaceti ointment.

LINSEED OIL, PURIFYING OF.

It is requisite that artists should have the linseed oil they use perfectly colorless, as otherwise it would spoil the more delicate tints. To purify it is extremely easy; even putting a bottle of the oil in the sun for some days will accomplish the object; but as this process is somewhat tedious, it is better to put in a two-ounce phial, three-quarters full of good common linseed oil, a piece of whiting as big as a nut, previously powdered. Shake them together, and put the phial on the hob of a stove, or in an oven. In two days, and sometimes in a few hours, the whiting will have carried down to the bottom all color and impurity, and the refined oil floating at top may be poured off for use.

LINSEED POULTICE.

Stir linseed flour into boiling water, in sufficient quantity to form a poultice of proper consistency, and before application, smear the surface with a little olive or linseed oil. If irritation, with great pain and tension, or hardness, should prevail, it will be necessary to substitute a decoction of poppy heads for the common water. This poultice is in general use in all the hospitals.

LINSEED TEA.

Linseed 1 oz., liquorice root 4 oz., boiling water 2 lbs. Strain through a cloth. The liquorice root is generally omitted in domestic management.

LIP SALVE.

I. Pink.—Put 8 oz. of good olive oil into a wide-mouthed bottle, and 2 oz. of the gloomy parts of alkanet root; stop the bottle, and set it in the heat of the sun till it be of a fine crimson color; strain the oil clear into a pipkin with 3 oz. each of fine white wax, and fresh well-cleaned mutton or lamb

suet; melt the whole by a slow fire, and when taken off, add 40 drops of oil of rhodium or lavender, and pour it into small pots.

II. White is made the same way by leaving out the alkanet root.

III. Melt together $2\frac{1}{2}$ oz. of white wax, 3 oz. of spermaceti, 7 oz. of oil of almonds, 1 drachm of balsam of Peru, and $1\frac{1}{2}$ oz. of alkanet root, wrapped up in a linen bag. Pour the salve into small gallipots or boxes, and cover with bladder and white leather.

Though called lip salve, this composition is seldom applied to the lips; its principal use consisting in curing sore nipples, for which it is an excellent remedy.

LIQUEUR DE PRESSAVIN.

Dissolve quicksilver in nitric acid, and precipitate it with subcarbonate of potass; then take this precipitate and cream of tartar, of each 1 oz., and dissolve them in $2\frac{1}{2}$ pints of distilled water. Two spoonsful of this liquor is diluted with 2 pints of distilled water, and a small wine-glassful taken three or four times a day, in syphilis, the patient avoiding the use of common salt in his food.

LIQUID FOIL, FOR GLASS GLOBES.

I. Melt together 1 oz. of clean lead, and 1 oz. of fine tin, in a clean iron ladle; then immediately add 1 oz. of bismuth. Skim off the dross, remove the ladle from the fire, and before it sets, add 10 oz. of quicksilver. Now stir the whole carefully together, taking care not to breathe over it, as the fumes of the mercury are very pernicious. Pour this through an earthen pipe into the glass globe, which turn repeatedly round.

II. To 4 oz. of quicksilver, add as much tinfoil as will become barely fluid when mixed. Let the globe be clean and warm, and inject the quicksilver by means of a pipe at the aperture, turning it about till it is silvered all over. Let the remainder run out, and hang the globe up.

III. For this purpose, 1 part of mercury and 4 of tin have been used; but if 2 parts of mercury, 1 of tin, 1 of lead, and 1 of bismuth, are melted together, the compound which they form will answer the purpose better; either of them must be made in an iron ladle, over a clear fire, and must be frequently stirred.

LIQUID GLUE.

I. Glue melted with a very small quantity of vinegar 1 pint, to which add nearly an equal quantity of vinegar, and 4 oz. of spirits of wine.

II. Melt $\frac{1}{2}$ lb. of the best Flanders glue in a pint of vinegar, and add 4 oz. of brandy. It is used as a cement, particularly for fancy works in paper.

LIQUID POUNCE.

Subcarbonate of soda 1 oz., water 1 pint; color with 2 drachms of the syrup of buck-

thorn, or a little sap green. This is used to prevent the ink from spreading upon linen. If potash be used instead of soda, the ink will spread.

LIQUID SOAP.

I. Take 2 lbs. of the best Alicant or Joppa soap, scrape it very fine, and put it into a gallon of the best spirits of wine, with $\frac{1}{2}$ oz. of good rosemary or lavender oil. Set the bottle in the heat of the sun for ten or twelve days, taking it in at night, and shaking it till the soap is dissolved, then filter through cotton. If properly made, it will be transparent, and of the color of white wine. The older the soap is the better.

II. Olive oil 4 oz., dissolved oil of tartar $\frac{1}{2}$ oz.; rub together, then add 12 oz. of rose-water. A very good cosmetic.

LIQUID ROUGE.

I. The red liquor left in the preparation of carmine.

II. Dissolve carmine in subcarbonate of potass water.

III. Dissolve pure rouge in a mixture of spirits of wine, and weak acetic acid.

IV. Dissolve with rose water the color off a pink dye saucer, as it is sold at the color shops, and add a little ammonia to the liquid. (See *Pink Saucers*.)

LIQUID TRUE BLUE.

Take $\frac{1}{2}$ lb. of best double oil of vitriol, mix 1 oz. of Spanish indigo, (first pound the indigo very fine,) and scrape in a little chalk; have a large iron pot half full of sand, which set on the fire; when the sand is hot, put the bottle in, and let the vitriol, &c., boil gently for a quarter of an hour, take the whole off the fire, and let it stand for twenty-four hours, and then bottle it for use.

LIQUODILLA.

The yellow part of the peel of 6 oranges and 6 lemons, brandy or plain spirit 1 gallon; digest a week, filter, and add loaf-sugar 4 lbs. dissolved in 1 gallon of water, and the juice of the oranges and lemons which were peeled. Let it stand a month, and then bottle. This is a very pleasant beverage, when diluted with water.

LIQUOR AMMONIÆ.

Lime 6 oz., water 1 lb.; slack and cover up for an hour, then add sal ammoniac 8 oz., boiling water 3 lbs., and cover till cold, then strain and distil 12 oz. It should be of such specific gravity, that a bottle holding 12 oz. of water should contain $21\frac{1}{2}$ oz. of this fluid. (See *Henry*.)

LIQUOR POTASSÆ, (POTASH WATER.)

I. *Pure*.—Upon 6 oz. of quicklime pour 6 lbs. of boiling distilled water, and add 1 lb. of subcarbonate of potass, dissolved in water 2 lbs.; cover the vessel, and when cool, filter through a cotton cloth. A pint should

weigh exactly 16 oz., if it weigh more, for every drachm of excess, add $\frac{1}{2}$ oz. of distilled water to each lb. troy; if it weigh less, evaporate some part of it.

II. *Subcarbonated*.—Subcarbonate of potass 12 oz., distilled water 12 oz.; dissolve and filter.

III. *Bicarbonated*.—Dissolve subcarbonate of potass 1 lb., in water 3 lbs., and pass through the liquor the gas expelled by adding pounded marble to dilute sulphuric acid. The carbonate of potass crystallizes as fast as it is formed. This is used in medicine in preference to the bicarbonate, as it is milder in taste. (See *Henry*.)

LIQUORICE LOZENGES.

Take of extract of liquorice and double-refined sugar, of each 10 oz., tragacanth, powdered, 3 oz. Powder them thoroughly, and make them into lozenges with rose-water.

These are agreeable pectorals, and may be used at pleasure in tickling coughs. The above receipt is the easiest and best mode of making these lozenges. Refined extract of liquorice should be used; and it is easily powdered in the cold, after it has been laid for some days in a dry and rather warm place.

LIQUORICE, EXTRACT OF.

The liquorice root is to be boiled in eight times its weight of water to one-half; the liquor is then to be expressed, and, after the fæces have subsided, to be filtered; it is then to be evaporated, with a heat between 200° and 212° , until it becomes thickish; and, lastly, it is to be evaporated with a heat less than 200° , and frequently stirred, until it acquire a consistence proper for forming pills. This is made into little pastiles, or flat cakes, often bearing the impression of the places where they are made; and a bit now and then put into the mouth takes off the tickling of a cough. It should be sucked to make it pleasant, as much of the juice taken at a time is disagreeable.

LIQUORICE JUICE, TO PREPARE.

Take up the roots in July; clean them perfectly as soon as out of the earth, then hang them up in the air, till nearly dry; after this cut them into thin slices, and boil them in water till the decoction is extremely strong; then press it hard out to obtain all the juice from the roots. This decoction is left to settle a little, and when it has deposited its coarser parts, pour it off into vessels, evaporate it over a fire, strong first, but mild afterwards, till it becomes of a thick consistence; then let the fire go out, and when the extract is cool, take out large parcels of it at a time, and work them well with the hands, forming them into cylindrical masses, which cut into such lengths as are required, roll them over half-dried bay-leaves, which adhere to their surfaces, and leave them exposed to the sun till perfectly dried. Great

nicety is to be observed at the end of the evaporation, to get the extract to a proper consistence without letting it burn.

LIQUORICE, TO REFINE.

That description of article which is vended in thin, rounded, and glazed pieces, about the thickness of a crow's quill, is entirely prepared in this country. The whole process consists in evaporating the liquorice extract anew, and purifying it by rest, with the help of isinglass, &c. A portion of gum arabic, to the amount of 2 or 3 oz. to 1 lb. of stick liquorice, is generally added.

LISBON DIET DRINK.

Sarsaparilla root 6 drachms, sassafras, guaiacum, and liquorice, each 1 oz., mezeoreon 3 drachms, water 10 pints; boil to 5 pints and strain. A good purifier and alterative, especially after a course of mercurial medicines. Half a pint a day may be taken. It is the same as the compound decoction of sarsaparilla.

LISBON WINE.

If the Lisbon is dry, take out of the pipe 35 or 40 gallons, and put in the same quantity of calcavella, stir it well about, and this will make a pipe of good mild Lisbon: or, if it be desired to convert mild into dry, take the same quantity out as above mentioned, and fill the pipe with Malaga sherry, stirring it about as the other. It may be fined with the whites and shells of 16 eggs, and a small handful of salt; beat it together to a froth, and mix it with a little of the wines: then pour it into the pipe, stir it about, and let it have vent for three days; after which bung it up, and in a few days it will be fine. Lisbon when bottled should be packed in saw-dust in a temperate place.

LITHARGE.

This is the red oxyde of lead in a half vitrified condition, made by heating red lead until it melts. It is used in making plaisters and other preparations, being much more convenient and cleanly than red lead, while it is so peculiar in appearance that it cannot be adulterated. It is also much employed by the painter as a drier.

LITHARGE PLAISTER.

Litharge 5 lbs., olive oil 9 lbs., water 2 lbs.

(See *Adhesive, Baynton's, Diachylon, Gum, Soap, Strengthening, Paracelsus, and other Plaisters.*)

LITHOGRAPHIC CHALK.

Chalk to be of a good quality must be firm, without being hard, and must attach itself to the stone without clogging. The cuttings of the chalk must form themselves into spirals, like wood shavings, and the texture must be close and homogeneous, like that of wax. The composition of chalk is still more arbitrary than that of ink: more or less soap, wax, or tallow, may be added

at pleasure, as more or less calcination may render these different proportions of little value.

I. Tallow soap 7 parts, white wax 6 parts. Melt by a gentle heat, add lamp black 1 part, cast it into moulds.

II. White wax 4 parts, shell-lac and hard tallow soap, of each 2 parts, lamp black to color.

III. Spermaceti, white wax, and hard tallow soap, of each equal parts, lamp black as before.

LITHOGRAPHIC INK.

I. This has been prepared with grease, mixed with essence of turpentine, and with resins dissolved in spirits of wine: the preference is, however, given to greasy and resinous substances, combined with alkalies. Amongst the numberless recipes for making lithographic ink, the following appears to be one of the best:—Tallow candle 2 oz., white wax 2 oz., shell-lac 2 oz., common soap 2 oz., and lamp-black. Soap is the only one of the above components of which the proportion must never vary; it is destined, by the alkali which it contains, to render the other ingredients soluble in water. It is necessary, in order to mix the above ingredients, to have an iron saucepan, with a cover that closes hermetically. The wax and the tallow must be put in, and heated until they catch fire; while they are burning, the soap, (which has been previously cut into small bits,) must be thrown in separately, and stirred the whole time; but a new piece must not be thrown in before the former are melted. The whole of the soap being dissolved, they are allowed to burn until reduced to the volume they had before the soap was put in: great care, however, must be taken not to burn it too much. The shell-lac is now added, and the flame extinguished, if it has been possible to keep it lighted during the whole operation, as it is often necessary to extinguish it in the beginning, and take the saucepan off the fire, to hinder the contents from boiling over. The flame being once put out, if all the substances are not completely melted, they must be dissolved by simple ebullition.

II. Mastic in tears 8 oz., shell-lac 12 oz., Venice turpentine 1 oz.; melt together, add wax 1 lb., tallow 6 oz.; when dissolved, further add hard tallow soap in shavings 6 oz. When the whole is combined, add lamp black 4 oz. Mix well, cool a little, and then pour it into moulds on a slab.

LITHOGRAPHIC TRANSFER INK.

I. White wax 8 oz., white soap 2 to 3 oz.; melt, and when well combined, add lamp black 1 oz.; heat it strongly, then add shell lac 2 oz.; again heat it, stir well together, let it cool a little, and pour it out. This is

used to write upon lithographic transfer paper, for circulars, plans, &c. Lines may be drawn with it of any fineness. It does not spread under the roller, and the copy made with it may be kept for years before it is used.

11. White soap and white wax, of each 10 oz.; mutton suet 3 oz., shell-lac and mastic, of each 5 oz., lamp black $3\frac{1}{2}$ oz. The transfer made with this must be used within a week of its being written.

LITHOGRAPHIC TRANSFER PAPER.

I. Starch 6 oz., gum arabic 2 oz., alum 1 oz. Make a strong solution of each separately in hot water, mix, and apply it while still warm to one side of leaves of paper, with a brush. When dry, a second and a third coat may be applied in the same manner. Press the paper to make it smooth.

11. Give the paper 3 coats of thin size, 1 coat of good white starch, and 1 coat of a solution of gamboge in water; the whole to be applied with a sponge, and each coat to be allowed to dry before the other is applied.

The writing made upon this paper is transferred to the stone, by moistening the back of the paper, and evenly pressing it on to the stone, when a reversed copy is obtained, which may be used to print from, and will yield copies exactly resembling the original.

LITMUS OR LACMUS.

Prepared from Canary archil and some other lichens, by reducing them to powder, adding half as much pearlash, and moistening the whole with stale urine, or with ammonia, a small proportion of lime is then added, and the litmus cut into cubes and dried; or it may be dissolved in water, and filtered for use as a dye.

LITMUS PAPER.

This is a paper of a blue color, used as a test for acids and alkalis. It is made by dipping strips of thin paper into a solution of litmus. It must be kept from light, and from chemical fumes of all kinds; care must be taken to select the paper properly, as if it be made of highly bleached rags; chlorine or other acid contained in the paper will change it red, and thus much impair its utility.

LIVER OF SULPHUR.

I. Brimstone in powder 1 lb., subcarbonate of potass 3 lb.; melted together in a covered vessel. This is, of course, a sulphuret of potass.

11. *Liquid*.—Flowers of sulphur $\frac{1}{2}$ oz., liquor potassæ, (a solution of carbonate of potass,) 9 oz. Boil for ten minutes, filter, and keep in well closed phials. It is used as an antidote to mineral poisons, and as a lotion for the itch and ringworm; also, chemically in the making of sulphuretted hydrogen, and as a test for various metals.

LIVER OF ANTIMONY.

I. Common antimony 2 lbs., potash 4 lbs. Mix and melt. This mixture is emetic, in doses of 3 or 4 grains. It is used chiefly in farriery as a violent purge for grease in horses heels.

11. Antimony and saltpetre, each 1 lb.; deflagrate and mix together.

LOCATELLI'S BALSAM.

Melt together, in a glazed pipkin, 4 oz. of yellow wax, 1 lb. of common oil, 1 lb. of Venice turpentine, 4 oz. of alkanet root, wrapped up in a linen bag.

LOCKYER'S PILLS.

Panacea of antimony 10 grains, white sugar candy 1 oz. Make the mass into 100 pills, of which 1, 2, or 3 taken at a time will act as a gentle emetic and aperient.

The Panacea of Antimony is made thus:—sulphuret of antimony 6 oz., nitre 10 oz., common salt $1\frac{1}{2}$ oz., charcoal dust 1 oz.; mix in fine powder, throw into a red-hot crucible, and keep in the fire for a quarter of an hour, take the crucible out and let it cool, break it carefully, separate the upper spongy scoria, powder and wash it. It is now finished, and should be of a fine golden color.

LOGWOOD, EXTRACT OF.

Soak for some days, or boil for some hours, logwood chips in water, strain, and evaporate to a proper consistence. One cwt. of wood yields about 20 lbs. of extract, or rather less than $\frac{1}{5}$ of its weight. It is used in medicine as an astringent, and by dyers as a red dye.

LOHOCH.

The name given to a medicine which is to be licked from a spoon. The principal lohochs will be found under their better known name of *Linctus*.

LONDON'S PATENT SOLID SALT.

This is common Cheshire salt melted in a furnace, and ladled out when fused into moulds with ladles. It is very hard, and dissolves slowly. It is therefore used to preserve provisions on long voyages.

LONDON ALE.

Take 1 quarter of pale malt, and $8\frac{1}{2}$ lbs. of new pale Kent hops; 3 liquors, and make 2 worts. First mash at 175° , with 2 barrels of liquor; second at 190° , with 2 barrels of liquor; third with $1\frac{1}{2}$ barrels at 170° . First wort boil three-quarters of an hour, adding to it, when boiling, $\frac{1}{4}$ lb. of hartshorn shavings and 1 oz. of salt; second wort boil three hours and a half. Set to work at 61° and add $\frac{1}{4}$ lb. of flour, 1 oz. of salt, and 2 oz. of ground ginger. The produce is 3 barrels, or $13\frac{1}{2}$ gallons, from each bushel of malt used. (For process of making, see *Ale*.)

LORD MAYOR'S CAKE.

To 4 eggs add 8 oz. of powdered loaf-sugar, stir well up, and add by degrees 8 oz. of flour, and a few carraway seeds. Mix all

up with a spoon, make it into round drop cakes about 2 inches across, and dust sugar over them. Bake upon sheets of paper, in a brick oven, when done, take them off the paper, and stick two together.

LOTION OR WASH.

A common application of various medicinal substances is by means of lotion or wash, and indeed, they are the best form of remedies for very numerous wounds, ulcers, and other evils, penetrating and cleansing, easy of application, and of direct action. Lotions are, necessarily, of very different characters, according to the properties of the drug employed. The chief of them will be found under the name of the drug, and also under the words, *Acid*, *Alkaline*, *Anodyne*, *Astringent*, *Burn*, *Rubefacient*, &c. &c.

LOVAGE CORDIAL.

For 20 gallons, take of the fresh roots of lovage, valerian, celery, and sweet fennel, of each 4 oz., essential oil of caraway and savin, of each 1 oz., spirits of wine 1 pint, proof spirit 12 gallons, loaf-sugar 12 lbs. Steep the roots and seeds in the spirits for fourteen days, then dissolve the oils in the spirits of wine, and add them to the undiluted cordial drawn off from the other ingredients; dissolve the sugar in the water for making up, and fine, if necessary, with alam.

LOWITZ'S ACETIC ACID.

Sulphate of potass 12 oz., oil of vitriol 6 oz., diluted with 18 oz. of water, evaporate to dryness; add acetate of soda, gently dried, 9 oz., black oxyde of manganese, ground very fine, $\frac{1}{2}$ oz.; distil in glass, in a sand bath.

LOZENGES.

These are made of sugar, with or without a little starch powder, to prevent sticking. The sugar is first powdered, then mixed with the ingredients which are to be used as flavoring. The last may be an acid, medicinal drug, vegetable extract, essential oil, or the juice of fruit. These being mixed, more sugar is added also in powder, and some powdered gum tragacanth, or gum arabic, a little water being added, the whole is rolled out into a stiff paste with a glass rolling-pin. The proper thickness being thus produced, the paste is cut into circles, ovals, or stars, with little punches of tin or other metal. They now only require drying, for this purpose they are put upon wire sieves, and exposed to a slight heat in a stove or very slow oven, or they may be exposed to the sun, or to a draught of dry air. (For particular receipts, see the various names of Lozenges.)

LUCE, EAU DE.

I. Castile soap 10 grains, rectified oil of amber 1 scruple, spirits of wine 1 oz. Dissolve, and add pure ammonia 4 oz.

II. True Scio turpentine 2 oz., spirits of wine 2 lbs.; add, when wanted, a few drops of ammonia.

III. Mastic 2 oz., spirits of wine 2 lbs. Dissolve, and add ammonia as before.

IV. Mastic 2 drachms, musk 12 grains, spirits of wine 2 oz. Dissolve, and add ammonia.

V. Aqua ammoniæ, pure, 1 lb., rectified oil of amber, oil of lavender, and oil of rosemary, each 2 drachms; dilute with spirits of wine.

VI. Prepared kali 3 drachms, foetid oil of amber $1\frac{1}{2}$ drachm; rub together, and add, by degrees, 4 oz. of spirits of wine. Digest for fifteen minutes, and then decant. Forty drops of this liquor poured into $1\frac{1}{2}$ oz. of liquid ammonia forms the true eau de luce, which differs from the former, as it retains the true milky appearance for a length of time, while the others do not retain it long.

LUCIFER OR CONGREVE MATCHES.

I. These are a preparation of phosphorus, and are best made in the following manner:—The strips of wood are first dipped in melted sulphur; then afterwards the points of them touched with a composition made in the following manner:—Place phosphorus, cut into small pieces, in a vessel, which may be closed accurately by a cover or stopper. Make an iron wire red hot, and stir up the phosphorus with it; it will be inflamed, and in some degree changed into an oxyde. The object of partially oxydating it is to render it more inflammable. Withdraw the wire, and close the vessel, in order to stop the inflammation. Then dissolve in water four times as much gum arabic as there is phosphorus. Add the phosphorus, previously prepared, to the thick gum water, and heat it over a lamp, until the phosphorus is dissolved, or rather incorporated with the mucilage. Add a little coloring matter, and dip the sulphured ends of the matches in the mixture. When dry, they will become inflamed with very little friction. Some manufacturers omit the slight oxydation of the phosphorus previous to its union with the gum water. Also, it is common to stir into the mixture, along with the coloring matter, a small quantity of the chlorate of potass. This promotes the combustion, and occasions the slight noise made at the ignition of the match.

II. *French receipt.*—Warm gum water to a temperature of from 100 to 125°; to 4 parts of the mucilage, add 1 of phosphorus, cut into small pieces, stir and mix them well; then add chlorate of potass, nitrate of

potass, and gum benzoin, each in powder, and one-third in quantity that of the phosphorus. This altogether should form a thick paste, into which the matches are to be dipped.

III. Berzelius gives the following as the best composition for these matches:—30 parts of powdered chlorate of potass, 10 of powdered sulphur, 8 of sugar, 5 of gum arabic, and a little cinnabar to give color. The sugar, gum, and chlorate of potass, are first rubbed into a paste with a little water; the sulphur is then added, and the whole being thoroughly beaten together, small brimstone matches are dipped in so as to retain a thin coating of the mixture upon their sulphured points; when dry, they are ready for use.

IV. Mix together equal parts of sulphuret of antimony and chlorate of potass, both in fine powder, but do not pound the mixture, or it will explode. Make into a paste with gum water, and dip sulphured matches in the mixture. (See *Congreves*.)

LUDOLPH'S MAGISTERY OF OPIUM.

Dissolve opium in vinegar, strain, and add subcarbonate of potass water, till the precipitation ceases. Filter and dry the precipitate.

LUGOL'S SOLUTION OF IODINE.

Add to 1 oz. of water 20 grains of iodine; a very small portion will be dissolved. Add to this 30 grains of the iodide of potassium, and the whole is immediately held in solution.

This solution is used in medicine, as is also the tincture, or alcoholic solution, for the cure of that horrible disorder, the goitre.

LUMBAGO.

A fixed rheumatic pain in the small of the back. Its seizure is sudden, so that a person stooping to tie his shoe is sometimes unable to rise to an erect position without great pain. It must be treated as other rheumatic affections, and generally requires the early application of 10 or 12 leeches to the seat of pain, and, if relief follows, the same number may be applied at the same place four or five hours afterwards. The warm bath and brisk aperient medicines must not be omitted; also, a sudorific powder, such as the following, is useful on going to bed, to produce perspiration. Compound powder of ipecacuanha 15 grains, camphorated mixture 1½ oz. The patient should, for a day or two after a severe attack, remain perfectly quiet, and in bed if possible, and drink only tea, barley water, or other slops. The medicines of colchicum, and others recommended for the gout and rheumatism, are also useful, and the parts most subject to pain should be rubbed repeatedly with camphor and soap liniment, containing a little opium; a poppy-head poultice is

also of much value in easing pain—it should be applied cold. Fomentations of cold water very frequently not only remove much of the pain, but greatly assist in curing this and some other rheumatic affections. As a local application, we have found the following liniment valuable in this disease, and in sciatica. Compound soap liniment 4 oz., laudanum and sulphuric ether, each 2 oz., camphor liniment 1 oz., iodide of potassium 12 grains.

LUNAR CAUSTIC, TO REMOVE STAIN OF.

I. Take of chloride of mercury 2 drams, hydrochloric acid 2 drams; dissolve. This must be applied to the stain with a camel's-hair pencil, and the linen, paper, &c., immediately plunged into water, when the stain will be removed. Let it be afterwards dried in the sun.

II. If a small piece of the iodide of potassium is rubbed on the part, (which must be previously wet,) it will immediately decompose the blackened oxide, and convert it into the iodide of silver, which is soluble in water, and consequently may be discharged by washing. The above process will answer equally as well for linen, muslin, &c. Hot water dissolves the iodide much quicker than cold.

LUNDYFOOT'S SNUFF.

This has a burnt odour, somewhat like malt, it is prepared by partially torrifying the materials, and is imitated by moistening any light-colored snuff with empyreumatic oil.

LUTING FOR BOTTLES.

Common resin, red ochre reduced to fine powder, yellow wax, and oil of turpentine. These must be melted over a fire in the following manner; and the vessel in which it is made should be capable of holding three times the quantity required, to allow ample room for boiling up. An earthenware pipkin with a handle is the best thing for the purpose, and a lid must be made of tin to fit it. The luting will be rendered more or less brittle, or elastic, as the red ochre prevails. The wax is first melted, and then the resin; the ochre is then added in small quantities, and stirred quickly with a spatula each time. When all the ochre has been added, it must be allowed to boil six or eight minutes; the turpentine is then added, and briskly stirred with the spatula, and continued boiling. There is considerable risk of the mixture taking fire; should it do so, the lid must immediately be put on the vessel to extinguish it.

LUTES FOR JOINING APPARATUS, ETC.

I. Flour and whiting equal parts, $\frac{1}{10}$ its quantity of salt, and water to make it into a paste. This is used by the distillers of spirituous liquors.

II. Glazier's putty, made of linseed oil and whiting. This is useful in distilling acids.

III. Fine pounded glass and the white of an egg is very secure for small articles.

IV. Equal parts of muriate of ammonia (sal ammoniac) and whiting mixed into a paste with water, forms a very secure lute.

V. Common clay, with or without sand, and mixed with whiting and water, is a lute which will stand a great heat.

VI. Linseed meal, made into a paste with cold water, is good for ordinary purposes.

VII. To cover vessels, which are to be submitted to an intense heat, nothing is so good as Stourbridge clay mixed with water.

VIII. *Fat lute* is very similar to No. 2; it is made of dried pipe clay and linseed oil; it is not acted upon by corrosive fumes.

IX. Beat equal portions of water and the

white of an egg, and add powdered lime, till of a thickness convenient for use; beat them well together. This will set very hard, and is adapted to cement together various chemical articles permanently; glue or blood may be used with lime instead of egg.

LYMINGTON SALT.

Made by spontaneously evaporating away in shallow ponds, 5 parts out of 6 of seawater, and quick boiling of the remainder to a nearly solid mass, which is drained in troughs; the water which drains away is made to fall upon wooden hurdles or stakes, where it crystallizes in hard lumps, called *Lymington Salt Cats*.

LYNCH'S EMBROCATION.

Steep alkanet root in sweet oil, until the latter has become sufficiently colored, then scent with essential oils.

MACAROONS, ENGLISH.

Take 1 lb. of sweet almonds, $1\frac{1}{2}$ lb. of sugar, the whites of 6 eggs, and the raspings of 2 lemons. Pound the almonds very fine with 6 whites of eggs, peel the almonds, and if they are free from lumps, they will do; then add the powdered sugar, and mix it well with the lemon raspings. Dress them in wafer paper of the required shape; bake them in a moderate heat, then let them stand till cold, cut the wafer paper round them, but leave it on the bottom.

MACARON, CREME DE.

Take of spirits of wine 1 gallon, or strong brandy $1\frac{1}{2}$ gallon, or clear spirit, at about the strength of gin, 2 gallons, bitter almonds, blanched and bruised, 1 lb., cloves, cinnamon, and mace, in coarse powder, of each $1\frac{1}{2}$ drachm. Infuse for ten days, filter, and add white sugar 8 lbs., dissolved in pure water 1 gallon. Color the mixture violet with litmus and cochineal.

This is a very agreeable cordial, similar to noyau flavored with spices. It must not be drank except in small quantities, on account of the large quantity of the oil of bitter almonds, or prussic acid, which it contains.

MACARONI.

This is a paste of wheat flour, drawn out and dried either in small hollow cylinders, or in ribbons, the former as about the size of goose-quills. It is formed of wheat, coarsely ground, and after the dust and bran has been separated from it, the coarse flour remaining, and which is called *semoule*, and

sold here under the name of *semolina*, is made into a paste with about a quarter its weight of hot water, and thoroughly worked while warm with heavy rollers and beaters, for at the least two hours for every bushel of *semoule*. It is formed into ribbands, by being passed through the perforated bottom of a powerful press. To form the pipes, the two edges of the ribband are brought together, and to make the paste more readily pass through the press, it is, as well as the press itself, made hot. The pipes or ribbands being still pliable, on account of their warmth, are twisted up in the shape of knots, stars, &c.

MACE OINTMENT.

Mace and palm oil, of each 1 lb., beat to a paste, and add melted beef marrow 3 lbs.

MACQUER'S ACID SOAP.

Venice soap 4 oz., oil of vitriol added by degrees to the soap, rendered half fluid with a little water, rubbing the mixture continually in a mortar. It is detergent, and used as a lotion where alkalies would be injurious, for example, where lime has been previously applied.

MACQUER'S ARSENICAL SALT.

Distil white arsenic and nitre, mixed in equal quantities, dissolve the residuum in water, evaporate and crystallize. It is a dangerous medicine, used as a tonic in doses of $\frac{1}{10}$ to $\frac{1}{4}$ of a grain.

MADDEN'S VEGETABLE ESSENCE.

This is only the ordinary compound infusion of roses, rendered strongly acidulous by the addition of more acid. It is cooling and astringent.

MADDER LAKE.

A fine lake may be obtained from madder by washing it in cold water, as long as it gives out color; then sprinkling some solution of tin over it, and setting it aside for some days. A gentle heat may also be applied. The red liquor must then be separated by the filter, and decomposed by the addition of carbonate of soda, when a fine red precipitate will be obtained.

MADDER RED, TO DYE.

The yarn or cloth is boiled in a weak alkaline bath, washed, dried, and galled, by steeping the cotton, linen, &c., in a decoction of bruised galls or of sumach. After drying, it is twice steeped in warm alum water, then dried and boiled in a bath made of $\frac{3}{4}$ lb. of madder to every lb. of cotton. It is then taken out, dried, and steeped in a second bath in like manner. The following proportion of ingredients may be adopted:—To every 20 lbs. of cotton use 14 lbs. of madder, 3 lbs. of nut galls, 5 lbs. of alum, to which $\frac{1}{2}$ lb. of acetate of lead has been first added, and then $\frac{1}{4}$ lb. of chalk. The goods, when dyed, are to be washed in warm soap and water, to remove a dun-colored matter which is given out by the madder.

MADEIRA, BRITISH.

Pale malt, ground, 4 bushels, boiling water 44 gallons. Infuse, strain off this wort while warm. Take 24 gallons, and add sugar candy 14 lbs., and cream of tartar 3 oz.; when dissolved, and of the temperature of 70°, add yeast 2 lbs. Ferment, keep skimming off the yeast, and when the fermentation is nearly finished, add raisin wine 2½ gallons, brandy and sherry wine, of each 2 gallons, rum 1 quart. Bung it down for six or nine months.

MADEIRA, TO FINE.

Take 3 oz. of isinglass, and dissolve it; but if old wine, 2 oz. will be sufficient; also, 1 quart of skim milk, and 1 pint of marble dust; whisk these in a can with some wine. If the pipe is full, take out a can full, put in a can of finings, and stir the whole well up for five minutes, let it have vent for three days, then bung it up, and in ten days or a fortnight it will be fit for bottling or racking off.

MAGGOTS IN SHEEP, TO DESTROY.

Mix with 1 quart of spring water, a table-spoonful of the spirit of turpentine, and as much of the sublimate powder as will lie upon a shilling. Shake them well together, and cork it up in a bottle, with a quill

through the cork, so that the liquid may come out of the bottle in small quantities at once. The bottle must always be well shaken when it is to be used. When the spot is observed where the maggots are, do not disturb them, but pour a little of the mixture upon the spot, as much as will wet the wool and the maggots. In a few minutes after the liquor is applied the maggots will all creep to the top of the wool, and in a short time drop off dead. The sheep must, however, be inspected next day, and if any of the maggots remain undestroyed, shake them off, or touch them with a little more of the mixture. A little train oil may be applied after the maggots are removed, as sometimes the skin will be hard by applying too much of the liquid. Besides, the fly is not so apt to strike when it finds the smell of the oil, which may prevent a second attack.

This method of destroying maggots is superior to any other, and it prevents the animal from being disfigured by clipping off the wool, which is a common practice in some countries.

MAGNES ARSENICALIS.

Common antimony, sulphur, and white arsenic, equal parts; mix and fuse together till they form a kind of glass. This mixture is very corrosive, and was once used as a caustic.

MAGNESIAN DRINK.

I. This, which is of the nature of soda water, is an extremely pleasant beverage, and slightly aperient in its action. Put into a tumbler 3 parts full of water 14 grains of calcined magnesia. When mixed, add in powder 20 grains of citric acid. Drink it while effervescing.

A white powder, called also citrate of magnesia, is sold at the chemists. It, however, contains no citric acid, and is thus prepared—Carbonate of magnesia 2 lbs., powdered tartaric acid 1½ lbs., bicarbonate of soda 1 lb.—dry each by a gentle heat. Then mix, pass the mixture through a sieve, and keep it in well corked bottles. A little essence of lemon and sugar may be added when used.

II. *Aperient*.—Epsom salts 2 lbs., dry by a gradually-increasing heat, powder; add tartaric acid, also dried, 1½ lb., calcined magnesia ½ lb., finely-powdered white sugar 3 lb., bicarbonate of soda 1 lb., essence of lemon 1 drachm. Mix, well rub it through a sieve, and bottle while quite dry. Dose $\frac{1}{2}$ to 2 dessert spoonful thrown into a tumbler $\frac{3}{4}$ full of water, rapidly stirred, and drank directly, is an excellent remedy for habitual costiveness.

The reason of the ingredients of the two last receipts being kept so very dry is to prevent chemical action between them, in order that when mixed in the tumbler an effervescence shall take place.

MAGNESIA LOZENGES.

Carbonate of magnesia 6 oz., powdered loaf sugar 3 oz., oil of nutmeg 20 drops, mucilage of gum tragacanth to mix. Instead

of the carbonate of magnesia, half the quantity of calcined magnesia may be used.

MAGNESIA, MIXTURE OF.

Liquid magnesia 6 oz., orange syrup, syrup of ginger, and tincture of cardamoms, of each 2 drachms, aromatic spirit of ammonia 6 fluid drachms. Dose 1 or 2 table-spoonsful every three or four hours in acidity, heartburn, indigestion, &c.

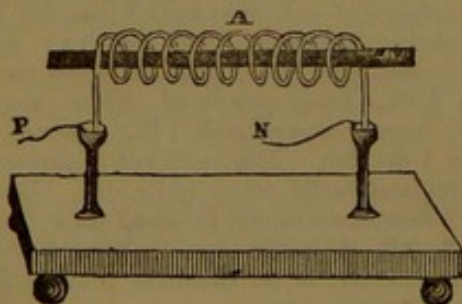
MAGNESIA WATER—LIQUID MAGNESIA.

Mix 3 drachms of carbonate of magnesia with 1 gallon of water, and impregnate it with 10 times its volume of carbonic acid gas, by means of a forcing pump or soda-water apparatus, or it may be made like soda water. (See *Magnesia Drink*.)

MAGNETS, ARTIFICIAL.

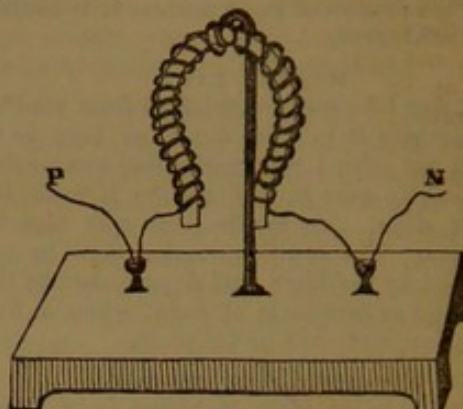
The methods employed by scientific persons to make artificial magnets are numerous. They naturally divide themselves into two distinct classes; in one we are supposed to have one or more artificial magnets, by whose assistance we are desirous of making others; and in the second class it is to be imagined that we have no one to begin with, but merely the bar or wire of steel of which we are desirous a magnet should be made.

1. *By Electro-Magnetism*.—It is a well-known fact in this science, that when a current of electricity is made to circulate around a bar of iron or steel, it induces in that steel magnetic properties, and that in a single instant; thus it forms a ready method of forming artificial magnets, both such as are straight, as well as those which are of the horse-shoe form. The apparatus usually employed for this purpose is as follows:—Let A represent a wire coiled round a straight bar of steel, and let the ends of the coil dip into the two small cups, from which issue also two other wires, P and N, supposed to be connected with the positive and negative sides of a quart galvanic battery, in action.



The very moment the connection with the poles of the battery is made, the steel bar will be found a powerful magnet, capable of holding a considerable weight. It is not necessary that it should remain within the coil any length of time, as all the virtue it acquires is conveyed to it instantly.

Horse-shoe magnets may be made by the same method, by substituting a piece of iron or steel in that shape, and connecting it with the battery in a proper manner.



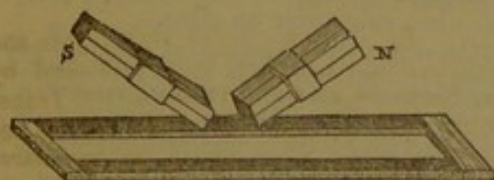
II. *By Tortion*.—This method was proposed by Gay Lussac, as one available under circumstances in which other methods are unattainable, as for example, the making of a compass needle, when cast away by shipwreck and other circumstances, in which a weak and delicate needle is all that is required. Make a piece of iron wire, (the thinner the better,) very soft, and suspend it vertically, it will be found a magnet; to render the magnetism thus induced permanent, put the lower end of the wire in a vice, the cleft of a stick, or any thing that will hold it firmly; now twist the wire till it breaks, and it will be found very hard and a permanent magnet.

III. *By Percussion*.—A very simple and efficacious method has been published by Mr. Scoresby, in the "Philosophical Transactions," for 1822, p. 241. That iron becomes magnetic when struck by successive blows of a hammer, in the direction of the dipping needle, was known to Dr. Gilbert in the year 1600, but it is to Mr. Scoresby that we owe a complete investigation of the subject. The experiments were made with a bar of soft steel, $6\frac{1}{2}$ inches long, $\frac{1}{4}$ of an inch in diameter, and weighing 592 grains; it was placed in a vertical position, resting on a piece of tin, and struck on the top with a hammer of 12 oz. The greatest effect was produced by about 18 blows. When the steel bar was placed upon a stone, the effect was the same; but a great increase of power was obtained by supporting the lower end of the bar upon the upper end of another and larger bar, and striking it with a larger hammer. The following show the method of making one magnet by the aid of another.

IV. *By Single Touch*.—The simplest method of magnetizing a bar of hard steel, (and none other will retain the magnetism given to it so long,) is by placing it on a table as near as possible in the magnetic meridian—that is, nearly north and south; and holding over it perpendicularly a strong

bar magnet, rubbing it throughout its whole length, beginning at one end, and passing it along to the other, pressing it somewhat during its passage. After reaching the end of the steel bar, the magnet must be lifted up, and applied again to the other end, and so on for several times, the friction being always made in the same direction.

v. *Duhamel's method*.—The bars to be magnetized are placed parallel to each other, and have their extremities united by 2 pieces of soft iron, at right angles to the bars. Then take 2 strong magnets, or 2 bundles of small bar magnets, the bars of each bundle having their similar poles together, and place them as in the figure, at an angle of about 90 degrees, or inclined 45 degrees each to one of the bars, having the north pole of the one bundle downwards, and the south pole of the other bundle. They are then separated from each other by drawing them along the under bar to its extremities. The same operation is to be repeated on the other bar, and continued alternately on both, till their full magnetic powers are supposed to be developed. When the magnets are placed upon the second bar, the disposition of the poles is to be reversed; the pole that was at first in the right hand being now placed in the left. The two bars are then to be turned with their lower face uppermost, and the operation repeated several times, as before.



The distinctive property of M. Duhamel's process is the employment of the connecting pieces of iron, and in the use of bundles of small bars, which are more efficacious than two single ones of the same size. This method is applicable to curved bars, or those of a horse-shoe form.

MAGNETS, TO PRESERVE.

Magnets should, when laid aside, be placed as nearly as possible in the position which they would assume in consequence of the action of terrestrial magnetism; if this be neglected, in process of time they will become gradually weaker; and this deterioration is most accelerated when its poles have a position the *reverse* of the natural one. Under these circumstances, indeed, unless the magnet be made of the hardest steel, it will eventually lose the whole of its magnetic power. Two magnets may also very much weaken each other, if they be kept, even for a short time, with their *similar* poles fronting each other. This will readily be understood from what has been said with regard to magnetic induction. The polarity of the

weaker magnet is rapidly impaired, and sometimes actually reversed. All rough and violent treatment of a magnet should also be carefully avoided; every concussion or vibration among its particles tends to weaken its power. Horse-shoe magnets should have a short bar of soft iron, adapted to connect the two poles; and should never be laid by, without such a piece of iron adhering to them, and with a weight attached. If hung up in this position, and the weight gradually increased day by day, its lifting power will increase very materially. Bar magnets should be kept in pairs, with their poles turned in contrary directions, and the dissimilar poles on each side connected by a bar of soft iron, so that the whole may form a parallelogram. They should fit into a box when thus arranged, so as to guard against accidental concussion, and to preserve them from the dampness of the atmosphere. They should be polished, not with a view of increasing their magnetism, but because they are then less liable to contract rust. Both single magnets and needles have their power not only preserved but increased, by keeping them surrounded with a mass of dry filings of soft iron, each particle of which will react, by its induced magnetism upon the point of the magnet to which it adheres, and maintain in that point its primitive magnetic state.

MAHOGANY-COLORED CEMENT.

I. Melt bees'-wax 4 oz., then add Indian red 1 oz., and enough yellow ochre to produce the required color.

II. Shell-lac, melted and colored as above. This cement, particularly the first, is used to fill up holes and cracks in mahogany furniture, &c.

MAHOGANY, IMITATION OF.

To imitate mahogany by painting requires considerable practice. The process is as follows:—First, as to the color and smoothness of the ground. Let the wood have first a coat of Venetian red in oil color; when this is dry let it be rubbed down well with pumice stone. Then lay on a second coat, also in oil, composed of Venetian red and chrome yellow, so proportioned as to be of a fine golden color. Let it dry, and rub it down again with pumice stone and water. If of a good fine even color and quite smooth, it is fit for the graining. To do this, get some Vandyke brown and burnt Sienna, both ground in water. An oz. of each will cover a considerable space. Mix in a large plate about $\frac{1}{3}$ Vandyke brown and $\frac{2}{3}$ burnt Sienna alone, and make them into a thin color with porter. Lay a coat of this over a pannel, style, or other portion of the work, and if you have a pannelled door to do, begin with the pannels first. A streaky dark coat being thus laid on, take a piece of the

roughest sponge you can get, or a handful of rags, and wipe off as roughly and irregularly as possible certain parts for the broad lights. Then take a flat camel-hair varnish brush, set in tin, cut off the handle, or pull it out of the tin, and also cut off the hairs flat, so as to leave them about $\frac{1}{4}$ of an inch long. Hold this short stumpy brush by the tin lightly with the thumb and finger of the right hand, and thus moving it along the work in the direction of the lights which were rubbed out, make it jump along. The effect of this is to make a series of irregular ridges of light and dark, intermingled with the broader lights. This should be towards the sides of a pannel; also in the centre, between these irregular mottled sides, make with the same brush or stump, but holding it more firmly, a few upright and irregular bars of light towards the central portion. This being done according to fancy, and while it is still wet, sweeten it or soften it all off with a long-haired badger brush, so as to blend all nicely together, yet so lightly as not to disturb the character of any portion. When dry, lay over it irregularly in narrow lines in a contrary direction to the former work, that is, across the pannel, the over-grain, this of the same color as before, but with more beer to it. The brush used is either one made of a single row of stiff hairs, or it may be done with the broad side of a large feather, taking care that when you have dipped the brush or feather into the color, you comb it out with a large tooth comb, to prevent the hairs or feathers from adhering together, and thus laying the over-grain in bands rather than narrow lines. The work will be now complete, and another part may be proceeded with, observing to make the pannels always more florid than the styles. When dry, give two coats of good varnish.

MAHOGANY STAINS.

1. Break 2 oz. of dragon's blood in pieces, and put them in a quart of rectified spirits of wine, let the bottle stand in a warm place, and shake it frequently. When dissolved, it is fit for use.

11. Put 1 lb. of logwood in 4 quarts of water, and add a double handful of walnut peels. Boil it up again, take out the chips, add 1 pint of the best vinegar, and it will be fit for use.

MAHOGANY VARNISH.

Sorted gum anime 8 lbs., clarified oil 3 gallons, litharge and powdered dried sugar of lead, of each $\frac{1}{4}$ lb.; boil till it draws out well into strings, then cool, and add 5 $\frac{1}{2}$ gallons of spirits of turpentine.

MAHOMED'S ELECTUARY.

Mix together 1 drop of croton oil, $\frac{1}{2}$ oz. of senna in powder, $\frac{1}{2}$ drachm of powdered

ginger, made to a proper consistence with currant jelly and syrup of roses. Dose $\frac{1}{4}$ oz.

MALLAN'S SUCCEDANEUM.

This is nearly the same as the tin-foil on the back of looking glasses. It may be made by rubbing together quicksilver and tin-foil in a mortar, or melting them together in a ladle over a fire, and applying them while warm. It grows harder by degrees as the quicksilver becomes absorbed. It is used for filling decayed teeth. (See *Mineral Marmoretum*.)

MALMSEY, BRITISH.

I. Sliced parsnips 4 lbs., boiling water 1 gallon; when cold, press out the liquor, and to each gallon add cream of tartar $\frac{1}{2}$ oz., and good Muscovado sugar 3 lbs. Ferment, pour off, and add 1 gallon of brandy to every 20 gallons of wine.

11. Good malt wort 1 gallon, lump sugar 1 $\frac{1}{2}$ lb., Malaga raisins 2 lbs., brandy as before.

MALT, EXTRACT OF.

Let a peck of the best malt be put into an earthen pan, pour 6 quarts of nearly-boiling water over it, stir it up, and cover it close. Let it stand twenty-four hours, after which, strain it through a coarse cloth, then put it into a preserving pan over a gentle fire, stirring and skimming it all the time after putting on the fire, until it is sufficiently strong to draw out into ropes, and is as thick as treacle. Put into bottles or jelly-pots, and when cold cover up close.

This, with a due proportion of yeast and hops, makes excellent beer; it is also a good demulcent cough medicine, a tea-spoonful being taken first in the morning. A second extract may be made from the same malt, but this is apt to turn sour in cooling; and when two extracts are to be made, the water at first should not be above 160°, or scalding heat.

MALT, PATENT.

This is prepared by roasting common malt till it is of a dark brown, or blackish color, from partial charring. It is employed to darken the color of malt liquors.

MALT POULTICE.

Mix as much ground malt with $\frac{1}{2}$ pint of yeast, as will make a poultice of moderate consistence. This poultice is gently stimulating, and very serviceable in destroying the foetid and disagreeable smell arising from foul ulcers and gangrenous wounds. A similar poultice is prepared by stirring into an infusion of malt as much oatmeal as may be required to make it of a proper thickness, and afterwards adding about a spoonful of yeast.

MALT, TO DETERMINE THE QUALITIES OF.

1. Examine well if it has a round body, breaks soft, is full of flour all its length, smells well, and has a thin skin; next chew some of it, and if sweet and mellow, then it is good. If it is hard and steely, and re-

tains something of a barley nature, it has not been rightly made, and will weigh heavier than that which has been properly malted.

11. Take a glass nearly full of water; put in some malt, and if it swims, it is good, but if any sinks to the bottom, then it is not true malt.

Pale malt is the slowest and least dried, producing more wort than high-dried malt, and of better quality. Amber-colored malt, or that between pale and brown, produces a flavor much admired in many malt liquors. Brown malt loses much of its nutritious qualities, but confers a peculiar flavor desired by many palates. Roasted malt, after the manner of coffee, is used by the best London brewers, to give color and flavor to porter, which, in the first instance, has been made from pale malt.

MALT, TO MAKE.

Put about 6 quarters of good barley, newly threshed, &c. into a stone trough full of water, and let it steep till the water be of a bright reddish color, which will be in about three days, more or less, according to the moisture or dryness, smallness or bigness of the grain, the season of the year, or the temperature of the weather. In summer malt never makes well; in winter it requires longer steeping than in spring or autumn. It may be known when steeped enough by other marks besides the color of the water; as by the excessive swelling of the grain, if it be over steeped, by too much softness. When sufficiently steeped, take it out of the trough, and lay it in heaps to let the water drain from it, then, after two or three hours, turn it over with a scoop, and lay in a new heap, 20 or 24 inches deep. This is called the coming heap, in the right management of which lies the principal skill. In this heap it may lie forty hours, more or less, according to the before-mentioned qualities of the grain, &c., before it come to the right temper of malt. While it lies, it must be carefully looked to after the first fifteen or sixteen hours; for about that time the grains begin to put forth roots; which, when they have equally and fully done, the malt must, within an hour after, be turned over with a scoop; otherwise the grains will begin to put forth the blade and spire also, which must by all means be prevented. If all the malt do not come equally, but that which lies in the middle, being warmest, come the soonest; the whole must be turned, so that what was outmost may be inmost; and thus it is managed till it be all alike. As soon as the malt is sufficiently come, turn it over, and spread it to a depth not exceeding 5 or 6 inches; and by the time it is all spread out, begin and turn it over again 3 or 4 times. Afterwards, turn it over in like manner once in four or five hours, making the heap deeper by degrees; and continue to do so for the space of forty-eight hours at least. This cools, dries, and deadens the grain, so that

it becomes mellow, melts easily in brewing, and separates entirely from the husk. Then throw up the malt into a heap as high as possible, where let it lie till it grow as hot as the hand can bear it, which usually happens in about the space of thirty hours. This perfects the sweetness and mellowness of the malt. After being sufficiently heated, throw it abroad to cool, and turn it over again about six or eight hours after; and then lay it on a kiln with a hair cloth or wire spread under it. After one fire, which must last twenty-four hours, give it another more slow, and afterwards, if need be, a third; for if the malt be not thoroughly dried, it cannot be well ground, neither will it dissolve well in the brewing; but the ale it makes will be red, bitter, and unfit for keeping.

MALT VINEGAR.

The greater part of British vinegar is made from malt, by the following process:—1 boll of good barley malt, properly crushed, is to be mashed with water at 160° Fahr. The first water should have that temperature; the second must be hotter than 160°, and the third water, for the extraction of all the soluble matter, may be boiling hot. Upon the whole, not more than 100 gallons of wort should be extracted. After the liquor has cooled to 75° Fahr., 3 or 4 gallons of beer yeast are poured in, and well-mixed with a proper stirrer. In thirty-six or forty hours, according to the temperature of the air, and the fermenting quality of the wash, it is racked off into casks, which are laid upon their sides in the fermenting apartment of the vinegar works, which should be kept at a temperature of 70° at least; in summer partly by the heat of the sun, but in general by the agency of proper stoves. The bung-holes should be left open, and the casks should not be full, in order that the air may act over an extensive surface of the liquor.

MALTHA, OR GREEK MASTICH.

This is a more simple composition than the cement of the Romans, when used for stucco on the outside of buildings, consisting only of lime and sand, but rendered into a paste with milk or size.

MANGE, REMEDIES FOR.

1. *Ointment*.—Quicksilver 3 oz., balsam of sulphur 2 oz., oil of turpentine 3 oz., soft soap 1 lb., Cape aloes, in powder, $\frac{1}{2}$ oz. Rub the quicksilver with the balsam of sulphur, in a marble mortar for three or four hours, or until the globules completely disappear; and while rubbing keep gradually adding the oil of turpentine; having done this, you may then mix the whole well together for use. It must be well rubbed in on the affected parts, every third day, for three or four times.

11. Oil of vitriol $\frac{1}{2}$ oz., hog's lard 8 oz. Mix and anoint the dog every day for three or four times, or oftener, if required.

This ointment is used in surfeit, and slight cases of mange.

111. *Liniment*.—Flour of sulphur 4 oz., flowers of sulphur 4 oz., white precipitate 1 oz., strong mercurial ointment 1 oz., Cape aloes in powder $\frac{1}{2}$ oz., neat's-foot oil $1\frac{1}{2}$ pint. First rub the powders together in a mortar; then put in the ointment, and gradually add the oil; it must be stirred when used. The affected parts must be well anointed with this liniment, every third day, for three or four times.

1V. Mild mercurial ointment 4 oz., oil of turpentine 3 oz., Cape aloes, in powder, $\frac{1}{2}$ an oz. Mix well together, and anoint the parts every third day for three or four times.

Many sportsmen have their dogs regularly dressed with this liniment two or three weeks before the hunting season commences; it is supposed to improve their scent, and make them more fit for the chase.

V. White precipitate 2 oz., strong mercurial ointment 2 oz., flour of sulphur $\frac{1}{2}$ lb., rape oil 2 quarts. First grind the white precipitate in a little oil, afterwards add the remainder, taking care that they are well mixed.

This liniment must be well rubbed in with a hard brush, in the open air, provided the day be fine, and the weather warm. If the horse draws in a team, the inside of the collar must be washed, or the inside of the saddle, if a saddle horse, for the disease is highly contagious.

VI. *Lotion*.—White hellebore root, bruised, 2 oz., water 3 pints, boil down to 2 pints, and strain; sal ammoniac 2 drachms, corrosive sublimate 1 drachm, Cape aloes $\frac{1}{2}$ oz. Dissolve the sal ammoniac, and other ingredients in the decoction.

This is sometimes used when greasy applications are objected to.

MANHEIM GOLD.

Three parts copper, 1 part zinc, and a small quantity of tin. If these metals are pure, and are melted in a covered crucible containing charcoal, the alloy bears so close a resemblance to gold as to deceive very skilful persons.

MANNA LINCTUS.

Mix together equal parts of manna, oil of almonds, and syrup of violets. It is slightly laxative and demulcent, and a good cough remedy for children.

MANNA LOZENGES.

Powdered tragacanth 1 drachm, white sugar 12 oz., manna 3 oz., orange flower water to mix.

MAPLE, TO IMITATE.

This wood is not difficult to imitate by means of painting or graining, although when well done, it looks very light and elegant.

The ground is first a coat of white lead, this being well rubbed down, a second coat is to be laid on; the which, having added to it a very small portion of yellow ochre mixed with it, so as to form a cream color. When this is dry, and it has been smoothed down, mix in a plate a little yellow lake, either with soap-suds or light-colored beer, lay this with a hard brush over the ground, and draw it out into irregular lines with the brush, so that it shall look evenly streaky. Soften off well with a badger brush. For the next process, have ready a brush, prepared thus:—Take a camel-hair brush of about the thickness of a small quill, cut off the hairs, so that they only project about $\frac{1}{8}$ of an inch beyond the quill, then having ready a hot iron wire, make a hole with it in the brush by burning away the hairs in the middle; there will be now left a ring of short hairs, flat at the end. With this brush the little specks, called bird's eyes, are to be made; these must be irregularly placed, and not too numerous; the mode of forming them is to press the point of the hollow brush on the place, and then turning it round with the thumb and finger. An over-grain is not necessary. Yellow lake is, by some, considered too bright a color, and they prefer raw Sienna, of course ground in water. (See *Mahogany*.)

MARASCHINO DE LARA.

Morella cherries 9 lbs., small wild black cherries 7 lbs., or 16 lbs. of Morella cherries, $1\frac{1}{2}$ pint of Kirchenwasser, spirit of roses $1\frac{1}{2}$ oz., neroli 6 or 8 drops, or spirit of orange flower $1\frac{1}{2}$ oz., jessamine $\frac{1}{2}$ oz., peach or cherry leaves $1\frac{1}{2}$ lb. Pick the stalks from the cherries and press out the juice, pound the stones and skins with the leaves in a mortar, and steep all together for a fortnight, (some only filter the infusion,) and add to it $4\frac{1}{2}$ lbs. of treble-refined sugar; dissolve, and strain through a jelly bag; but a superior article may be obtained by the addition of 4 quarts of rectified spirits of wine, and afterwards distilling the mixture.

The Maraschino of Germany differs only from Kirchenwasser, in being made from Morella cherries, while the latter is made from black cherries. It may be made also of gooseberries, by fermenting, and afterwards distilling the juice or pulp of 102 lbs. of ripe gooseberries and 12 lbs. of cherry leaves, bruised, and remaining in the gooseberries while fermenting. As these leaves are only to communicate a flavor, a few bitter almonds may be substituted.

MARASCHINO, FRENCH.

Made from the fruit of the St. Lucian tree, (*Prunus mahaleb*.) It furnishes by distillation a prussic alcohol, but by putting it first to infuse in brandy for some time, there is obtained, by distillation in a bath heat, a spirit of a very agreeable flavor, and which, properly sweetened, forms a liqueur com-

parable to the best maraschino of Italy. It is necessary to bruise the fruit and the nuts before infusing them in brandy. The spirit must also be brought back to 21° before sweetening it. Then add nearly 12 oz. of sugar to every quart of liquor.

MARBLE, IMITATIVE.

Provide a flat and smooth piece of marble: on this make a border or wall to encompass either a square or oval table, which may be done either with wax or clay. Then having several sorts of colors, as white lead, vermilion, lake, orpiment, massicot, smalt, Prussian blue, &c., melt on a slow fire some brimstone in several glazed pipkins; put one particular sort of color into each, and stir it well together; then having before oiled the marble all over within the wall, with one color, quickly drop spots upon it of larger and less size; after this, take another color and do as before, and so on till the stone is covered with spots of all the colors designed to be used. When this is done, consider next what color the mass or ground of the table is to be; if of a grey color, then take fine sifted ashes, and mix it up with melted brimstone: or if red, with English red ochre; if white, with white lead; if black, with lamp or ivory black. The brimstone for the ground must be pretty hot, that the colored drops on the stone may unite and incorporate with it. When the ground is poured even all over, next, if necessary, put a thin board or a slate upon it: this must be done while the brimstone is hot, making also the board hot, which ought to be thoroughly dry, in order to cause the brimstone to stick better to it. When the whole is cold, take it up, and polish it with a cloth and oil, and it will look very beautiful.

MARBLE, TO STAIN.

Heat is generally necessary for opening the pores of marble, so as to render it fit to receive the colors; but the marble must never be made red-hot; for then the texture of it is injured, and the colors are burnt, and lose their beauty. Too small a degree of heat is as bad as too great; for, in this case, though the marble receives the color, it will not be fixed in it, nor strike deep enough. The proper degree is that which, without making the marble red, will make the liquor boil upon its surface.

1. *The Menstrua to strike in the Colors.*—The colors which have been found to succeed best with the peculiar menstrea are these:—Stone blue dissolved in six times the quantity of spirit of wine, and litmus dissolved in common ley of wood-ashes. An extract of saffron and sap green, both succeed well when dissolved in wine and quicklime. Vermilion and a very fine powder of cochineal also succeeds very well in the same liquors. Dragon's

blood succeeds in spirit of wine, as does also a tincture of logwood in the same spirit. Alkanet root gives a fine color; but the only menstruum to be used with it is the oil of turpentine. Besides these mixtures there are other colors which must be laid on dry and unmixed:—viz. dragon's blood of the finest kind for a red; gamboge for a yellow; green wax for a green; common brimstone, pitch, and turpentine, for a brown color. The marble for these experiments must be made considerably hot, and then the colors are to be rubbed on dry in the lump.

II. *Gold Color.*—Take crude sal ammoniac, white vitriol, and verdigris, of each equal quantities. Mix the whole thoroughly in fine powder.

III. *Red or Yellow.*—The staining of marble to all degrees of red or yellow, by solution of dragon's blood or gamboge, may be done by reducing these gums to powder, and grinding them with the spirit of wine in a glass mortar. But, for smaller attempts, no method is so good as the mixing a little of either of those powders with spirit of wine in a silver spoon, and holding it over burning charcoal. By this means a fine tincture will be extracted: and with a pencil dipped in this, the finest traces may be made on the marble while cold; which, on the heating of it afterwards, either on sand, or in a baker's oven, will all sink very deep, and remain perfectly distinct on the stone. It is very easy to make the ground color of the marble red or yellow by this mode, and leave white veins in it. This is to be done by covering the places where the whiteness is to remain with some white paint, or even with two or three doubles only of paper; either of which will prevent the color from penetrating.

IV. *Blue.*—Dissolve turnsole in lime and urine, or in the volatile spirit of hartshorn; but a better blue, and used in an easier manner, is furnished by litmus. This is only to be dissolved in water, and drawn on the place with a pencil: it penetrates very deeply in the marble, and the color may be increased by drawing the pencil wetted afresh several times over the same lines. This color is subject to spread and diffuse itself irregularly, but it may be kept in regular bounds by circumscribing its lines with beds of wax, or any such substance. It should always be laid on cold, and no heat given afterwards to the marble.

MARBLE, TO CLEAN.

Mix up a quantity of the strongest soap ley with quick lime to the consistence of milk, and lay it on the stone, &c. for twenty-four hours, clean it afterwards, and it will appear as new.

This may be improved by rubbing or polishing it with fine putty powder and olive oil.

MARBLED SOAP BALLS.

Take 10 lbs. of white oil soap and 10 lbs. of Joppa soap. Cut them into small square pieces, which set to dry for three days. The oil soap, particularly, must be thus dried:—Scrape, very finely, 5 lbs. of oil soap, which dry, for one day, in the open air; mix it well in the shaving box with 5 lbs. of powder, add $1\frac{1}{2}$ oz. of the best vermilion. In mixing, place pieces of soap, and colored powder in layers in the box, making, in all, four alternate layers of each. When a layer of each has been placed in the box, sprinkle a pint of rose water over the cut soap; for if it be much combined with the powder, it will become lumpy and hard, and consequently spoil the wash balls. The same quantity of rose water is to be used for moistening each of the other soap layers. Next mix a pint of thin starch, which has been well boiled in $\frac{1}{2}$ a pint of rain water, with $\frac{1}{2}$ a pint of rose water, and distribute it equally well mixed among the mass, by turning it over repeatedly, and then press it down close with the hands.

MARBLING THE EDGES OF BOOKS.

Dissolve 4 oz. of gum arabic in 2 quarts of clear water; then provide several colors mixed with water in pots or shells, and with pencils peculiar to each color; sprinkle them by way of intermixture upon the gum water, which must be put into a trough, or some broad vessel. Then with a stick curl them or draw them out in streaks, to as much variety as required; having done this, hold the book or books close together, and only dip the edges in on the top of the water and colors very lightly—which done, take them off, and the plain impression of the colors in mixture will be upon the leaves; doing as well the ends, as the front, of the books in the same manner.

MARBLING THE COVERS OF BOOKS.

This is performed by forming clouds with aqua-fortis, or spirit of vitriol, mixed with ink, and afterwards glazing the covers.

MARECHALE, EAU DE.

I. Musk 20 grains, essence of bergamot, oil of lavender, oil of cloves, each 1 oz., essence of ambergris 2 oz., oil of sassafras 15 drops, oil of marjoram 20 drops, spirits of wine 4 pints.

II. Spirits of wine 1 pint, essence of violets 2 oz., essence of bergamot and essence of cloves, each 4 drachms, orange flower water 1 pint.

MARECHAL HAIR POWDER.

I. Oak moss in powder 2 lbs., starch, powdered, 1 lb., cloves 1 oz., calamus aromaticus 1 oz., Cyperus in powder 2 oz., rotten wood in powder 1 oz. Mix all well together.

II. Powdered cloves 1 oz., starch powder $2\frac{1}{2}$ lb.

MARESCHAL POMATUM.

White wax 2 lbs., suet $6\frac{1}{2}$ lbs., scent $4\frac{1}{2}$ oz., Mareschal powder 6 oz.

MARINE GLUE.

A solution is first made of caoutchouc of good quality with coal naphtha, in the proportion of 1 lb. of the caoutchouc to 5 gallons of the naphtha. The caoutchouc is cut into thin shreds before being used; and the mixture is stirred until the caoutchouc is so dissolved, as to bring it to the consistence of thick cream. One part by weight of the above-described solutions and two parts by weight of shell-lac are then put into an iron vessel. The whole is then heated and stirred until thoroughly amalgamated; and this substance constitutes the marine glue. The caoutchouc will be sufficiently dissolved in about ten or twelve days.

MARINE SOAP.

This soap possesses the peculiar property of forming a good lather with sea water; hence its name. It is made by boiling together soda lye with cocoa nut oil. It contains an immense quantity of water.

MARKING INK FOR LINEN.

I. Dissolve 1 dram of nitrate of silver in $\frac{3}{4}$ of an oz. of water. Add to the solution as much liquid ammonia as will re-dissolve the precipitated oxide, with sap green to color it, and gum water to make the volume amount to 1 oz. Traces written with this liquid should be first heated before the fire to expel the excess of ammonia, and then exposed to the sunbeam to blacken. For this liquid, linen requires no previous preparation.

II. Imbue the linen first with a solution of carbonate of soda. Dry the spot, and write upon it with a solution of the nitrate of silver, thickened with gum, and tinted with sap green.

MARKING LINEN, NEW MODE OF.

A German chemist, Mr. Hoenle, has invented a new plan for marking linen without ink. This is effected by simply covering the linen with a fine coating of pounded white sugar. The stamp of iron very much heated is impressed on this material. Two seconds suffice for the operation. The linen remains slightly scorched, but the mark is said to be indelible.

MARLBOROUGH CAKES.

Beat 8 eggs and 1 lb. of powdered sugar three-quarters of an hour, then, by degrees, mix in 1 lb. of fine flour, well dried, add 2 oz. of caraway seeds, and bake in soup plates or tin pans in a brisk oven.

MARMALADE.

The only difference between a marmalade and a jam is, that the latter is made of a small or soft fruit, the former of those which are harder; the fruit then, when somewhat softened by boiling, is taken out and pounded in a mortar, till well broken up and pulpy, and then rubbed through a sieve, although in the case of orange marmalade the peel is returned to the pulp.

The word Marmalade was first applied to a jam of sugar and quinces, but now it is applied to apricots, apples, oranges, lemons, quinces, &c. (See these terms.)

MARRIOTT'S DRY VOMIT.

Tartar emetic and blue vitriol, in equal quantities. Take 2 or 3 grains on the top of the finger without any liquid. It is very sudden in its action.

MARSDEN'S ANTI-SCORBUTIC DROPS.

These are a solution of calomel in the infusion of gentian, and a little spirits of wine to make it keep.

MARSEILLES VINEGAR.

Tops of rosemary and flowers of sage, each 4 oz., dried lavender flowers 2 oz., cloves 1 drachm, distilled vinegar 1 gallon. Digest for seven days, press, and filter.

This is used as a corrector of bad smells, and formerly as a preventive of contagion from the plague, and other contagious disorders, particularly at the plague at Marseilles, hence the name. It is also called the *Vinegar of the Four Thieves*, *Prophylactic Vinegar*, &c.

MARSHALL'S MIXED OILS.

Linseed and olive oil, each 1 lb., green oil and oil of turpentine, each $\frac{1}{2}$ lb., oil of vitriol 1 $\frac{1}{2}$ drachm. Used in farriery.

MARSHALL'S CERATE.

Take 5 oz. of palm oil, 1 oz. of calomel, 2 oz. of nitrate of mercury, and $\frac{1}{2}$ oz. of acetate of lead; mix and form a cerate. It is a good stimulant to indolent ulcers.

MARSH-MALLOWS, DECOCTION OF.

Take of marsh-mallow roots, bruised, 4 oz., raisins, stoned, 2 oz., water 7 pints. Boil down to 5 pints, strain the decoction, and after the grounds have subsided, pour off the clear liquor. Marsh-mallow roots contain nothing soluble in water, except mucilage, which is very abundant in them. This decoction is therefore to be considered merely as an emollient, rendered more pleasant by the acidulous sweetness of the raisins.

Decoctions of this plant have been found exceedingly useful where the natural mucus has been abraded from the coats of the intestines; in catarrhs from a thin rheum, in diseases of the kidneys, calculous disorders, and in many other cases. It is to be observed, that this decoction must not be made too thick and viscid, by too long boiling or infusion; for then it becomes nauseous and disagreeable, and patients cannot be prevailed on to take it in sufficient quantities.

MARSH-MALLOW FOMENTATION.

Boil together for a quarter of an hour,

1 oz. of dried marsh-mallow root, with $\frac{1}{2}$ oz. of camomile flowers in a pint of water; strain through a cloth. The fomenting flannels should be sprinkled with spirits, just before they are applied to the inflamed part.

MARSH-MALLOW LOZENGES.

Powdered marsh-mallow root 2 oz., powdered sugar 14 oz., mucilage of tragacanth, made with orange flower-water to a proper consistence. A good remedy for coughs.

MARSH-MALLOW PASTE.

I. Decoction of marsh-mallow roots 4 oz., water 1 gallon. Boil to 4 pints and strain; then add gum arabic $\frac{1}{2}$ lb., refined sugar 2 lbs. Evaporate to an extract, then take from the fire, stir it quickly with the whites of 12 eggs, previously beaten to a froth; then add, while stirring, $\frac{1}{2}$ an oz. of orange-flower water.

II. Take of very white gum arabic, and white sugar, each 2 $\frac{1}{2}$ lbs., with a sufficient quantity of boiling water. Dissolve, strain, and evaporate, without boiling, to the consistence of honey: beat up the white of 6 eggs with 4 drachms of orange-flower water, which mix gradually with the paste, and evaporate over a slow fire, stirring it continually till it will not stick to the fingers. It should be very light, spongy and extremely white.

MARSH-MALLOWS, SYRUP OF.

I. Fresh roots 1 lb., water 1 gallon, boil to one half, press out the liquor, let it settle, add white sugar 4 lbs., and boil down to 6 lbs. altogether.

II. Fresh roots 1 lb., water 5 quarts, boil to one half, add 4 lbs. of sugar, boil again to the consistence of a syrup. Used for tickling coughs.

MARTIN'S VARNISH.

Put 4 oz. of Scio turpentine into a gallon stone-ware bottle, on a clear fire; when fluid, add 8 ounces of finely-powdered yellow amber; in a quarter of an hour add copal in pieces 1 lb., Scio turpentine, and warm spirits of turpentine of each 4 oz.; in half an hour add white rosin 2 oz. Keep it on the fire till it is as fluid as water, then take it off, and add of nut, poppy, or linseed oil, hot, 24 oz.; give it a boil up, add hot turpentine 2 lbs.; boil up, and add another lb. of hot turpentine; boil up, cool, and strain. If too thick, set the pot in warm water, and thin with spirits of turpentine.

MASSICOT.

The substances which are sold in the shops, under the name of massicot, are only ceruse more or less calcined, and are named light, yellow, or gold colored. Genuine massicot is the strongest oxide of lead, (protoxide)—its color is a dull orange yellow. In the preparation of minium the lead is calcined in

a reverberatory furnace—this process gives a mixture of massicot and lead. The massicot being much lighter remains suspended in the water—it is drawn off, and left to settle. The deposition which it then forms is collected and dried, and this is the true massicot.

It may be employed with advantage in preparing the drying oils, and produces the same effect as litharge when very finely ground. It may also be employed as a color; its tint is not brilliant, but as it is a better drier than white lead, it may be substituted for it in mixing with colors which dry with difficulty, as the lakes and the bituminous earths.

MASTIC GALLIPOT VARNISH.

Take of new gallipot, or white incense, 4 oz., mastic 2 oz., Venice turpentine 6 oz., pounded glass 4 oz., essence of turpentine 32 oz. When made, add prepared nut or linseed oil.

MASTIC MORTAR.

This cement or stucco has been of late years much used in London for the exterior decoration of houses, &c. It is made of 62 parts of ground Portland stone, 35 parts of fine sand, and 3 parts of litharge. It is worked up and applied with linseed oil; the surface also upon which it is to be fixed should be first brushed over with glue dissolved in linseed oil. The following is also a good mastic:—

II. Finely powder any kind of sand stone, and add to it an eighth or tenth part of litharge, and linseed oil as before.

MASTIC VARNISH.

I. Best gum mastic 5 lbs., glass pounded 2½ lbs., turpentine 2 gallons, put into a bottle that will hold twice as much, and shake it about at intervals, till the mastic is dissolved. Lastly, filter to separate the glass, and which has been added only to prevent the particles of mastic from adhering together when rendered soft by the turpentine.

II. Mastic 8 lb., turpentine 4 gallons. Dissolve by a gentle heat and frequent agitation.

MASTIC VARNISH, COMPOUND.

Take of pure alcohol 32 oz., purified mastic 6 oz., gum sandarac 3 oz., very clear Venice turpentine 3 oz., coarsely-powdered glass 4 oz. Reduce the mastic and sandarac to fine powder; mix this powder with white glass, from which the finest parts have been separated by means of a hair sieve; put all the ingredients with alcohol into a short-necked matrass, and adapt to it a stick of white wood, rounded at the end, and of a length proportioned to the height of the matrass, that it may be put in motion. Expose the matrass in a vessel filled with water, made at first a little warm, and which must afterwards be maintained in a state of ebullition for one or two hours. The matrass may be made fast to a ring of straw. When the solution seems to be sufficiently extended

add the turpentine, which must be kept separately in a phial or a pot, and which must be melted by immersing it for a moment in a water bath. The matrass must still be left in the water for half an hour, at the end of which it is taken off, and the varnish is continually stirred till it is somewhat cool. Next day it is to be drawn off, and filtered through cotton. By these means it will become exceedingly limpid. The application of this varnish is suited to articles belonging to the toilette, such as dressing boxes, cut paper works, &c. The following possesses the same brilliancy and lustre:—

MASTIC VARNISH, CAMPHORATED.

Mastic, cleaned and washed, 12 oz., pure turpentine 1½ oz., camphor ½ oz., pounded white glass 5 oz., spirits of turpentine 36 oz. Make the varnish according to the method indicated for *Compound Mastic Varnish*.

MASTICATORIES.

Medicines to be taken by chewing. The betel, areka nut, and lime, form a masticatory throughout the East. Stick liquorice, or liquorice root, is very common with us for coughs, &c.

MATHIEU'S VERMIFUGE.

This consists of two electuaries, the one to kill the worms, the other to expel them, as follows:—

I. Tin filings 1 oz., fern root 6 drachms, worm seed 4 drachms, resinous extract of jalap and sulphate of potass, of each 1 drachm, honey to mix. A tea-spoonful is to be taken every three hours for two days.

II. Jalap and sulphate of potass, of each 2 scruples, scammony 1 scruple, gamboge 4 grains. A tea-spoonful every three hours till it operates—to be taken after the foregoing.

MATTHEWS' INJECTION FOR PILES.

Tincture of cantharides diluted with water. A most dangerous remedy.

MATTHEWS' PILLS.

Equal parts of black hellebore root, white hellebore root, liquorice root, turmeric, opium, purified Castile soap, and syrup of saffron; made into a mass with oil of turpentine, and divided into 5 grain pills.

MAUGER'S VARNISH.

Spirits of wine 4 oz. by measure, (½ pint,) camphor ½ drachm, white rosin and oil of rosemary, of each 1 drachm. Used to fix pencil drawings, but an improper application, as it communicates a gloss.

MEAD OR METHEGLIN.

I. *White*.—The juice expressed from 2 gallons of white currants, boiling water 15½ gallons, honey 30 lbs., tartar 3 oz. These are to be well mixed by constant stirring for a quarter of an hour, and then allowed to ferment. When the fermentation

is complete, and the liquor clear, 1 gallon of brandy is to be added, and it is to be immediately bottled. In a few months it will be fit for drinking, and will sparkle in the glass. Some, however, prefer having it as a still wine, and use it as a summer draught mixed with water.

II. Red.—May be made by using 6 quarts of red currants and 2 of black, instead of the foregoing. Or, 2 gallons of white currants, along with 1 lb. of beet root cut into the thinnest slices.

Some persons make mead on the large scale, for sale, of mere honey and water, without fruit; but the article which is thus produced is flavorless and heavy, and is by no means in general request.

MEAD WINE, (AMERICAN.)

Honey 20 lbs., cyder 12 gallons; ferment, then add rum $\frac{1}{2}$ gallon, brandy $\frac{1}{2}$ gallon, red or white tartar dissolved 6 oz., bitter almonds and cloves, each $\frac{1}{2}$ oz.

MEASLES.

The measles are known by the appearance of small eruptions, resembling flea-bites, over the face and body; but particularly about the neck and breast, not tending to suppuration. The signs are, chilliness and shivering, pain in the head, fever, sickness, and vomiting, as happen in most fevers; but the chief characteristic symptoms are, a cough, and heaviness about the eyes, with swelling and inflammation, together with a discharge of a serous humour from the nostrils. The eruptions appear about the fourth or fifth day, and sometimes about the end of the third. On the third or fourth day, from their first appearance, the redness diminishes, the spots or very small pustules dry up, the skin peels off, and is replaced by a new one. It is sometimes extremely difficult to distinguish the measles from the scarlet fever, though this is a matter of great importance, because the manner of cure in the two diseases is extremely different. The redness of the scarlet fever is more equally diffused than in the measles, and is not, like the latter, in distinct spots with the natural color of the skin interposed. In the measles also, the eruption rises more above the skin, and occasions a roughness to the touch, which is hardly observable in the scarlet fever, except a very little sometimes in the arms. In the scarlet fever there is seldom a severe cough; the eyes do not water much, and the eye-lids are not red and swollen; all which rarely fail to attend the measles. The time of the eruption is likewise different, for it appears in the scarlet fever both in the face and arms on the second day; but in the measles it begins only about the third day to be visible on the chin and breast, and does not come to the arms and hands till the fourth or fifth day.

Treatment.—In some instances the measles make their attack in a mild manner, and go through their natural course without medical aid; but in others the febrile symptoms run high, particularly after the appearance of the eruption, and are accompanied with a strong pulse, much coughing, great difficulty of breathing, and other symptoms of inflammation of the lungs. In such cases, the abstraction of blood from the chest, by means of leeches or cupping glasses, may be repeated from time to time. In those instances where the pulse is weak, and there are strong reasons to apprehend an accompanying fever of the putrid kind, bleeding ought not to be adopted. During the whole course of the disease it will be highly proper to keep the body open; and therefore, if costiveness prevails, it should be obviated by giving cooling laxatives, such as the neutral salts, and emollient clysters. Should the difficulty of breathing and oppression at the chest be not relieved by the bleeding, a blister may then be applied near the part, or between the shoulders. Where inflammation attacks the chest, a warm bath, strongly impregnated with salt, has been found a powerful subsidiary remedy in addition to blood-letting. The cough being usually very troublesome, it will be necessary to make frequent use of something of an oily or mucilaginous nature, which will sheath the throat, and obviate that rawness and soreness of it which are generally much felt. The patient may drink freely of barley water, linseed tea, or barley water gently acidulated with lemon-juice. Emetics, however, are to be used with great caution here, as the blood is much agitated, and the pulmonary vessels much weakened by coughing. If the fever is high, and great thirst and restlessness prevail, small nauseating doses of antimonial wine may be given every two or three hours, also, nitre and saline draughts, as in cases of simple fever. From the first attack a gentle aperient should be given every day, especially if the body be costive.

Administration of Opiates.—When the cough harasses the patient much by night, so as to deprive him of rest, it will be necessary to give him an opiate about bed-time. The following draught may be used for adults:—Take of solution of acetate of ammonia $\frac{1}{2}$ oz., syrup of tolu 2 drachms, tincture of opium 40 drops, spirit of nitric ether 40 drops, solution of tartarized antimony 20 drops, and pure water 1 oz.; mix them for a draught. For children, it will be better to substitute the syrup of poppies, instead of any preparation of opium. Opiates are, however, to be administered with great caution in this disease, as well as in all other inflammatory ones, and ought never to be employed where there is much fever present,

with great difficulty of breathing. When the eruption of measles disappears before the proper period, immediate recourse must be had to the warm bath, blisters to the chest and legs, and the administration of wine properly diluted with warm water. The following mixture is likewise to be given:—Take of camphor mixture 5 oz., compound spirit of sulphuric ether 2 drachms, solution of acetate of ammonia 1 oz., solution of tartarized antimony 30 drops; shake them. Of this mixture take 2 table spoonsful every second or third hour.

General Regimen.—Throughout the whole course of the measles the patient ought to be confined to the bed, and avoid any exposure to cold air, which might repel the eruption; but in observing this precaution, he is not to run into the opposite extreme, and excite increased heat either by loading himself with bed-clothes, or by not allowing a sufficient ventilation through his chamber. The degree of temperature should be regulated by the patient's feelings. The measles do not either require or bear the free application of cold, which is so potent a remedy for the most distressing symptoms of scarlet-fever; but nevertheless, the propriety of coolness in the apartment and bed, as also in the drink of the patient, must be obvious.

MEASLES IN SWINE, TO CURE.

It sometimes happens, though seldom, that swine have the measles; while they are in this state, their flesh is very unwholesome food; after the animal is killed and cut up, its fat is full of little kernels, about the size of the roe or eggs of a salmon. This disorder is not easily discovered while the animal is alive, and can only be known by its not thriving or fattening as the others; when this is the case, put into the food of each hog, once or twice a week, as much crude pounded antimony as will lie on a shilling. This is very proper for any feeding swine, even though they have no disorder. A small quantity of the flour of brimstone, also, may be given among their food, when they are not thriving, which will be found of great service to them. But the best method of preventing disorders in swine, is to keep their sties perfectly clean and dry, and to allow them air, exercise, and plenty of clean straw.

MECCA, BALM OF.

This is rarely, if ever, to be procured genuine in Turkey, much less in England. It is a liquid resin, of a whitish color, approaching to yellow, with a strong aromatic smell resembling that of lemons, and a pungent high-flavored taste.

It is much esteemed in the East as a cosmetic. What is sold here for balm of Mecca is some of the finer balsams scented with oil of lemons.

MECHI'S RAZOR PASTE.

Emery reduced to an impalpable powder 2 drachms, spermaceti ointment 1 part. Mix together, and rub it over the strop.

MEDALLIONS, TO BRONZE.

To perfectly succeed in bronzing metallic medallions, we must employ the two following solutions; the first, which serves as a preparatory wash, to be used as hereafter described, is composed of 1 part of sulphate of iron, 1 part of sulphate of copper, and 20 parts (by weight) of distilled water. The second solution, which is the bronze, is less complicated; it is composed of 4 parts of verdigris, and 16 parts (by weight) of white French vinegar. When the medallions, made of hard metal, iron for example, have been filed and polished on their edges, and strongly rubbed with a brush, wetted with a mixture of tripoli, or rotten-stone and water, and well washed and dried, we pass the first solution slightly over both the faces, with a hair pencil, and then wash and wipe the medallion dry; this gives them a slightly blackish color, and causes the verdigris to adhere more quickly to them. They are then rubbed with another hair pencil, wetted with the second solution, until they become of a deep copper color; they are then left to dry for an hour, after which they are polished with a soft brush and red lead, breathing upon them frequently, to slightly moisten them, and cause the red lead to adhere to them; the polish is lastly finished with a soft brush alone, passing the brush from time to time over the palm of the hand. To prevent the bronzes from being attacked by humidity they may be covered with a slight coat of gold-colored lacquer. The medallions made of fusible metal are bronzed with the second solution only, and do not require to be varnished to preserve them from the effects of humidity. The plumbers give their soft soldered joints near the cocks the appearance of copper, by wiping over them a mixture of sulphate of copper in powder, with vinegar. The above medallions are frequently bronzed by coating them with a thin layer of gold size, and then applying bronze powder with a dry hair pencil, in the usual manner of bronzing plaster figures, &c.

MEDALLION WAFERS.

Color the best and most transparent glue or gelatine with Brazil wood, turmeric, Prussian blue, sap green, or other color. Fill up the hollow part of a seal with gum water, mixed with a powder such as white lead, red lead, chrome yellow, lamp black, &c. Leave the flat part of the seal clear; then pour as much of the melted colored glue on the seal as will lie upon it, let it dry by a gentle heat. When used, wet the paper to which the water is to be applied, and place the wafer upon it.

MEGILPH.

Take 8 oz. of sugar of lead, and 8 oz. of rotten-stone; grind them together as stiffly as possible in linseed oil; then take 16 oz. of white wax, and melt it gradually in an earthen pipkin, and when it is fluid, pour in 8 oz. of spirits of turpentine; mix this well with the wax, and then pour the contents of the pipkin on the grinding stone to get cold; when cold, grind the rotten-stone and sugar of lead with the wax and turpentine, and it will form an excellent megilph, which will keep for years. If too hard for use at any time, add to it, as wanted, a little linseed oil.

MELONS, TO PRESERVE.

I. Cut the melons in slices, and pare off the outside skin, let them lie in salt and water for two or three days, take them out, drain and blanch in fresh water until tender, throw them into cold water, when cold drain them in sieves, give them a boil in thin syrup the next day, increase the strength of the syrup, and pour it boiling hot over them. A little lemon juice, or a handful of bruised ginger may be poured over the syrup, which will much improve the flavor; boil it in the same manner for three or four days, making the syrup rather stronger each succeeding day.

II. Take large melons, green, and free from seed, put them in a jar of strong salt and water, with vine leaves on the top, set them by the fire side till they are yellow; then wash and set them over a slow fire in alum and water, covered with vine leaves, let them boil till they become green, take them off, and let them stand in the liquor till cold; then quarter them, and take out the seed and pulp, put them in cold spring water, changing it twice a day for three days. Have ready a syrup made thus:—To 1 lb. of loaf-sugar, put $\frac{1}{2}$ oz. of ginger, bruised, with as much water as will wet it; when it is quite free from scum, put in, when boiling, the rind of a lemon and juice; when quite cold, pour the syrup on the melons. If the syrup is too thin, after standing two or three days, boil it again, and add a little more sugar. A spoonful of rum gives it the West-Indian flavor. Gherkins may be done the same way. One oz. of alum, when pounded, is sufficient for a dozen melons of a middling size.

MERCURIAL BALLS FOR HORSES.

I. Calomel 1 oz., aloes 2 oz., rhubarb $\frac{1}{2}$ oz., liquorice powder 14 oz., treacle to mix. Divide in 12 balls.

II. Strong mercurial ointment $\frac{1}{2}$ lb., powdered ginger 3 oz., liquorice powder 10 oz., treacle to mix for 12 balls.

MERCURIAL CERATE.

Strong mercurial ointment and yellow wax, of each 6 oz., lard 3 oz. Melt the

wax and lard together, and then add the ointment.

MERCURIAL LOTION.

I. Calomel 1 drachm, lime water 1 pint. Mix and shake well. Called also *Black Wash*, *Black Lotion*, &c., and a favorite application to all kinds of venereal sores.

II. Corrosive sublimate, in powder, $\frac{1}{2}$ drachm, lime water 1 pint. For the same purpose as the last, and called often *Yellow Wash*, or *Red Wash*.

MERCURIAL OINTMENT.

Take of mercury and mutton suet, each 1 part, hog's lard 3 parts. Rub the mercury carefully in a mortar with a little of the hog's lard, until the globules disappear; then add the remainder of the lard, and rub until the ointment is completely prepared. One drachm of this ointment contains 12 grains of mercury.

The preparation of mercurial ointment requires much labor, care, and patience. During the trituration, the mercury is mechanically divided into minute globules, which are prevented from running together again by the viscosity of the fat. These globules at length disappear, being oxidized, or rendered black by intimate mixture with the lard. Whatever tends to favor this, (for instance, a slight degree of rancidity of the lard,) shortens the time, and lessens the labor required for the preparation of the ointment. It is not uncommon, however, to use other means, which are not admissible, to facilitate the process, such as the use of sulphur or turpentine. The first may be detected by the very black color of the ointment, and also by the sulphurous odour exhaled, when a paper covered with a little of it is held over the flame of a candle. The turpentine is detected by its odour also, when the ointment containing it is treated in the same manner. When newly prepared, mercurial ointment has a light grey or blueish color, owing to its containing some unoxidized metal, which separates in globules when it is liquefied by a gentle heat. When kept for some time, the color is much deepened, and less metallic mercury is seen, owing to the more complete oxidization of the metal.

MERCURIAL PILLS.

I. Mercury and sesqui-oxide of iron, of each 1 drachm, confection of red roses 3 drachms; triturate them well together, till no globules of mercury are left.

II. Blue oxide of mercury, prepared by decomposing calomel with liquor of potass, to which a little liquor of ammonia has been added, 2 drachms, conserve of roses 6 drachms, powdered camomile 1 drachm. (See *Blue Pill*, *Belloste's Pills*, *Calomel*, &c.)

MERCURIAL POWDER.

I. Mercury 3 oz., prepared chalk 5 oz.; triturate till all the globules disappear. Dose from 5 to 30 grains as a mild aperient.

II. Calomel 4 oz., liquor of potass 6 fluid oz.; rub together, add water of ammonia $\frac{1}{2}$ oz., and again triturate; decant the clear part, then well wash and dry the blueish powder, and mix it with twice its weight of prepared chalk.

III. *With Magnesia*.—Mercury and manna, of each 8 parts; triturate together,

adding enough water to make a paste, till the globules disappear, then add carbonate of magnesia 1 part. Mix, and further add warm water 64 parts, after repose, decant off the clear, repeat the washing with fresh water 2 or 3 times, then add 3 parts more of the carbonate of magnesia; mix well and dry on blotting paper.

iv. *With Sugar*.—Quicksilver and white sugar, of each 1 oz., oil of tansey $\frac{1}{2}$ drachm; triturate till the globules disappear. Dose 1 drachm, as a remedy against worms.

MERCURY, HONEY OF.

i. Quicksilver 2 drachms, clarified honey 2 oz., oil of cloves 2 drachms.

ii. Quicksilver 1 drachm, honey 1 oz.

In both cases rub them together, till the globules of the mercury disappear. Their properties are similar to mercurial pills.

MERCURY, TO PURIFY.

i. Mercury is often contaminated with dust, and an oxyde which settles on its surface. To remove this is very necessary to the looking-glass manufacturer. It may be done by preparing a cone of thick paper, in the manner of a filter, making a hole with a pin at the apex. The mercury being poured in, will ooze through, leaving the oxyde and other pulverulent impurities on the surface of the paper. If the metal be pure, the surface will remain bright; if it be contaminated with lead or tin, a second coat of oxyde will almost immediately form.

ii. Put the mercury in a phial, capable of holding four or five times the quantity, shake it briskly, blowing into it occasionally with bellows to renew the air, and continuing till a black matter gathers together, which may be easily separated from most of the metallic mercury by a paper funnel, as before directed; after this it should be returned again, and the operation repeated, till no more oxidation takes place, when the mercury becomes extremely clean; the brightening taking place all at once, as the last portions of the other metals are oxidated.

iii. Nitric acid dissolves mercury, yet not so readily as it does tin, lead, and zinc, metals with which mercury is often contaminated, either naturally, accidentally, or for the purpose of adulteration. To remove this, the impure mercury may be placed in a phial along with a small quantity of nitric acid, and shaken up; this acid will immediately attack the solid metals. When they are dissolved, the acid may be poured off, and the mercury washed in water to remove any adherent acid, it will be then quite pure, except that a little gold or platina may be mixed with it.

MERENGUES.

Take 8 whites of eggs, and whisk them up to a very strong froth, then stir in $\frac{1}{2}$ lb.

of fine-sifted loaf sugar, as lightly as possible; flavor them with any essence you please. Lay them off on white paper, the shape of an egg, sift finely-powdered loaf-sugar on them, and blow off all that does not stick. Bake them on a board in a very slow oven, when of a pale brown, they are done; take them off the paper, beat in the soft under-part with a spoon, to form a hollow. Now dry them, fill them with cream or any preserved fruit, and stick two together, which will form an egg.

METALLIC PAPER FOR MEMORANDUM BOOKS.

i. Apply to the surface of good paper a solution of isinglass, with a small quantity of white lead powder mixed in it.

ii. Rub the paper slightly over with phosphate of lime, i.e., bones burnt to whiteness, and mix it, after being well pounded, with size. Prepared hartshorn will answer the same purpose as the prepared bones.

METALS, CEMENT FOR.

Take of gum mastic 10 grains, rectified spirits of wine 2 drachms; add 2 oz. of strong isinglass glue, made with brandy, and 10 grains of the true gum ammoniac. Dissolve all together, and keep it stopped in a phial. When intended to be used, set it in warm water.

METEORIC IRON, (NICKEL AND IRON.)

This substance may be imitated by fusing together iron and nickel. In natural meteoric stones, these metals exist in various proportions, 3 or 4 per cent. of nickel is sufficient. With this proportion of ingredients, the alloy is malleable and whiter than pure iron. With $\frac{1}{10}$ of nickle added, iron loses its malleability, and becomes yellowish.

METHEGLIN.

Honey 1 cwt., water 24 gallons. Mix in a cask, and stir daily until dissolved, then add yeast 1 pint, and hops 1 lb., previously boiled in 1 gallon of water; lastly, add water sufficient to make a barrel.

This differs in no degree from mead, except that the latter is made from the washing of the honey combs, after the honey is extracted.

MEZEREON OINTMENT.

Mezereon bark 4 oz., bruised and moistened with spirit, white wax $1\frac{1}{2}$ oz., lard $14\frac{1}{2}$ oz. Digest at the heat of boiling water for twelve hours, press and strain.

MICROSCOPE, TO MAKE.

Those who have no microscope, may produce one, which is both powerful and cheap, by either of the following methods. (See also *Stanhope Lens*.)

i. Procure a piece of thin platinum wire, and twist it once or twice round a pin's point, so as to form a minute ring with a handle to it. Break up a piece of flint glass into frag-

ments, about the size of the seeds of mustard, or a little larger; place one of these pieces on the ring of wire, and hold it in the point of the flame of a candle, or gas-light, when the glass will melt, and assume a complete lens-like or globular form; let it cool gradually, and keep it for mounting. Others may be made immediately in the same manner, and if the operation be carefully conducted, not one in twenty lenses will be imperfect. It may be remarked, that the smaller the drop, the more globular it will remain, and consequently, the higher will be the power of its magnifying properties.

These lenses are not to be despised because of simple construction—on the contrary, few equal them in discerning power, the most delicate test objects may generally be very clearly discerned with much more distinctness indeed than by the commoner kinds of microscopes, as sold at the opticians. Their magnifying power, too, is very considerable, varying from 30 to 200 times linear measure, or, as these things are popularly understood, they will magnify objects from 900 to 40,000 times. The easiest methods of mounting, or fitting-up for use, minute lenses, is to put one between two pieces of brass, having corresponding holes cut in them of such a size as to hold the edge of the lens, or they may be fixed to a single bit of brass by a little gum.

II. Make a hole, about the size for a large pin to pass through, in a piece of thin brass; take up a minute drop of water with a pin's point, and place it on the hole, when it will assume a globular form, and be capable of showing, with considerable distinctness, microscopic objects placed beneath. This, besides being of such a temporary character, is subject to irregularities arising from the difficulty of holding it with the requisite steadiness—the trembling occasioned by the breath, or accident—by draughts of wind—want of perfect sphericity of the hole, &c.

III. Place a minute drop of very pure turpentine varnish on a plate of thin and parallel glass. By this means you may form a plano-convex lens of any focal length; and by dropping the varnish on both sides, double convex lenses, with their convexities in any required proportions. By freeing the glass carefully from all grease, with a solution of soda, the margin of the lenses are beautifully circular, and the only effect of gravity, which diminishes with the viscosity of the fluid, and with the smallness of the drop, is to elongate the lower lens, and flatten the upper one. These lenses were found to answer well as the object glasses of compound microscopes.

IV. The crystalline lenses of minnows and small fishes may be taken out of the eye in a state of such perfection, that, when used as single microscopes, they give a very perfect image of minute objects. In such lenses, which have an increased density towards their centre, the spherical aberration is almost wholly corrected. Great care however must be taken to make the axis of the lens the

axis of vision, to prevent its form from being injured by pressure against the aperture which holds it. The best way is to make a ring at the end of a piece of wire, having its diameter a little greater than that of the lens. A ring of viscid fluid, (gum water for example,) being made around it, the lens is to be carefully deposited upon the ring.

MICROSCOPIC OBJECTS, TO MOUNT.

The most valuable material in which to mount semi-opaque objects, and those which are very apt to shrivel in drying, is Canada balsam.

I. To mount objects in balsam it is necessary to prepare a number of glass sliders, and also some other pieces of glass, about $\frac{1}{2}$ inch square each. Make one of the sliders, (which we will suppose to be 2 inches long, and $\frac{3}{4}$ inch wide,) and also one of the small glass squares, rather warm, by a spirit lamp, holding them at the fire, or putting them on the hob of a heated stove, and taking the large piece of glass, put upon it a drop of balsam, which on account of the warmth will spread a little. The object, which should have been soaking for a few minutes in spirits of wine, is to be placed carefully upon the drop of balsam, spreading it out as may be requisite, and the smaller glass piece, still warm, placed upon the object. Then press the two glasses together with the thumb and finger, which will drive the balsam, now liquid, into the various pores and interstices of the object, and occasion the glasses to adhere together firmly, yet completely retaining their transparency. The balsam which exudes from the various sides may be neatly pared away afterwards, or else, as is more usually done, may be laid up as a bevelled edge to the smaller glass, in the same manner as a glazier would leave the putty around a pane of glass. The only thing to be guarded against, in setting up objects in Canada balsam, is to prevent any bubbles of air from being inclosed between the two pieces of glass, as such, however minute they might be, would, when magnified, become a serious annoyance, and often lead observation to deceptive results.

II. Put a large drop of Canada balsam on one of the usual sliders; place carefully upon the centre of this the proposed object, previously soaked in ether or spirits of turpentine; then heat the glass by holding it over a spirit lamp, or otherwise, and as the balsam becomes hot, and consequently fluid, the object will sink down into it, or should it be too light, a needle will assist the immersion; then heat the smaller piece of glass, and place it very carefully on the drop of balsam, holding the glass so that it shall touch the convex top of the balsam first, press the finger gently, and gradually on the top, and there hold it until the glass

has become partially cold, and consequently the balsam congealed; if this be done with ordinary attention, the air bubbles will be completely got rid of.

MILDEW IN WHEAT, TO PREVENT.

Dissolve 3 oz. 2 drachms of sulphate of copper, copperas, or blue vitriol, in 3 gallons and 3 quarts of cold water, for every 3 bushels of grain that is to be prepared. Into another vessel, capable of containing from 53 to 79 gallons, throw from 3 to 4 bushels of wheat, into which the prepared liquid is poured, until it rises 5 or 6 inches above the corn. Stir it thoroughly, and carefully remove all that swims on the surface. After it has remained half an hour in the preparation, throw the wheat into a basket that will allow the water to escape, but not the grain. It ought then to be immediately washed in rain or pure water, which will prevent any risk of its injuring the germ; and afterwards the seed ought to be dried before it is sown. It may be preserved in this state for months.

MILDEW ON WHEAT, TO REMOVE.

A solution of common salt in water, in the proportion of a pound to a gallon, is an excellent remedy for the mildew on corn. After sprinkling three or four days, the mildew will disappear, leaving only a discoloration on the straw where it was destroyed. The best and most expeditious way of applying the mixture is with a flat brush, such as is used by white-washers. The operator having a pail of the mixture in one hand, with the other he dips the brush into it, and makes his regular casts as when sowing corn broad-cast; in this way he will readily get over ten acres in the day, and with an assistant a great deal more. About 2 hog-heads of the mixture will suffice for an acre. Wherever the mixture touches, the mildew immediately dies.

MILDEW, TO TAKE OUT OF LINEN.

Rub it well with soap, then scrape some fine chalk, and rub that also in the linen; lay it on the grass; as it dries, wet it a little, and it will come out after twice doing.

MILIARY FEVER.

The miliary fever takes its name from the pustules or bladders, resembling in shape and size, the seeds of millet. There are two kinds of this eruption, the white and the red. It begins with a shivering, followed by a proportional degree of heat—a depression of spirits—a pulse sometimes quick and weak, at other times rather depressed and hard—an oppression at the fore-part of the chest—a frequent sighing—terror after sleep, and pale urine. On the third or fourth day the eruption appears chiefly on the neck, breast, and back, being generally preceded by a profuse sweat of a sourish smell, and a prick-

ing or tingling sensation in the skin, especially in the fingers, and an itching in those places where the pustules are most numerous. After the eruption is completely out, the symptoms subside, the urine becomes higher colored, and the pulse more calm, soft, and full. In about seven days the eruptions dry and peel off.

Treatment.—If the febrile symptoms run high, bleeding in the beginning, before the eruption, will sometimes be necessary, which must be proportioned to the different circumstances of the patient's case; and then the following draught to be given:—Take of lemon juice $\frac{1}{2}$ oz., carbonate of ammonia 10 grains, antimonial wine 35 drops, pure water 1 oz., and balsamic syrup 2 drachms. Mix. This draught is to be taken every four hours, as long as is necessary. If, on the contrary, the fever should appear of the low nervous kind, cordial medicines are required, and wine whey may be allowed for drink, but the patient must not be kept too warm. When a violent pain in the head, or delirium occur, a blister should be immediately applied to the nape of the neck.

MILK AND CREAM, A SUBSTITUTE FOR.

Beat up the whole of a fresh egg in a basin, and then pour boiling tea over it gradually, to prevent its curdling. It is difficult from the taste to distinguish the composition from rich cream.

MILK, IMPROVED.

Besides caseum and butter, milk contains salts, which are not particularly desirable. M. Braconnel took 4.4 pints of milk, heated it to 113° Fahrenheit, gradually added dilute muriatic acid, and agitated the whole. The curd formed contained the caseum and butter, and being separated from the whey was gradually mixed with 77 grains of crystallized subcarbonate of soda, reduced to powder and warmed; no water was added, but the whole gradually dissolved. It had the acidity of recent milk, and formed about $\frac{1}{2}$ of its bulk of cream. If formed up to its first bulk with water and a little sugar, it forms a milk more agreeable than the original, or it may be flavored, &c., and used as cream. If it be heated with about its weight of sugar, it becomes remarkably fluid, and forms a perfectly homogeneous syrup of milk, which will keep for any length of time, and which, by the mere addition of a sufficient quantity of water, forms a perfectly white homogeneous opaque liquid, which is in every respect like sugared milk of superior quality. Carefully evaporated, (but not beyond a certain limit, or the butter would separate,) it gave, when cold, a soft confection, which left for a twelvemonth in a loosely-stopped bottle, underwent no change. This, when exposed in small portions to the air, was rendered

quite dry, and could then be crushed, and kept for any length of time without change, being always reconvertible into a useful state by the addition of water.

MILK, TO PRESERVE.

Provide bottles, which must be perfectly clean, sweet, and dry; draw the milk from the cow into the bottles, and as they are filled, immediately cork them well up, and fasten the corks with pack-thread or wire. Then spread a little straw on the bottom of a boiler, on which place the bottles with straw between them, until the boiler contains a sufficient quantity. Fill it up with cold water; heat the water, and as soon as it begins to boil, draw the fire, and let the whole gradually cool. When quite cold, take out the bottles, and pack them with straw or saw-dust in hampers, and stow them in the coolest part of the house or ship.

Milk preserved in this manner, although eighteen months in the bottles, will be as sweet as when first milked from the cow. There must surely be an error in corking the bottles when cold, and then boiling them, as the steam must burst the bottles; surely they should not be corked till in a boiling state.

MILK OF SULPHUR, TO PREPARE.

To a solution of the sulphuret of potass, add sulphuric acid. This will seize upon the potass, and liberate the sulphur, which will fall down to the bottom of the vessel in the state of a whitish yellow powder, which is called the milk or cream of sulphur.

MILK OF ROSES.

I. *English method*.—Take 2 oz. of Jordan almonds, 10 oz. of rose water, 1 oz. of rectified spirits of wine, 15 drops of English oil of lavender, 1 drachm of Castile soap, and 1 drachm of oil of sweet almonds. Blanch the almonds in boiling water, dry them well in a cloth, and then pound them in a mortar till they become a complete paste. Pound the soap in the same mortar, and let it be well mixed with the almond paste. When this is done, add the oil of almonds, mix again, and then with a spatula stir in the rose water and spirits, having previously mixed them together. Strain the whole through a clean white cloth, and add the oil of lavender to the expressed liquid, drop by drop, stirring it the whole time. When the mixture has stood a day, covered with a cloth to keep it from dust, it must be bottled.

II. Liquor of potass, oil of almonds, and hot water, of each 1 oz.; agitate till perfectly mixed, then add 3 or 4 oz. of rose-water, and again shake it up well.

III. Add to the last receipt either $\frac{1}{2}$ oz. of orange flower-water, or a drachm of essence of bergamot.

IV. *French method*.—Mix together tincture of benzoin and tincture of storax, of each 3 drachms, spirit of roses 40 drops.

Drop this mixture gradually into $\frac{1}{2}$ pint of rose water, stirring them well all the time.

V. *German method*.—Take of extract of lead 2 drachms, spirits of lavender 3 drachms, rose water 2 oz., spring water 6 oz., ceruse 4 scruples. Rub the ceruse and extract of lead together in a mortar, and when well mixed, add the waters, and lastly the spirits.

The English and French preparations may be used with perfect safety as cosmetic washes. The French is the easiest prepared. The German recipe must be used with great caution, on account of the lead which it contains. The same remark applies to preparations usually sold under the title of *Milk of Roses*, as they frequently have for their basis a dilute solution of hydrocyanic (or Prussic) acid.

MILK PUNCH.

Pare 6 Seville oranges as thin as possible, chop them up very small, put the peel in a quart of proof brandy, and a pint of proof rum; cork it for four days, squeeze the oranges, and add 1 quart of syrup, 4 quarts of water, and 1 quart of boiling new milk; stir it well together, and run it through a jelly bag, until it is perfectly bright. Bottle and cork it down close.

MILLE-FLEURS, EAU DE.

I. Spirits of wine 4 pints, musk 10 grains, essence of lemons $1\frac{1}{2}$, essence of ambergris 2 oz., oil of cloves and English oil of lavender 1 oz.

II. Spirits of wine $1\frac{1}{2}$ lb., spirits of jasmine 2 drachms, essence of lavender $\frac{1}{2}$ drachm, essence of bergamot 2 drachms, orange flower water $\frac{1}{2}$ pint.

MILLE-FRUIT ICES.

Have a lemon cream or water ice as a foundation; flavor it with elder flower water, mix in some preserved and dried fruits, and peels cut in small pieces. Before it is moulded, sprinkle it with prepared cochineal, and mix it a little so that it may appear marbled, or in veins.

MINCE CAKE, OR ECCLES CAKE.

Roll out a sheet of puff-paste, about $\frac{1}{8}$ inch in thickness, and of sufficient size to cover a tin plate a foot long and 9 inches wide. Then put on a layer of Banbury meat, about $\frac{1}{2}$ inch thick; roll out another sheet of paste to the same size, but let it be only about half the thickness of the bottom crust; put this thin piece over the Banbury meat, trim the paste from the sides, and bake in a moderate oven. As soon as it is done, dust the top with loaf-sugar, and if for sale, cut into squares about 2 inches square.

MINCE MEAT.

I. Take 4 lbs. of the best beef suet, chopped fine, 5 lbs. of apples, peeled, cored, and chopped fine, 4 lbs. of mixed lemon, orange, and citron peel, cut small, 2 lbs. of sugar, grate 3 lemons, and use other spices to taste. Mix the whole well together. If to be kept for a month or two, put it in a jar, and add

$\frac{1}{2}$ pint of brandy; also, always when mince meat is to be kept, the apples should be added when wanted for use.

II. Stew 1 lb. of lean beef till tender, chop it fine, and add 2 lbs. of beef suet and 1 lb. of apples; add 2 lbs. of sugar, 3 lbs. of currants, 1 lb. of candied lemon and orange peel, 1 oz. of mixed spices, the yellow rind of 6 lemons rubbed on sugar, $\frac{1}{2}$ pint of brandy or wine, and the juice of 2 lemons.

III. Take 3 lbs. of beef suet, 3 lbs. of good apples, 4 lbs. of currants, 1 lb. of raisins, stoned and chopped small, $\frac{1}{2}$ lb. of good moist sugar, $\frac{1}{2}$ oz. of mace, $\frac{1}{2}$ oz. of nutmegs, $\frac{1}{4}$ oz. of cloves, $\frac{1}{4}$ oz. of cinnamon, and a pint of brandy.

MINCE PIES.

Take some patty pans, roll out some puff paste rather thin to line them with, nearly fill them with mince meat, making it rather high in the middle, and leaving it $\frac{1}{2}$ inch from the edge; make a good light paste by using 1 lb. of butter to 1 lb. of flour, add an egg, with the juice of a lemon to the water. When you mix it, put on some moderately stout pieces of paste for covers, trim it off round the edges with a knife, and make a small hole in the middle. Bake to a light brown in a moderate oven.

MINDERERUS, SPIRIT OF.

Take subcarbonate of ammonia 1 oz., distilled vinegar or acetic acid 1 pint. Mix, but the proportions depend on the purpose. Weak, is a diuretic and fine eye water. Stronger, a lotion for bruises, &c.

MINERAL CHAMELEON.

Mix the black oxyde of manganese with an equal weight of nitrate or carbonate of potass, and expose the mixture to a red heat. A green mass is thus formed, which on being thrown into water gives a green solution, but changes successively to blue, purple, red, and brown, and at length becomes colorless.

MINERAL MARMORETUM.

I. Calcine a flint stone in the fire; when white and friable, pound it in a mortar, sift it, and lay aside the finest particles for use; add to them equal parts, by weight, of quicklime and mastic varnish; pound the whole together, and sift as before. It may be kept in a phial till wanted for use, when a small portion is to be taken out, and water added, until it assumes a pasty consistence, when it may be pressed into the tooth.

II. Anhydrous phosphoric acid 48 grains, pure caustic lime 52 grains, both finely pulverized. Mix them together as quickly as possible, and put them in a phial, well stoppered, till wanted. Then take a little out, and press it rapidly into the tooth, which must have been well dried beforehand; press it even with the surface, and moisten the

part then exposed. This acts by the spontaneous action of the acid and lime upon each other, forming the phosphate of lime, which is analogous to the substance of the real teeth.

A totally different composition is also called *Mineral Marmoretum*, or sometimes *Succedaneum*, which is composed of tin-foil and quicksilver mixed together, so as to be just pliable, and squeezed into the tooth. The quicksilver will soon be absorbed, and the tin-foil remain as a sort of metallic plug. The *Mineral Metallic Cement* is the above, with steel filings added.

MINERAL SOLVENT.

White arsenic and prepared kali of each 64 grains, distilled water 1 pint; boil and when cold add lavender drops 4 oz., and distilled water to make up 1 pint.

This, which is the same as *Fowler's Solution of Arsenic*, or *Arsenical Solution*, is tonic, and used as a cure for agues, but is a very dangerous remedy, and must be used with extreme caution, and in very small doses, from 2 to 4 drops daily is enough for a child under 4 years of age, and from 10 to 12 per day for adults.

MINERAL TURBITH.

Corrode quicksilver, by boiling it in about an equal weight of oil of vitriol to dryness. The white mass is then flung into a large quantity of boiling water, it immediately changes into a yellow powder. This, when well washed and dried, is the substance sought. In doses of from 2 to 8 grains, it is emetic, and useful in gonorrhœa, as a preservative against hydrophobia, &c. In doses of 1 or 2 grains, it is an alterative in leprosy and obstinate glandular affections. It is also a fine yellow pigment.

MINERAL WHITE.

Dissolve lead or litharge in nitric acid, add a solution of subcarbonate of potass; as long as any sediment falls, wash and dry.

MINERAL YELLOW, OR PATENT YELLOW.

I. This beautiful pigment is a compound of the chloride and oxyde of lead. It is made by adding a solution of common salt to litharge, which is the protoxyde of lead. A decomposition takes place, especially when assisted by heat. The hydrochloric acid of the salt unites with part of the litharge, forming a chloride, while the soda remains dissolved in the water, and may be poured off. The precipitate is washed, dried, and fused in crucibles; it is then known as patent yellow, requiring only to be pulverized, when it will be ready for the use of the painter.

II. *French method*.—The following method is employed by the French in manufacturing this pigment:—4 parts of litharge, reduced to an impalpable powder, are moistened with 1 part of common salt, dissolved in 4 of water. It is then formed into a thin paste, and suffered to remain undisturbed until it begins to whiten; it must then be stirred well with the spatula, to prevent its growing too hard.

MINIUM AND MINERAL ORANGE.

A higher degree of oxidation transforms massicot into minium. (See *Massicot*.) On a large scale it is prepared by calcining massicot in reverberatory furnaces; it becomes first of a dark orange color, then purple, but this last tint disappears on its cooling—when at this point the doors of the furnaces are closed, but not hermetically, so as to allow of a little air entering. The massicot cools very slowly; and as it absorbs the oxygen of the air it becomes of a strong orange color, growing finer in proportion to the slowness of its cooling. If instead of massicot, we calcine ceruse, a peculiar red, called mineral orange, is obtained; it is a minium, but of a tint more pure and brilliant than any of its class.

MINT, INFUSION OF.

I. Dried mint leaves 2 drachms, boiling water 6 oz.; strain, and when cold, add 2 drachms of white sugar, and 3 drops of the oil of mint, dissolved in $\frac{1}{2}$ oz. of tincture of cardamoms.

II. *Compound*.—Green mint, dried and bruised, $1\frac{1}{2}$ oz., dried rose leaves $1\frac{1}{2}$ drachm, boiling water 1 pint, dilute sulphuric acid 2 drachms, white sugar $1\frac{1}{2}$ oz. Pour the boiling water, with half the acid, on the mint and rose leaves, then strain the liquor, and add the other half and the sugar. This is a very excellent preventive and palliative of vomiting, even for sea sickness.

MINT WATER.

I. Boil 8 lbs. of the green herb, or $1\frac{1}{2}$ lb. of the dried herb, in a gallon of water.

II. Allow $\frac{1}{2}$ oz. of oil of spearmint, (common mint,) to 10 gallons of water.

Mint water allays spasms, dispels flatulency, and mitigates vomiting.

MIXED FRUIT WINE.

I. White currants 3 sieves, red gooseberries 2 sieves. These should yield 40 pints of juice; to each gallon, add water 2 gallons and sugar $3\frac{1}{2}$ lbs. Ferment, and treat as other wines.

II. White, red, and black currants, cherries, especially black-hearts, of each an equal quantity, to 4 lbs. of the bruised fruit add water 1 gallon; steep for three days, press, and to each gallon of liquor add moist sugar, of good quality, 3 lbs. Ferment, and when finished, add to each 9 gallons 1 quart of brandy. If it does not fine well, to each 9 gallons add $\frac{1}{2}$ oz. of isinglass dissolved in a pint of water.

MIXED OILS.

Essences of bergamot and lemons, each 1 oz., oil of lavender and pimento, each $\frac{1}{2}$ oz. Used to scent sal volatile drops, smelling bottles, &c.

MOCK GOLD.

I. Fuse together 16 copper, 7 platinum, and 1 zinc. This alloy much resembles gold.

II. Fuse together 16 platinum, 7 copper, and 1 zinc. This also is of a fine gold color, but lighter in tint than the former.

MODELLING WAX.

The following will be found a most excellent compound for forming ornaments from which moulds may be made; and, consequently, ornaments cast again for picture frames, &c.— $\frac{1}{2}$ lb. of diachylon, $\frac{1}{2}$ lb. of bees' wax, $\frac{1}{2}$ lb. of Burgundy pitch. Melt these together, and mix sufficient chalk to form the composition into a paste; make them into small sticks, and they will be ready for use at any time.

MOIRE METALLIQUE.

The plate iron to be tinned is dipped into a tin bath, composed of 200 parts of pure tin, 3 parts of copper, and 1 part of arsenic. Thus tinned, the sheet-iron is then submitted to the seven following operations:—1. Immersing in ley of caustic potassa, and washing. 2. Immersing in aqua regia, and washing. 3. Immersing in ley of caustic potassa, and washing. 4. Quickly passing through nitric acid, and washing. 5. Immersing in a ley of caustic potassa, and washing. 6. Immersing in aqua regia, and washing. 7. Immersing in a ley of caustic potassa, and washing. Every time that the sheet-iron is placed in aqua regia the oxide of tin thereby produced must be entirely removed, since otherwise spots would form. The quickly passing through nitric acid softens the unpleasant metallic glare which, at certain angles of refraction, renders the design invisible. The copal resins deserve the preference for coating the sheet-iron after the crystallization has been thus obtained.

MOLES, TO DISPERSE.

Take some green leaves of the elder tree, and strew them in the subterranean paths of the mole.

Unfortunately for the efficacy of this receipt, there are no leaves of the elder at that season when moles are most troublesome, namely, in February and March.

MONICON, OR DAMONICON.

A painter's orange color, composed of terra di Sienna and Roman ochre, burnt. A rich, durable, considerably transparent color, for water or oil. It affords good flesh tints.

MONTPELLIER YELLOW.

Take 4 lbs. of litharge, well sifted, divide it in four equal portions, and put into as many glazed earthen vessels; dissolve also 1 lb. of sea salt in about 4 lbs. of water. Pour a fourth part of this solution into each of the four earthen vessels, to form a light paste. Let the whole rest for some hours.

and when the surface begins to grow white, stir the mass with a strong wooden spatula. Without this motion it would acquire too great hardness, and a part of the salt would escape decomposition. As the consistence increases, dilute the matter with a new quantity of the solution; and if this is not sufficient, recourse must be had to simple water to maintain the same consistence. The paste will then be very white, and in the course of twenty-four hours becomes uniform and free from lumps; let it remain for the same space of time, but stir it at intervals to complete the decomposition of the salt. The paste is then well washed, to carry off the caustic soda (soda deprived of carbonic acid) which adheres to it; and to extract the whole of it, the mass is put into a strong linen cloth, and subjected to a press. The remaining paste is distributed in flat vessels; and these vessels are exposed to heat, in order to effect a proper oxidation (calcination,) which converts it into a solid yellow brilliant matter, sometimes crystallized in transverse striæ.

MORDANTS FOR DYEING.

I. *Aluminous*.—Take 1 gallon of boiling water, 2 lbs. of alum, 3 oz. of carbonate of soda in crystals, and $1\frac{1}{2}$ lb. of acetate of lead. First dissolve the alum, then add the soda, and when the effervescence has ceased, the acetate of lead, previously pulverized. The mixture being allowed to settle, the supernatant liquor is the mordant. For madder reds, add $\frac{1}{2}$ lb. more of the acetate of lead. For yellow dyes, take away 1 oz. of soda, and $\frac{1}{2}$ lb. of acetate of lead from the first receipt. This is for red, yellow, and pink colors.

II. The pyrolignite (acetate) of iron, called iron liquor in this country, is the only mordant used in calico printing for black, puce, violet, and brown colors. The acetate of alumina, prepared from pyroligneous acid, is much used, under the name of *red* and *yellow* liquor, for these colors.

III. *Of Tin*.—Dissolve in strong nitric acid $\frac{1}{8}$ of its weight of sal ammoniac; then add by degrees $\frac{1}{8}$ of its weight of tin, and dilute the solution with $\frac{1}{4}$ of its weight of water. This is for scarlet, and used to fix and brighten other colors.

MORELLA CHERRY SYRUP.

Take the stones out of the cherries, mash them, and press out the juice, let it stand for two days in a cool place, then filter, and afterwards add 2 lbs. of sugar to every pint of juice. Finally, boil the whole together for five minutes.

MORELLA WINE.

Cleanse from the stalks 60 lbs. of Morella cherries, and bruise them so that the stones shall be broken. Now press out the juice, and mix it with 6 gallons of sherry

wine, and 4 gallons of warm water. Having grossly powdered separate ounces of nutmeg, cinnamon, and mace, hang them separately, in small bags, in the cask containing the mixture. Bung it down, and in a few weeks it will become a deliciously-flavored wine.

MOROCCO LEATHER, TO PREPARE.

After steeping, stretching, scraping, beating, and rinsing the skins, they are wrung, and passed after each other into water where alum has been dissolved. Thus alumed, they are left to drain till morning, then wrung out, and folded from head to tail, the flesh inwards. In this state they receive their first dye, by passing them after one another into a red liquor, (described hereafter.) This is repeated again and again, till the skins have got their first color; then they are rinsed in clean water, and left to drain 12 hours; thrown into water through a sieve, and stirred incessantly for a day with long poles; taken out, hung on a bar across the water all night, white against red, and red against white, and in the morning the water stirred up, and the skins returned into it for 24 hours. The following is the quantity and proportions of the ingredients required for the red color for a parcel of thirty-six skins:—Cochineal 130 drachms, round suchet (*coccus indicus*) 45 drachms, gutta gamba 15 drachms, gum arabic 10 drachms, white alum, pulverized, 10 drachms, bark of the pomegranate tree 10 drachms, citron juice 2 drachms, and common water 120 lbs. The alum is gradually added to the other articles, and the whole boiled in a copper for about two hours, till $\frac{1}{15}$ part of the water is consumed.

MORPHIA LOZENGES.

I. Muriate of morphia 1 scruple, tincture of tolu $\frac{1}{2}$ fluid oz., powdered white sugar 25 oz. Dissolve the muriate in a little warm water, mix it with the tincture and the sugar, make a mass with the mucilage of gum tragacanth, and divide into 15 grain lozenges, each of which will contain about $\frac{1}{15}$ of a grain of muriate of morphia. Used as opium lozenges, but pleasanter. The morphia lozenges of the shops contain each $\frac{1}{24}$ part of a grain of muriate of morphia.

II. To the last add 1 drachm of ipecacuanha, and make up as before.

MORPHIA, SYRUP OF.

Acetate or sulphate of morphia 3 grains, simple syrup 1 lb. Narcotic—dose, 1 small spoonful every three hours.

MORISON'S PILLS.

I. Aloes and cream of tartar equal parts. Mucilage to form a pill mass. These are pills No. 1.

II. Gamboge 2 drachms, aloes 3 drachms, colocynth 1 drachm, cream of tartar 4

drachms. Syrup to mix. These are pills No. 2. The dose of either is from 5 to 15 grains.

The pills of Morrison are an imitation of the above.

MORTAR, TO MAKE.

Mortar is composed of quick-lime and sand, reduced to a paste with water. The lime ought to be pure, completely free from carbonic acid, and in the state of a very fine powder: the sand should be free from clay, partly in the state of fine sand, and partly in that of gravel. The water should be pure, and if previously saturated with lime so much the better. The best proportions are 3 parts of fine and 4 parts of coarse sand, 1 part of quicklime, recently slacked, and as little water as possible. The addition of burnt bones improves mortar by giving it tenacity, and renders it less apt to crack in drying, but they ought never to exceed one-fourth of the lime employed. When a little manganese is added to mortar it acquires the important property of hardening under water, so that it may be employed in constructing those edifices which are constantly exposed to the action of water. Limestone is often combined with manganese, in that case it becomes brown by calcination.

MORVEAU'S PRESERVATIVE PHIAL.

This may be thus prepared for preventing contagion, its preservative effects arising from the extrication of chlorine:—46 grains of black oxyde of manganese, in coarse powder, are to be put into a small, strong, glass phial, with an accurately-ground stopper, to which must be added about $\frac{3}{4}$ of a tea-spoonful of strong nitric acid, and an equal quantity of strong hydrochloric acid. The stopper is then to be replaced, and the whole secured by inclosing the bottle in a strong wooden case, with a cap which screws down to keep the stopper safe.

MORVEAU'S WHITE.

Dissolve cream of tartar in water, and add lime water as long as any sediment falls, wash and dry.

MOSAIC GOLD.

Melt a certain quantity of copper in a crucible, and as soon as it is melted, and before it becomes still hotter, add an equal quantity of zinc; stir them well together, do not increase the fire, but add zinc in small portions till the alloy acquires, while in a melted state, a perfectly white color, and until a drop being taken out and suffered to congeal, it is found of the proper tint. It must be cast at once into moulds, as by remelting, the color will be altered.

MOTTES (DE LA) GOLDEN DROPS.

Muriate of iron (obtained by distilling 6 lbs. of pyrites with 12 lbs. of corrosive sublimate) 3 oz., spirits of wine 6 drachms,

exposed for some time to the rays of the sun. It is much used as a tonic in gout, and nervous diseases.

MOULDS, ELASTIC.

The body to be moulded, previously oiled, must be secured 1 inch above the surface of a board, and then surrounded by a wall of clay, about an inch distant from its sides. The clay must also extend rather higher than the contained body; into this, warm melted glue, as thick as possible so that it will run, is to be poured, so as to completely cover the body to be moulded; the glue is to remain till cold, when it will have set into an elastic mass, just such as is required.

MOULDS FOR ELECTROTYPE DEPOSITIONS.

These are made of either of the fusible alloys, and without a press, as follows:—Pour the alloy upon a few sheets of brown paper, having made a slight depression in the paper that the metal may not run off. When on the point of setting, place the coin, &c. to be copied, previously made as hot as the hand can bear it, upon the alloy. Place the heel upon the coin, and rest the body upon the heel only; the weight, if the whole be done quickly, will occasion the coin partly to sink into the fused alloy, and a fine mould, of course the reverse of the coin, will be the consequence. It is advisable to draw a card across the top of the alloy, while yet fluid, to separate the oxyde which forms upon the surface, otherwise this will be driven into the metal, and the mould be proportionably less perfect.

MOUNTAIN WINE, IMITATIVE.

First pick out the layer stalks of Malaga raisins, then chop the raisins small, and put 5 lbs. to every gallon of cold spring water; let them remain a fortnight, then squeeze out the liquor, and put it in a clean glass, having been previously fumigated with a sulphur match. Let it remain unstopped till the hissing or fermentation has ceased, then bung it up, and, when fine, bottle it off.

MOUTH, OR INDIAN GLUE.

1. Take 1 lb. of the best glue, the stronger the better, boil and strain it very clear; boil also 4 oz. of isinglass, put the mixture into a double glue pot, add $\frac{1}{2}$ lb. of brown sugar, and boil the whole till it gets thick; then pour it into thin plates or moulds, and when cold, you may cut and dry them in small pieces for the pocket. The glue is used by merely holding it over steam, or moistening it with the mouth.

This is a most useful and convenient article, being much stronger and more easily applied than common glue. It is sold under the name of Indian glue, but is much less expensive in making, and applicable to all manner of small fractures, &c.; answers well on the hardest wood, and cements china, &c., though, of course, it will not resist the action of hot water. For parchment and paper, in lieu of gum or paste will be also found equally convenient.

11. Take 4 oz. of the best English glue, put it into a glazed earthen or stone-ware pipkin, and float it with cold water; after remaining two or three days, the superfluous water is poured off, and the moistened and softened glue melted on a slow fire; when melted, 2 oz. of common sugar is added by degrees, and some also add a spoonful of lemon juice—but this appears useless. The melted glue is then poured out on a marble slab, about 18 inches square, or even a wooden slab of the same size, a wall of wax being first made round the slab, and the whole rubbed with a rag well soaked with sweet oil. The mouth glue is left for four or five days to set, or until it can be removed in a cake, which is usually $\frac{1}{4}$ inch thick. After this a napkin, folded in four, is placed on a board, and being put over the glue, the whole is turned, so that the glue may lie upon the napkin; another of which, also folded in four, is warmed and placed on the cake of glue, and on that a board and weight. The cake is turned several times a day for a fortnight, and each time covered with a warm napkin. At the expiration of this time it should be sufficiently firm to stand on its edge without bending; but be by no means brittle. The greater the weight it is pressed with, the thinner does the cake become. When sufficiently dry, the cake is to be cut with scissors; and the pieces which are generally 3 inches long, 8 or 9 lines wide, and 1 line thick, are placed on the napkins so as not to touch one another. The use of the weight is to prevent the curling up of the glue as it dries, and the napkins to absorb the oil it takes from the mould.

MOUTH, MODELLING WAX FOR THE.

Dentists, to take a model of the mouth, use nothing but common white wax, rendered sufficiently soft by steeping it in warm water for some minutes previously to using it.

MUFFINS, TO MAKE.

Mix a quarter of fine flour, $1\frac{1}{2}$ pint of warm milk and water, with $\frac{1}{2}$ pint of good yeast, and a little salt. Stir them together for $\frac{1}{2}$ of a hour, then strain the liquor into a $\frac{1}{2}$ of a peck of fine flour. Mix the dough well, and set it to rise for an hour, then roll it up and pull it into small pieces, make them up in the hand like balls, and lay a flannel over them while rolling, to keep them warm. The dough should be rather stiff—flatten them, and bake in a brisk oven.

MULBERRY SYRUP.

To 1 pint of juice add 12 oz. of sugar. Strain it through a cloth. This is a very fine syrup.

MULBERRY WINE.

Beat ripe mulberries in a mortar, and to every quart of berries put a quart of spring water; mix the whole well together in a tub,

and let them stand all night, then strain them through a sieve, and to every gallon of liquor put 3 lbs. of sugar. When the sugar is dissolved, put it into a cask, into which, if a 9-gallon one, put a gill of finings. Care must be taken that the cask be not too full, nor bunged too close at first. Set it in a cold place, and when fine, bottle it.

MULTUM.

A compound of extract of liquorice and quassia, sold by brewer's druggists under this name, the better to conceal its real nature. It is used to adulterate porter. Another substance, called Hard Multum, is similarly used, and consists of an extract of *Cocculus Indicus*.

MUM.

Mum is a kind of malt liquor, much drank in Germany, and formerly in England. The name commonly occurs in the statutes relating to exciseable liquors. Take 63 gallons of water that has been boiled to a third part, brew it with 7 bushels of malt made from wheat, 1 bushel of oat malt, and 1 bushel of ground beans; when it has worked or fermented awhile in a hogshead not too full, put into it of inner rind of fir 3 lbs., tops of fir and of birch 1 lb., *carduus benedictus*, or holy thistle, 3 handfuls, flowers from burnet, betony, marjoram, pennyroyal, and wild thyme, of each a handful, of elder-flowers 2 handfuls, seeds of cardamom, bruised, 30 oz., barberries, bruised, 1 oz. When the liquor has done working, fill it up, and at last, put into the hogshead 10 new-laid eggs, stop it up close, and in two years it will be fit for use.

MUMMY BROWN.

A mixed resinous mass, with which the Egyptian mummies have been preserved, reduced to powder. Used by artists. It is a good glazing color, and dries slowly. A mixture of asphaltum and burnt Sienna are a good substitute.

MUMPS, THE.

A very disagreeable, but very rarely dangerous disease, which attacks the glands on one or both sides of the neck, occasioning a swelling for a few days. It is prevalent at certain seasons among children, and appears to be infectious. The mumps do not often require the assistance of medicine, and all that is in general requisite, is to keep the head and face warm, to avoid taking cold, and to take mild cooling aperients; but should the swelling in the neck suddenly disappear, and the slightly feverish symptoms increase, so as to induce an apprehension that the brain may become affected, it will be advisable to promote and re-produce the swelling by warm fomentations and stimulating liniments, and to obviate the fatal

consequences that might ensue, from its suddenly receding, by means of bleeding, blisters, &c.

MUNRO'S COUGH MEDICINE.

Take 4 drachms of paregoric elixir, 2 drachms of sulphuric ether, and 2 drachms of tincture of tolu. Mix, and take a tea-spoonful night and morning, or when the cough is troublesome, in a little luke-warm water.

MURIATIC ACID GARGLE.

I. Muriatic acid 30 drops, honey of roses 2 oz., barley water 6 fluid oz.

II. Red rose leaves 2 drachms, boiling water 1 pint, muriatic acid $1\frac{1}{2}$ oz. Digest for an hour. These are used in inflammatory sore throats.

MUSCADELL WINE.

Sugar 45 lbs., water 15 gallons. Boil, and add to it gradually a pint of yeast, and for three days 3 lbs. of the tops of clary; then strain, ferment as usual, and add 1 gallon of brandy.

MUSHROOM KETCHUP.

I. Break up mushrooms, each head into 3 or 4 pieces, sprinkle them with salt, stir them often for two days, squeeze with a spoon only, to each pint of juice put whole black pepper $\frac{1}{2}$ oz.; heat for two hours in a close topped stone jar, set in a stew-pan of boiling water, strain, and to each pint add $\frac{1}{2}$ oz. or a desert-spoonful of brandy, let it stand till next day, then strain and bottle; if any mouldiness appears, boil up with half the quantity of black pepper. The grounds freed from the pepper may be dried and pounded, when they form mushroom powder.

II. Mushroom juice 1 gallon, allspice 1 oz., pepper $\frac{1}{2}$ oz., cloves $\frac{1}{2}$ oz., ginger $\frac{1}{2}$ oz., shalots $1\frac{1}{2}$ oz., long pepper $\frac{1}{4}$ oz., salt $\frac{1}{2}$ lb. Boil for an hour, strain and bottle.

MUSHROOM POWDER.

Mushrooms, champignons, or any other wholesome kind of fungus, $\frac{1}{2}$ peck, 2 onions, cloves and mace, of each $\frac{1}{4}$ oz., white pepper 1 oz.; expose to a gentle heat, till the liquor the mushrooms yield is dried up, then dry on tins in a slow oven till sufficiently dry to reduce to powder.

MUSHROOMS, TO PICKLE.

Put the smallest that can be got into spring water, and rub them with a piece of new flannel dipped in salt. Throw them into cold water as they are cleaned, which will make them keep their color; next put them into a saucepan with a handful of salt upon them. Cover them close, and set them over the fire four or five minutes, or till the heat draws the liquor from them; next lay them betwixt two dry cloths till they are cold; put them into glass bottles and fill them up with

distilled vinegar, with a blade of mace, and a tea-spoonful of sweet oil into every bottle; cork them up close, and set them in a dry cool place; as a substitute for distilled vinegar, use white wine vinegar or ale. Alegar, or vinegar made from ale, will do, but it must be boiled with a little mace, salt, and a few slices of ginger, and it must be quite cold before it is poured upon the mushrooms.

MUSK, ARTIFICIAL.

Rectified oil of amber 1 lb., nitric acid 4 parts; after some time, a black matter is deposited; this, after having been well washed with water, has very much the smell of musk. True musk is adulterated with this, but still oftener with dried bullock's blood.

MUSK, ESSENCE OF.

Musk in grains 2 drachms, spirits of wine 1 pint. Used to scent other bodies.

The odour of musk is very materially altered by the admixture of other bodies, particularly by the addition of sugar. It then has the odour of civet and of ambergris.

MUSK HAIR POWDER.

Hair powder 28 lbs., musk $\frac{1}{4}$ oz. Mix.

MUSK MIXTURE.

Musk, powdered gum, and sugar, of each 3 drachms; triturate well together, then add gradually rose water 1 pint, still continuing the trituration. Each fluid oz. contains 9 grains of musk. Used in low fevers, hysterics, nervous disorders, &c.

MUSK PASTILES.

Gum arabic 2 oz., charcoal powder 5 oz., Cascarilla bark, pounded, $\frac{1}{4}$ oz., saltpetre $\frac{3}{4}$ oz. Mix together with water, and make into shape.

MUSK, REDUCED.

I. Nutmegs, cinnamon, cloves, mace, and spikenard, of each an equal quantity, beaten up into a smooth paste with blood; dry it in the sun, then moisten with musk water, and add to it a quarter of its weight of true musk.

II. Toasted bread and goat's blood, each 2 oz., pure musk 1 oz.; beat well together and fill old musk bags.

III. Styrax, labdanum, and aloes wood in powder, of each 4 oz., musk 6 drachms, sugar 2 drachms.

IV. Musk, angelica root, and goat's blood, of each an equal part.

V. Chinese musk 4 oz., chocolate $\frac{1}{2}$ oz., ivory black $\frac{1}{4}$ oz., salt of tartar 1 drachm.

MUSK SOAP.

Take of good tallow soap 30 lbs., palm oil soap 20 lbs., powder of cloves, pale roses, and gilliflower, of each $4\frac{1}{2}$ oz., essence of bergamot and essence of musk, of each $3\frac{1}{2}$ oz., brown ochre, or Spanish brown 4 oz.

MUSK, TINCTURE OF.

Musk 2 drachms, rectified spirit 1 pint. Digest seven days. Used as a perfume.

MUSTARD, ELECTUARY OF.

Flour of mustard and conserve of roses, of each 4 drachms. Mix together with syrup of ginger.

MUSTARD, ESSENCE OF.

Oil of turpentine 1 pint, camphor, oil of rosemary, and flour of mustard, of each $\frac{1}{2}$ oz. Mix.

MUSTARD, PATENT.

I. Take $2\frac{1}{2}$ oz. of cayenne pepper, $1\frac{1}{2}$ lbs. of bay salt, 8 lbs. of mustard flour, $1\frac{1}{2}$ lbs. of wheaten flour. Dissolve the salt in water, make the whole into a paste, and put up into pots. This is often called ready-made mustard.

II. In 15 gallons of water, boil 10 lbs. of salt and 12 lbs. of black ginger; strain, and to each gallon add 5 lbs. of flour of mustard.

The French make their mustard with a decoction of the plant *tarragon*, and also with a few ground seeds of anniseed.

MUSTARD POULTICE.

Equal parts of flour of mustard and linseed meal, made into a poultice with hot vinegar. As a powerful counter-irritant, stimulant, and rubefacient, in low fevers. It should not be left on long enough to raise a blister.

MUSTARD WHEY.

Cow's milk 1 quart, flour of mustard 2 oz. Boil together and strain.

MYNSICHT'S ELIXIR OF VITRIOL.

Cinnamon, ginger, and cloves, of each 3 drachms, calomus aromaticus 1 oz., galanga root $1\frac{1}{2}$ oz., leaves of sage and mint, each $\frac{1}{2}$ oz., cubebs and nutmegs, each $\frac{1}{2}$ drachm, aloes wood and lemon peel, each 1 drachm, white sugar 3 oz., spirits of wine $1\frac{1}{2}$ pint, oil of vitriol 1 lb. Digest for twenty days, and strain.

MYRRH, GARGLE OF.

Tincture of myrrh $\frac{1}{2}$ oz., honey of roses $1\frac{1}{2}$ oz., lime water 6 oz.

MYRRH MIXTURE.

Myrrh $1\frac{1}{2}$ drachm, add gradually, rubbing all the time, decoction of liquorice 6 fluid oz. Strain. Dose 1 or 2 table-spoonsful twice or thrice a day as a tonic in debility, or disorder of the digestive parts. Carbonate of soda should be taken with it.

MYRRH, TINCTURE OF.

I. Myrrh 3 oz., rectified spirit 1 quart. Digest for fourteen days, and filter.

II. Bruised myrrh $2\frac{1}{2}$ lbs., rectified spirit 2 gallons, water 1 gallon. A very good remedy to fasten loose teeth, and to cure red and spongy gums.

MYRTLE WATER.

Infuse 8 or 10 lbs. of the cuttings of green myrtle in nearly 20 gallons of rain or river water, and add thereto a pint of fresh yeast, after it has stood for twenty-four hours. At the end of another day and night, put the whole into a still, with a pound of bay salt; draw off the whole of the water; and, next day, infuse more myrtle leaves, as before, and distil again. Repeat the same a third time.

NANKEEN DYE.

Annatto and subcarbonate of potash, of each an equal quantity; boil in water. This is a good dye to restore the color of faded nankeen garments. The tint will vary according to the proportionate quantity of soda.

NAPHE, EAU DE.

This article is distilled in Languedoc from the leaves of the bitter orange tree; but the preparation sold in England under this name is commonly prepared as follows:—Orange flowers 7 lbs., yellow peel of the Seville orange $\frac{1}{2}$ lb., white wine 5 quarts, spirits of wine 1 pint. Macerate in a warm place for three days, then distil.

NAPLES BISCUITS.

Make a paste of 1 lb. of sugar, 1 lb. of eggs, (or 12 in number,) 1 lb. of flour, and $\frac{1}{2}$ a cupful of warm water. Paper some long narrow tins with white paper, put in a spoonful of the mixture, ice the tops, and bake in a moderate oven.

NAPLES YELLOW.

This is a combination of the oxydes of lead and antimony, made as follows:—Reduce to powder and mix together, 12 oz. of white lead, 2 oz. oxyde of antimony, $\frac{1}{2}$ oz. of salt of tartar, and 1 oz. of sal ammoniac. When mixed, they are to be placed in an earthen pan, covered with a lid of the same material. This pan is then to be placed in a potter's furnace, where it is to be calcined;

first, at a low heat, increasing it by degrees till the vessel has assumed a moderately red appearance; it will require three hours of this calcination. The product of this operation will be a fritti substance, of a golden yellow hue. This frit is then thrown in water, to separate it from whatever salts it may contain; it is then ground, and its tint becomes much paler.

NAPOLÉON'S PECTORAL PILLS.

The following recipe was copied from one in the possession of the late Emperor of France, and was a very favorite remedy with Napoleon for difficulty of breathing or oppression of the chest, arising from a collection of mucus in the air cells and vessels of the lungs, and in the gullet. Considerable benefit has been derived from them in many similar cases. Take of ipecacuanha root, in powder, 30 grains, squill root, in powder, and gum ammoniac, in powder, of each 2 scruples, mucilage of gum arabic, sufficient to form a mass. To be divided in 24 pills; 2 to be taken every night and morning.

NATURAL HISTORY, TO PRESERVE OBJECTS OF.

Put a large-sized tea-spoonful of well pounded corrosive-sublimate into a wine bottle full of alcohol (spirits of wine.) Let it stand over night, and the next morning draw it off into a clean bottle. When the solution is applied to black substances, and little white particles are perceived on them, it will be necessary to make it weaker, by the addition of some alcohol. A black feather, dipped in the solution, and then dried, will be a very good test of the state of the solution; if it be too strong, it will leave a whiteness on the feather.

NARCOTICS.

Under the name of narcotic is understood such medicines as procure sleep. The torpidity they thus occasion also has the effect of alleviating pain. The terms anodyne and narcotic are therefore often synonymous, especially from the powerful effect of opium or laudanum for both purposes, yet the terms are not necessarily connected; thus ether is not narcotic, yet it is anodyne. The following are narcotic remedies; for others see *Opiates* and *Anodynes*.

1. *Draught*.—(a) Camphor mixture 1½ fluid oz., laudanum 35 drops, sulphuric ether and syrup of saffron, of each 1 fluid drachm. Used as a remedy in intermittent head-ache.—(b) Carbonate of ammonia 15 grains, fresh lemon juice ½ fluid oz., water 1 oz., spirit of nutmeg 1 fluid drachm, syrup of orange peel ½ fluid oz., tincture of hemlock 10 drops. Used in diseases of increased debility.—(c) Carbonate of potass 20 grains, fresh lemon juice ½ fluid oz., peppermint water 1 oz., laudanum 25 drops, tincture

of tolu ½ fluid oz. A common mixture to produce sleep.

II. *Mixture*.—Laudanum 1½ drachm, syrup of poppies, sulphuric ether, and spirits of cinnamon, of each 1 oz., tincture of hembane 2½ drachms, water 2½ oz. Dose 1 or 2 table-spoonsful at the commencement of a fit of ague.

III. *Pills*.—(a) Extract of opium (made first with distilled vinegar, and then with proof spirit) 1 oz., extract of crocus (made with proof spirit) 1½ drachm, castor oil 1 drachm, oil of nutmegs 10 drops. These are often called night pills, 1 being taken at bed-time to procure sleep.—(b) Extract of hyosciamus 18 grains, camphor 12 grains; let it be made into 12 pills, of which 3 are to be taken every night.—(c) Extract of hemlock ½ drachm, hemlock leaves, pounded, enough to form the extract to a proper consistence. Make it up into pills, so that each shall weigh 2 grains. Begin with 1 pill night and morning, and increase it to 2 or 3, as the patient can bear it. It is used in cancer, scrofula, and other obstinate disorders.—(d) Opium 4 grains, extract of henbane and hemlock, of each 15 grains. Make it into 6 pills, of which 1 may be taken each night.

IV. *Suppository*.—Soap 1 drachm, opium 1½ scruple. Useful in sciatica and other nervous pains which attack the hips and loins.

NECTAR.

1. For 20 gallons, take 15 gallons of red ratafia, ¼ oz. of cassia oil, and an equal quantity of the oil of caraway seeds. Dissolve in ½ pint of spirits of wine, and make up with orange wine, so as to fill up the cask. Sweeten, if wanted, by adding a small lump of sugar in the glass.

II. Chopped raisins 2 lbs., loaf-sugar 4 lbs., boiling water 2 gallons. Mix, and when cold, add 2 lemons, sliced, brandy or rum 3 pints. Soak in a covered vessel for four or five days, occasionally shaking; strain, let stand in a cool place for a week to clear, and then bottle. It will be fit to drink in ten days.

III. For 2 gallons, take 1 drachm of the oil of bitter almonds, 2 drachms of the oil of cloves, 1 drachm of the oil of cassia, and 1 drachm of the oil of nutmeg. Put the oils into ½ pint of spirits of wine, shake them up well, and add 1 gallon of clear spirits and 1 gallon of syrup.

IV. *Imperial*.—For 3 gallons, take 6 quarts of spirits, 2 quarts of raisin wine, 2 oz. of peach or apricot kernels, ½ drachm of the oil of Seville orange peel, ½ drachm of the oil of cloves, ¼ oz. of mace, 2 large nutmegs, pulverized. Kill the oils in spirits of wine, add 1 quart of syrup, and fill it up with water. The kernels, mace, and nut-

megs should be bruised in a mortar, and steeped in some of the spirits for a fortnight.

v. For 3 gallons, take $\frac{1}{2}$ lb. of lemon peel, steep the peel for four days in 1 gallon of spirits, then add 1 pint of lemon juice, 5 quarts of water, 1 quart of syrup, 2 nutmegs, grated, and 3 quarts of new milk, boiling; stir them all well together, then run it through a filtering bag, and it will be fit for immediate use. It will keep for any length of time, if bottled and well corked, and will improve by age.

NEROLI, ESSENCE AND OIL OF.

i. Obtained from the flowers of the orange tree; 5 cwt. of flowers will yield only 1 oz. of oil.

ii. Spirits of wine 8 oz., orange peel 6 oz., orange root 2 drachms, ambergris 4 grains.

Neroli is the most powerful, fragrant, and expensive of the essential oils, a single drop of it added to 1 oz. of spirits of wine forms the essence of neroli, as used in the next receipt. The oils of the peel of both ripe and unripe oranges is often substituted for the true neroli, but is far inferior in delicacy of perfume. One drop of neroli in a quart of water forms orange flower-water.

NEROLI WASH BALLS.

Dry purified curd soap 8 lbs.; moisten with orange flower or rose-water; stir it twice a day, till quite smooth, leave it till sufficiently dry to beat, then add powder of fine labdanum 1 lb., essence of neroli 2 oz. Beat it well; if it grows too hard, soften with orange flower-water.

NERVINE OINTMENT.

Expressed oil of mace and ox marrow, of each 4 oz.; melt, and add oil of rosemary 2 drachms, camphor and oil of cloves, of each 1 drachm, balsam of tolu 2 drachms, dissolved in rectified spirit 4 drachms.

NERVOUS CORDIAL (BRODUM'S.)

Tinctures of gentian, columba, cardamoms, and cinchona, compound spirits of lavender and steel wine, of each equal parts. It is tonic and stomachic.

NETTLES, FOR THE STING OF.

The juice of tobacco leaves, unmanufactured, is a remedy for the sting of nettles. Care must be taken, however, that the skin is not broken; as in that case the effects would be the same as if the patient had swallowed the juice, viz. vertigo, fainting, and vomiting.

NEUTRAL TINT.

A color used by the water-color artist, formed of a mixture of sepia, lake, and indigo. It may be made for immediate use with gamboge, indigo, and lake, so mixed, that a dark grey or slate color is obtained.

NEWMAN'S OPIUM.

Soak opium in water, skim it well, then strain, add a little sugar, and set it in a warm place to ferment. When the fermentation slackens, it may be excited again by stirring up the lees; continue this for some months,

until the fermentation can no longer be excited, then strain and evaporate to a pilular consistence. It answers better when not quite so much evaporated, so that it may be given in a liquid form. Then known as Newman's liquid opium.

NEWMARKET OIL.

Oil of linseed, oil of turpentine, and oil of St. John's-wort, of each 3 lbs., oil of vitriol 1 oz. Used in sprains, as also in lumbago and rheumatism.

NIGHT-MARE.

The articles of food most likely to produce night-mare are cucumbers, nuts, apples, and all such things as generally produce flatulence. The paroxysm of night-mare does not always immediately follow the eating any improper food, but sometimes several days elapse before its attack. In this case it is easier to foresee, and consequently to prevent it. The signs by which its approach may be known are, unusual drowsiness, disagreeable dreams, and disturbed sleep, with wind in the stomach and bowels. In this case immediate recourse should be had to the carbonate of soda, or to either of the following draughts, which may be taken at bed-time.

i. Mix together 10 grains of carbonate of soda, 3 drachms of compound tincture of cardamoms, 1 drachm of simple syrup, and 1 oz. of peppermint water.

ii. Mix together 10 grains of prepared ammonia, 1 drachm of tincture of capsicum, 1 drachm of syrup of saffron, and 10 drachms of cinnamon water. Should these medicines not produce any relaxation of the bowels, it will be necessary the following morning to take a dose of some of the neutral purging salts, or, what will answer equally well, the following aperient draught:—

iii. Mix together 15 grains of magnesia, 15 grains of rhubarb powder, 8 grains of carbonate of soda, 1 drachm of simple syrup, and 11 drachms of peppermint water.

To those persons who are habitually subject to night-mare we would advise the frequent repetition of one or other of the draughts, for several nights in succession; after which the aperient draught may be taken, if necessary; and costiveness is in all cases to be avoided.

NINE OILS.

Train oil 1 gallon, oil of turpentine 1 quart, oil of bricks and amber, each 5 oz., camphorated spirits of wine 10 oz., Barbadoes tar 2½ lbs., oil of vitriol 1 oz. Used by farriers.

NIPPLES, CHAPPED, TO HEAL.

The best remedy for these very distressing sores is a little of the tincture or infusion of catechu, laid on with a camel-hair brush or piece of rag two or three times a day. The white of egg is a popular remedy.

No poisonous ointment ought at any time be used, nor Goulard water, or any other preparations of the kind.

NITRE, GARGLE OF.

Nitre 2 drachms, honey or syrup 4 or 5 drachms, rose-water 6 fluid oz.; mix. Used in inflammatory sore throats.

NITRE, LINCTUS OF.

Powdered nitre $1\frac{1}{2}$ drachm, honey of roses 1 fluid oz., oxymel $1\frac{1}{2}$ oz. Used as the last.

NITRE LOZENGES.

Nitre 3 oz., white sugar 9 oz., mucilage of gum tragacanth to make a paste. Good for sore throats; they are also diuretic.

NIVERNOISE SAUCE.

Put in a small stew-pan 2 slices of ham, 1 clove of garlic, 2 cloves, a laurel-leaf, sliced onions, and roots; let it catch the fire a little, then add a small quantity of broth, 2 spoonfuls of ketchup, and a spoonful of the best vinegar. Simmer it for an hour on the side of a stove, then pass it through a sieve, and serve it for a high-flavored sauce.

NONPAREIL SAUCE.

Take a slice of broiled ham, as much breast of roasted fowl, a pickled cucumber, a hard yolk of an egg, 1 anchovy, a little parsley, and a head of shalot, chopped very fine; boil it a moment in good ketchup, and use it for meat or fish.

NORFOLK LEATHER PRESERVER.

Linseed oil 3 pints, yellow resin 4 oz., turpentine 2 oz., yellow wax 12 oz. Melt, and then add neat's-foot oil 2 pints, oil of turpentine 1 pint. This is used to preserve and soften leather. Indian-rubber varnish is much better.

NORRIS'S DROPS.

A nostrum prepared by dissolving potassium-tartrate of antimony in rectified spirits, disguised with some vegetable coloring matter. Dr. Paris found no indications of opium.

NORWICH BISCUITS.

Take 6 lbs. of flour, 8 or 10 oz. of butter, and 1 quart of milk. A little sugar may be added, but is not usually employed. Warm half of the milk to a blood heat, then add yeast enough to make it slightly bitter, rub into this about 1 lb. of the flour, and put it in a warm place. It will soon rise, and after a little time fall again. Now rub the butter into the flour with the remaining portion of the milk warmed as before. Add it all to the sponge, and set it in a warm place to rise a second time. Separate portions of this dough, which should be rather stiff, making 18 or 20 pieces from a lb. of dough; mould them into a round ball under your hands, place them on slightly-buttered tins, from 2 to 3 inches asunder, flatten them a little, and stamp them with a docker. Prove them, and bake in rather a cool oven, so as to admit of their being baked through, that they may eat short and crisp; if they

should not be sufficiently dried when taken out, finish them in the stove. At Norwich they are baked on the bottom of the oven.

These biscuits are commonly called in London Milk Biscuits, and are recommended as children's food, being supposed to be made without butter. Also they go by different names in some parts of the country, as Fingers, Half-moons, Fancy Biscuits, and Tea Biscuits, and are made of various forms.

NOSEGAY, ESSENCE OF.

Flowers of benzoin 1 drachm, essence of ambergris 2 oz., spirit of jasmine and extract of violets, of each 1 pint, spirits of cassia, roses, orange, and gilly flower, of each $\frac{1}{2}$ pint.

NOTTINGHAM ALE.

Take 1 quarter of pale ale and 8 lbs. of hops. In the process of mashing lies the difference between this ale and others. First, for the above quantity, 1 barrel of liquor only is put into the mash tub. Upon this the malt is poured, stirring it up at the same time well, that it may not ball or clot. Pour all the malt in, thus, there being so little water, it will have a covering of dry malt, or the malt should be poured in, until 1 bushel only is left; when stirred up, pour on this bushel for a top covering; let it stand two hours, loosen the bottom tap to produce a small stream, and as the wort runs out at the bottom, more liquor must be poured in at the top, until enough has been added, and for twelve hours afterwards it must be taken from the under-back, and poured again and again upon the malt, so as to draw it through many times, or until it is considered strong enough. During this long process, it would be liable to turn sour, a quantity of hops then tied in a bag are suffered to lie all the time in the under-back; when boiled, the hops are still kept in the bag, but they have a few fresh ones added.

NOUFFLEUR'S CURE FOR WORMS.

Powder very finely, for 1 dose, 3 drachms of the male fern, *Aspidium filix mas*, and after the patient has been prepared the previous night by an emollient clyster, and a supper of panada, this is to be taken early in the morning, fasting; two hours after, a bolus is to be given made of 12 grains each of chloride of mercury and scammony, and 5 grains of gamboge.

The above is the celebrated remedy, the receipt of which was purchased from Madame Nouffleur, by Louis XV., for a large sum of money, and published. This, as Dr. Good remarks, will probably kill either the tape worm or the patient.

NOVARGENT.

Dissolve nitrate of silver or lunar caustic in water, add common salt to the solution, collect and well wash the white powder which falls down, and which is the chloride of silver. Dissolve this in a solution of hyposulphite of soda. It is used to re-silver old plated goods, &c.

NOYEAU.

I. Take $1\frac{1}{2}$ gallons of French brandy, 6 oz. of the best French prunes, 2 oz. of celery, 3 oz. of the kernels of apricots, nectarines, and peaches, 1 oz. of bitter almonds, all gently bruised, essence of orange-peel and essence of lemon-peel, each 2 pennyweights, and $\frac{1}{2}$ lb. of loaf-sugar. Let the whole stand ten days or a fortnight, then draw off, and add to the clear noyEAU as much rose water as will make it up to 2 gallons.

II. Blanched bitter almonds 1 oz., proof spirit 1 quart, lump sugar 1 lb., dissolved in $\frac{1}{2}$ pint of water. Digest and filter.

III. Bitter almonds, blanched, 3 oz., coriander seed $\frac{1}{2}$ oz., cinnamon, ginger, and mace, of each 1 drachm, proof spirit 2 quarts, white sugar 2 lbs., dissolved in water $1\frac{1}{2}$ pint. Macerate for a week, and fine down with $\frac{1}{4}$ oz. of alum.

IV. To 1 gallon of spirits of wine or white brandy add 2 drachms of the oil of Seville oranges, 4 lbs. of apricot and peach kernels. Beat them up in a mortar, before you mix them with the brandy, then put them into it, and shake them up two or three times a day for three days, add the oil, killed, and 1 quart of cherry juice.

V. Instead of the kernels, put for the above quantity $\frac{1}{2}$ oz. of the oil of bitter almonds, sweeten and color to fancy.

NoyEAU must never be drank except in small quantities, on account of the poisonous character of the oil of the kernels, and from which ingredient it takes its flavor and name.

NOYEAU, CREME DE.

Loaf sugar 24 lbs., water $2\frac{1}{2}$ gallons; dissolve, add proof spirit 5 gallons, orange flower-water 3 pints, bitter almonds 1 lb., essence of lemons 2 drachms. This is called *Crème de NoyEAU de Martinique*.

NUN'S SAUCE.

Put slices of veal and ham in a stew-pan, with a spoonful of oil, 2 mushrooms, a faggot of parsley, a clove of garlic, 2 heads of cloves,

$\frac{1}{2}$ a leaf of laurel; let it catch a little on the fire; then add some good broth, a little gravy, and some white wine; simmer it for some time, skim it well, and pass it through a sieve. When ready, add 2 or 3 green shallots, and a dozen of pistachio nuts, whole.

NUTMEG CORDIAL.

Take 20 gallons of clean rectified spirit, 2 lbs. of nutmegs, bruised, 1 lb. of anniseed. Steep for a fortnight, then strain, and add water and sugar, according to price and desired flavor.

NUTMEG, ESSENCE OF.

Dissolve 1 oz. of the essential oil of nutmegs in 1 pint of rectified spirits of wine.

NUTMEG, SPIRIT OF.

Take of bruised nutmegs 2 oz., proof spirit 1 gallon, water sufficient to prevent burning; distil off a gallon. This is used to take off the bad flavor of medicine, and is a grateful cordial.

NUTMEG, SYRUP OF.

Nutmegs, bruised, 3 drachms, white wine 1 lb. Infuse three days, strain, add sugar $1\frac{1}{2}$ lb.

This is stomachic and stimulant, and is a good vehicle to disguise the flavor of more nauseous medicines, particularly of assafœtida.

NUX VOMICA, EXTRACT OF.

Nux vomica, rasped, 8 oz., proof spirit $3\frac{1}{2}$ pints. Make a tincture, express the liquid, filter, distil off most of the spirit, and evaporate.

NUX VOMICA, LINIMENT OF.

Tincture of nux vomica 1 fluid oz., liquor of ammonia 2 drachms. Mix.

NUX VOMICA, TINCTURE OF.

Nux vomica, pounded or ground, 2 oz., rectified spirits of wine 8 fluid oz. Macerate for fourteen days, and strain. Dose 5 to 10 drops in paralysis.

All the nux vomica preparations are violently poisonous.

OAK BARK, GARGLE OF.

I. Oak bark 2 drachms, boiling water 6 oz., macerate for one hour and strain.

II. To the last, add $\frac{1}{2}$ scruple of alum and oil of vitriol 15 to 30 drops. Both are used in relaxation of the uvula.

OAK, GRAINING OF.

Light-colored and straight-grained oak is generally called *Wainscot*. The darker and more knotty is called *Pollard Oak*. Light oak or wainscot is almost the only wood that

is imitated by oil graining; the following is the method of proceeding:—

Wainscot graining in oil.—The effect of the grain in this wood is produced by a horn graining-tool, which very much resembles a comb, but the teeth are not pointed. The teeth of the graining-tool are of equal dimensions from the root to the extremity, which is square, and the interstices between them are as small as they can be cut. The principal color used is burnt umber; this,

with a little touch of black and purple brown, makes an excellent wainscot color; or a little raw sienna may be used with it. This color must be tempered with a peculiar vehicle, called graining oil, which is made by dissolving 2 oz. of bees'-wax in as much turpentine as will just cover it and make it easy to dissolve, and by adding a pint of boiled oil, stirring it well while mixing. When it is cold, it will be of the consistence of soft honey, and will, when to be used, require the addition of a little burnt oil and turpentine; a small quantity of color is sufficient to stain a large quantity of oil. The graining color is to be laid on very evenly and very bare. The brush marks, if not pounced out with the end of the brush or duster, must lie in the direction of the grain of the wood. The horn graining-tool is then to be passed over it, to imitate the grain; it should be held in a slightly-inclined position, and drawn along with a small waving motion, with a little pressure, passing twice over every part of the work. The veins are then to be put in, or rather wiped off, which is best done with a piece of cotton stocking, or wash-leather, wrapped over the thumb-nail. The veining is the most difficult part of it; and any directions that might be given, other than to observe nature closely, would be quite unavailing; nothing but a close observation of the peculiar character of the veins displayed in nature, with considerable practice, will enable any person to do it even tolerably. As soon as it is dry, the dark shades observed in the wood are to be put in; for this purpose, a little turpentine stained with burnt umber, ground in oil, is sufficient; also the dark veins are sometimes put in with a hair pencil, and a little burnt umber and burnt ochre diluted with turpentine. When quite dry, it may be varnished, and is then finished.

Wainscot in distemper.—Raw umber alone is a very good color for this, or a little burnt umber may be added to it, to make a warmer tint. The fluid used for this and all other distemper graining, must be such as will so bind on the color, that the varnishing may not bring it off; small beer is the best, or, if it cannot be conveniently procured, stronger beer diluted with water may do; but there is nothing so good as stale common table beer. It is only necessary to mix the beer with the color after it has been carefully ground in water, and it is then fit for use. Sometimes the color will not lie on the ground; it is then said to ciss. This may be remedied by wetting the work all over with a sponge and water, and drying it with a wash-leather. Only so much should be begun at one time as can be finished before it gets dry, which it will do in a few minutes, according to the weather. The

color should be laid on as evenly and as quickly as possible, with a suitable brush, then the flat hog's-hair brush must be drawn over it, in a straight line, and in the direction of the intended grain; this will leave it streaky. It is then to be carefully pounced or patted with the flat side of the same brush, making the head of the brush advance before the hand, and in the direction of the grain. This will make a very excellent imitation of the grain of oak, if it be well managed. The veins are to be wiped out with a piece of wet wash-leather wrapped over the thumb nail. When this is dry, the shades may be strengthened by passing very lightly over it with weaker color. Great care should be taken that is quite dry before the varnish is laid on; it is not safe to varnish it in damp weather without fire being near it; but if it will bear the finger passing over it, it is dry enough. (See *Pollard Oak*.)

OAK VARNISH.

- I. Clear pale rosin $3\frac{1}{2}$ lbs., dissolve in 1 gallon of the oil of turpentine.
- II. Clear Venice turpentine 4 lbs., oil of turpentine 5 pounds. Two good common varnishes.

OCHRES.

These substances are "hydrates of iron," which signifies, that they are composed of water and oxide of iron, mixed in various proportions, and sometimes closely combined with various sorts of earth. The greater the proportion of clay, the brighter will be the color: when there is a portion of clay, the substance feels greasy to the touch, and has more body than those which are mixed with chalk and silex. The yellow ochres become red by calcination: the brown ochres, when pure, produce the finest red. Ochres may be prepared artificially, by moistening the rust of iron, and precipitating by the alkalis, solutions of this metal. For instance, in precipitating it by the subcarbonate of soda, or of the muriate of potass, of nitrate or acetate of iron, or persulphate of iron, the most brilliant brown ochres are obtained. If the sulphate of iron is of a low oxidation, the precipitate is olive colored, but it soon becomes yellow at the surface by absorbing a greater quantity of oxygen. To extend this operation to all the precipitates, it only requires exposure to the air, by stirring it up for a sufficient time. The same thing may be obtained in winter quite easily, by exposing it to the action of frost in wide shallow pans: the water passing into the state of ice, leaves a small quantity of air disengaged, which unites with the precipitate, and is sufficient to give it an even yellow tone. When bright ochres are required, it will be necessary to mix alum, in certain proportion, with

sulphate of iron; the solution is then to be precipitated by lime water. There exists in the natural state ochres of so very fine a quality, that they require no other preparation than that of being washed: therefore it is scarcely worth while to manufacture them artificially. The permanency of these colors is proved by the state of the old pictures. In a box of colors found at Pompeii, and analysed by M. Count Chaptal, he discovered yellow ochre purified by washing, which had preserved its original brightness.

ODONTALGIC.

All medicines which relieve or cure tooth ache are called odontalgic, as the following.

I. Dissolve 2 drachms of camphor in 1 oz. of oil of turpentine.

II. Take $\frac{1}{2}$ lb. each of powdered Florentine orris root, powdered cuttle fish bone and powdered red coral, 4 oz. each of bitartrate of potass, burnt alum and mastic, 2 oz. of cocineal, 2 lbs. of honey of roses, and $\frac{1}{2}$ a drachm of cloves, mix well together and stir daily for a week before putting in pots.

These two receipts form the first, the odontalgic remedy, and the last the odontalgic paste, as sold at the quack medicine warehouses. For better receipts, see *Toothache*.

ODONTALGIC DROPS.

Alum in fine powder 1 drachm, dissolve in 7 drachms of sweet spirits of nitre.

ODONTALGIC TINCTURE.

Pellitory of Spain $\frac{1}{2}$ oz., camphor 3 drachms, opium 1 drachm, oil of cloves 2 drachms, rectified spirits of wine 1 pint. Digest for a week.

OIL COLOR CAKES.

A preparation for the use of artists invented by Mr. Blackman. Take of the clearest gum mastic, reduced to fine powder, 4 oz.; of spirits of turpentine 1 pint, mix them together in a bottle, stirring them frequently till the mastic is dissolved; if it is wanted in haste, some heat may be applied, but the solution is best when made cold. Let the colors to be made use of be the best that can be procured, taking care that by washing &c. they be made as fine as possible. When the colors are dry, grind them on a close hard stone (porphyry is best) in spirits of turpentine, adding a small quantity of the mastic varnish; let the colors so ground become again dry, then prepare the composition for forming them into cakes in the following manner:—Procure some of the whitest and purest spermaceti you can obtain, melt it over a gentle fire in a clean earthen vessel; when fluid, add to it one-third of its weight of pure poppy oil, and stir the whole well together: these things being in readiness, place the stone on which your colors were ground on a frame or support, and by means of a charcoal fire

under it make the stone warm; next grind your color fine with a muller, then adding a sufficient quantity of the mixture of poppy oil and spermaceti, work the whole together with a muller to a proper consistence, take then a piece of a fit size for the cake you intend to make, roll it into a ball, put it into a mould, press it, and it will be complete. When these cakes are to be used, they must be rubbed down in poppy, or other oil, or in a mixture of spirits of turpentine and oil, as may best suit the convenience or intention of the artist.

OIL, TO TAKE OUT OF BOARDS.

Mix together fuller's earth, and soap lees, and rub it into the boards. Let it dry and then scour it off with some strong soft soap and sand, or use lees to scour it with. It should be put on hot, which may be easily done, by heating the lees.

OIL VARNISH.

Rosin 3 lbs., turpentine 2 lbs., linseed oil 10 pints, dissolve by heat, and if too thick, thin by a little of turpentine.

OLIBANUM, COMPOUND MIXTURE OF.

Gum olibanum 2 drachms, balsam of copaiba $1\frac{1}{2}$ drachm, mucilage of gum arabic $1\frac{1}{2}$ oz., purified honey 1 oz., cinnamon water 5 oz., tincture of cantharides 2 drachms, mix together. To be taken in doses of $\frac{1}{2}$ oz. to $1\frac{1}{2}$ oz two or three times a day, in gonorrhœa, gleet, &c.

OLIBANUM, ELECTUARY OF.

Powdered olibanum and balsam of copaiba of each 4 drachms, confection of hips 1 oz., syrup to mix.

OLIVER BISCUITS.

Take 4 lbs. of flour, $\frac{1}{2}$ lb. of butter, $1\frac{1}{2}$ pint of milk, and a little yeast. Make the dough in the same manner as for Norwich biscuits, roll it out in a thin sheet, cut the biscuits out with a plain round cutter about the size of buttered biscuits, dock them or face them, and put several together in a heap, dock or prick them all through with a wire or round packing needle set in a handle, first on the upper surface, then turn them over, prick them through again; separate them, place them in rows on dry tins and bake in rather a slow oven. Sometimes they are washed over with milk on the upper surface.

ONION'S FUSIBLE METAL.

Lead 3 oz. tin 2 oz., bismuth 5 oz. It melts at 197° Fahr.

ONIONS, TO PICKLE.

Choose small button onions, as near of a size as possible; throw them into warm water, which will prevent their affecting the eyes so much while peeling them. As they are peeled, throw them into a strong brine

of salt and water; let them remain in this till the next day; then put them on the fire, and boil them for a minute. Or, as they are peeled, throw them into milk and water. Drain them from this when they are all done; put them into a jar, and pour the brine on them boiling hot. Cover them close, and set them aside till the next day. Drain, and dry them in a cloth; put them into cold distilled vinegar, with a few blades of bruised ginger, some whole pepper, and, if approved, a little mace and sliced horseradish. Keep them always well covered with vinegar. Cork the jar close, and put it in a cool, dry place.

OPHTHALMIA.

An inflammatory disease of the eye, which attacks chiefly the external membrane, but occasionally also the lids and internal membrane. The disease generally yields to simple remedies. The eye at the same time being shielded from the light by a green shade, or by colored spectacles. In the early stage, fomentations of warm water, in which poppy heads have been boiled, are very useful, added to the general use of aperient medicines. In severe attacks, general bleeding, or cupping between the shoulders, will be required, together with blisters applied to the nape of the neck. When the inflammation has subsided, astringent and cooling eye waters may be used, (see *Eye Waters*, Nos. 2, 3, 5, 7,) though not with too great frequency. In all cases be very careful to cleanse the eye well with warm water frequently, taking care not to wash a sound eye with the same cloth as a diseased one, as the purulent matter is easily communicated, and propagates the disease from one person to another; this is particularly the case with the ophthalmia that often attacks children.

OPHTHALMIC OINTMENT.

Red precipitate of mercury and lapis cammaris, of each $1\frac{1}{2}$ drachm, litharge 1 drachm, white oxyde of zinc $\frac{1}{2}$ drachm, cinabar 1 scruple, hog's lard 2 oz., Peruvian balsam 15 drops. Useful to remove specks from the eyes, arising from small ulcers which have healed up.

OPIATE, ANTI-TUBERCULAR.

Spermaceti, crab's eyes, and sulphur, of each 2 drachms, conserve of roses $\frac{1}{2}$ oz., pepper and mushroom 2 drachms, honey sufficient to make an electuary. Given in consumption, in doses of $2\frac{1}{2}$ scruples to $1\frac{1}{2}$ drachms, three or four times a day.

OPIATE CONFECTION.

Pure hard opium 6 drachms, long pepper, ginger, and carraway seeds, of each 2 oz., simple syrup 1 lb. Stimulant in doses from 10 to 30 grains. Instead of the simple

syrup, you may use the syrup of white poppies, boiled down to the consistence of honey, $1\frac{1}{2}$ pint.

OPIATE EN POUDRE.

Soft red brick 8 oz., powdered chinaware 4 oz., red coral 1 oz. Pound the whole very fine along with 1 drachm each of cinnamon and cloves, and sift through a lawn sieve. This is a tooth powder.

OPIATE MIXTURE.

Laudanum 2 fluid drachms, solution of acetate of ammonia and water, of each 3 oz. Dose 1 or 2 table-spoonsful to relieve pain, and procure sleep in fevers, &c.

OPIATE, OR THEBAIC PILLS.

I. Take of purified storax 3 drachms, soft purified opium and saffron, each 1 drachm; beat them into a uniform mass. The dose is 4 or 5 grains to be given at bed time. This produces a very sound sleep, and without that disturbance which opium often creates.

II. Take of purified storax 8 grains, aromatic powder 5 grains, purified opium 3 grains.

OPIUM CERATE.

Opium in fine powder $\frac{1}{2}$ drachm, yolk of 1 egg. Mix, then rub it up with simple cerate 10 parts.

OPIUM, EXTRACT OF.

Opium, sliced, 20 oz., warm water 1 gallon. Macerate in a little of the water for twelve hours, triturate with the rest added gradually, until perfectly mixed, allow it repose to deposit impurities, then decant, strain, and evaporate.

OPIUM LOZENGES.

Take of opium 2 drachms, tincture of tolu $\frac{1}{2}$ oz., common syrup 8 oz., extract of liquorice, softened in warm water, gum arabic in powder each 5 oz. Triturate the opium well with the tincture, then add, by degrees, the syrup and extract; afterwards gradually mix the powdered gum arabic. Lastly, dry them so as to form a mass, to be divided into lozenges, each weighing 10 grains. These directions are so full and particular, that no further explanation is necessary; $7\frac{1}{2}$ contains about 1 grain of opium. These lozenges are medicines of approved efficacy, in tickling coughs, depending on irritation of the fauces. Besides the mechanical effect of the viscid matters, in involving acrid humours, or lining and defending the tender membranes, the opium no doubt must have a considerable effect, by more immediately diminishing the irritability of the parts themselves. One of these is to be occasionally taken during the day, to allay a tickling irritation in the throat.

OPIUM OINTMENT.

I. Powdered opium 1 drachm, spermaceti ointment 2 oz.

II. Opium 2 drachms, ox gall 2 oz.; digest for two days, strain, and add lard 2 oz., essence of bergamot 10 drops.

III. Opium 1 drachm, gastric juice of a calf, a sufficient quantity to cover the opium. Digest for twenty-four hours, and add lard 1 oz., or a little more, according to the consistence required.

OPIUM PILLS.

Powdered opium $\frac{1}{2}$ oz., Castile soap 2 oz., beat together.

OPIUM PLAISTER.

Lead plaister 1 lb., melt, add powdered thus, 3 oz., mix, and further add powdered opium $\frac{1}{2}$ oz., water 8 oz. and boil to a proper consistence. Burgundy pitch may be used instead of thus.

OPIUM, SYRUP OF.

I. Watery extract of opium 18 grains, boiling water 8 oz., dissolve and add 1 lb. of sugar.

II. Pure opium 2 oz. 4 drachms, water 20 lbs., sugar 24 lbs. Boil to a proper consistence.

III. Extract of opium 4 drachms, white sugar 10 lbs., water 6 lbs.

IV. Extract of opium 16 grains, simple syrup 1 lb.

V. Simple syrup 1 oz., tincture of opium 25 drops. It is narcotic in doses from $\frac{1}{2}$ oz. to 1 oz. and is generally sold as the syrup of poppies.

OPIUM, TINCTURE OF.

Hard opium powdered 3 oz., proof spirit 1 quart; digest fourteen days and filter. This preparation has a deep brownish red color, and 19 minims, contain 1 grain of opium. See also *Laudanum* and *Paragoric*.

OPIUM, VINEGAR OF.

Opium 4 oz., distilled vinegar 1 pint; soak for seven days then press and filter. Dose from 5 to 30 drops.

OPODELDOC.

I. Castile soap 3 oz., camphor 1 oz., spirits of rosemary 1 lb. A good remedy for sprains and bruises, called also *Soap Liniment*, *Balsam of Soap*, &c.

II. Soap 4 oz., camphor 1 oz., oils of rosemary and marjoram of each 1 drachm, rectified spirit 1 pint, liquor of ammonia $1\frac{1}{2}$ oz.—Mix.

III. To the last add $\frac{1}{2}$ pint of water.

OPTICIAN'S CEMENT.

I. Shell-lac softened with spirits of wine or naphtha. Used for cementing precious stones in their settings.

II. Melt wax 1 oz., and rosin 15 oz. Then add whiting 4 oz. previously made red hot and still warm. This is for coarse articles, as glasses, stones, &c. while grinding and polishing.

ORANGHADE.

Prepared in the same manner as lemonade, using the juice of a small portion of the rind of the fruit.

ORANGE BRANDY.

Put the chips of 18 Seville oranges in 3 quarts of brandy, and let them steep a fortnight in a stone bottle close stopped. Boil 2 quarts of spring-water, with $1\frac{1}{2}$ lbs. of the finest sugar, nearly an hour very gently. Clarify the water and sugar with the white of an egg, then strain it through a jelly-bag, and boil it nearly half away. When it is cold, strain the brandy into the syrup.

ORANGE CORDIAL.

Take of the yellow part of fresh orange-peel 5 lbs., proof spirits $10\frac{1}{2}$ gallons, water 2 gallons. Draw off 10 gallons with a gentle fire.

ORANGE CREAM.

Cream 1 pint, yolks of 3 eggs, powdered sugar 6 oz., the yellow rind of 1 orange grated with the juice—mix; apply heat, and stir till cold. If wanted white, the whites of the eggs should be used instead of the yolk.

ORANGE, CREME D'.

Take 3 dozen middling sized oranges, orange flower water 2 quarts, loaf sugar 18 lbs., spirits of wine 2 gallons, tincture of saffron $1\frac{1}{2}$ oz., water $4\frac{1}{2}$ gallons. This will produce $7\frac{1}{2}$ gallons. Cut the oranges in slices, put them into a cask, add the spirit and orange flower water, let it stand a fortnight, then boil the sugar in the water for half an hour, pour it out, and let it stand till cold, then add it to the mixture in the cask, and put in the tincture of saffron.

ORANGE FLOWER POWDER.

Starch powder 25 lbs., orange flower water to damp it. If wanted very strong, damp it two or three times, drying it between each damping.

ORANGE FLOWER RATAFIA.

Take of fresh flowers of orange tree 2 lbs., proof spirit 1 gallon, sugar $1\frac{1}{2}$ lbs. Digest for six hours.

ORANGE FLOWER SOAP.

Take 30 lbs. of good tallow soap and 20 lbs. palm oil soap: perfumes, $7\frac{1}{2}$ oz. essence of Portugal, $7\frac{1}{2}$ oz. amber. Color; $9\frac{1}{2}$ oz. consisting of $8\frac{1}{2}$ of a yellow-green pigment, and $1\frac{1}{2}$ of red lead.

ORANGE FLOWER WATER.

Take 2 lbs. of orange flowers, and 24 quarts of water, and draw over 3 pints. Or, take 12 lbs. of orange flowers, and 16 quarts of water, and draw over 15 quarts.

ORANGE JUICE, SYRUP OF.

Juice of oranges, strained and clarified, 1 lb., white sugar 2 lbs. Used for making

punch, and also added to water as a summer drink, called sherbet.

ORANGE LAKE.

Best Spanish annatto 4 oz., pearl-ashes 1 lb. Boil in 1 gallon of water for half an hour, then strain. Dissolve $1\frac{1}{2}$ lb. of alum in $1\frac{1}{2}$ gallon of water; strain, and add the colored liquor. As long as any sediment falls, strain, and dry the sediment.

ORANGE MARMALADE.

Candied.—Cut the clearest Seville oranges into two, take out all the juice and pulp into a basin, and pick all the skins and seeds out of it. Boil the rinds in hard water till they become tender, and change the water two or three times while they are boiling. Then pound them in a marble mortar, and add to it the juice and pulp; put them next into a preserving pan with double their weight in loaf sugar, and set it over a slow fire. Boil it rather more than half an hour, put it into pots: cover it with brandy paper, and tie it close down.

Transparent.—Cut pale Seville oranges into quarters, take out the pulp, put it into a basin, and pick out the skins and seeds. Put the peels into a little salt and water, and let them stand all night, then boil them in a good quantity of spring water, until they are tender; cut them in very thin slices, and put them into the pulp. To every pound of marmalade put $1\frac{1}{2}$ lb. of double refined beaten sugar; boil them together gently for twenty minutes, if they are not transparent, boil them a few minutes longer. Stir it gently all the time, and take care not to break the slices. When it is cold, put it into jelly and sweetmeat glasses tied down tight.

ORANGE PEEL, INFUSION OF.

I. Dried orange peel $\frac{1}{2}$ oz., fresh lemon peel 2 drachms, bruised cloves 1 drachm; boiling water 1 pint, infuse for 15 minutes and strain. One or two ounces twice a day as a good stomachic.

II. Dried orange peel 3 lbs. fresh lemon peel $1\frac{1}{2}$ lb. bruised cloves $\frac{3}{4}$ lb. boiling water 9 pints. Infuse for twenty minutes, then strain and when cold, add 1 quart of spirits of wine.

ORANGE PEEL RATAFIA.

Take of fresh peel of Seville oranges 4 oz., proof spirit 1 gallon, sugar 1 lb. Digest for six hours.

ORANGE PEEL, SYRUP OF.

I. The yellow part of Seville orange peel 2 oz., boiling water 1 lb., steep for a night, decant, and add 3 lbs. of loaf sugar.

II. Orange peel $1\frac{1}{2}$ lb., white sugar 24 lbs. and water 2 gallons.

ORANGE PEEL, TO CANDY.

Soak the peels in cold water, which change frequently till they lose their bitterness,

then put them into syrup till they become soft and transparent. Then they are to be taken out and drained.

ORANGE PEEL WATER.

Take of the outward yellow rind of Seville oranges, 4 oz., water 3 gallons and a half, draw off 1 gallon by the still, with a brisk fire.

ORANGE POMATUM.

Take 5 lbs. of hog's lard, 1 lb. of mutton suet, 3 oz. of angel water, $\frac{1}{2}$ oz. of essence of bergamot, 4 oz. yellow wax, and $\frac{1}{2}$ lb. of palm oil.

ORANGE PUFFS.

Pare off the rinds from Seville oranges, then rub them with salt, let them lie twenty-four hours in water, boil them in 4 changes of water, make the first salt, drain and beat them to a pulp; bruise in the pieces of all that are pared, make it very sweet with loaf-sugar, and boil it till thick; let it stand till cold, and then put it into the paste.

ORANGE TARTS.

Grate a little of the outside of a Seville orange, squeeze the juice into a dish, put the peel into water, and change it often for four days, then put it into a saucepan of boiling water on the fire; change the water twice to take out the bitterness, and when tender, wipe and beat them fine in a mortar; boil their weight in double-refined sugar into a syrup, and skim it, then put in the pulp and boil all together till clear; when cold put it into the tarts, squeeze in the juice, and bake them in a quick oven. Conserve of orange makes good tarts.

ORANGE WINE.

Orange wine of a superior quality may be made with 2 lbs. of clayed sugar, and 1 lb. of Malaga raisins to each gallon of water, to which add the juice and peel of an orange, and to every 100 gallons of fluid, 4 lbs. of Rhenish tartar. Two lbs. of honey, 1 lb. of Malaga raisins, with the juice and peel of a large orange, to every gallon of water, and 4 lbs. of Rhenish tartar to every 100 gallons of fluid, will make an orange wine still superior to the former. Steep and press the fruit, and expend the tartar in setting, raising, and cutting the back; the orange peel and juice are not to be added until the last stage of fermentation, that is on cutting: they will possess infinitely more vinosity than the ordinary orange wines, indeed, nearly as much as the juice of the vine.

Lemon wine, equally delicious, may be made in a similar manner: both these wines, as they advance in age, lose much of the grosser part of the orange and lemon flavor; one approaches the bergamot and the other a fine citron, and become fragrant as they advance in years; they will be more improved if treacle be used, divested of its color and burnt flavor.

ORFILA'S HAIR DYE.

Plumbite of lime, made by boiling for an hour and a quarter 4 parts of the sulphate of lead, with 5 parts of slaked lime, and 30 parts of water, filtering the liquor, and collecting the powder. This, in a warm solution, will dye the hair a fine black in one hour.

ORGEAT PASTE.

Blanch and pound $\frac{3}{4}$ lb. of sweet, and $\frac{1}{4}$ lb. of bitter almonds; wet them in pounding sufficiently with orange flower water, that they will not oil. When you have made them into a paste, add $\frac{3}{4}$ lb. of fine powdered sugar to them, and mix the whole into a stiff paste, which put into pots for use. It will keep six months. When wanted for use for custard puddings, &c., take out a piece the size of an egg, beat it up with $\frac{1}{2}$ pint of water, and strain through a cloth.

ORPIMENT.

This color was known in ancient times; the Latins called it *auripigmentum*, (gold color), whence, by corruption, its present name is derived. It is a sulphuret of arsenic, found in a perfectly natural state: it is also prepared by artificial means. There are two kinds of sulphuret of arsenic, the results of different proportions of these substances in combination. If the sulphur should preponderate, the product will be a clear and very brilliant yellow; but should the arsenic preponderate, the color will be orange, and it is then called red orpiment, or realgar.

Both these species have been in use from the earliest times of painting; and it is easy to perceive that this color must not be mixed with white lead, nor with any of those colors into which it enters, such as massicot, minium, muriate, and chromate of lead, and Naples yellow. The sulphur in combination with the arsenic, having less affinity with this metal than for lead, lets it go, and forms a sulphuret of lead of a dark greyish color. But orpiment may be employed alone, or with ochres, and other colors that do not act upon them, as terre verte and ultramarine. There is little doubt but that the brilliant yellows, which we see in some ancient pictures, are preparations of orpiment.

ORRIS LOZENGES.

Root of the Florentine iris and gum arabic of each 2 drachms, liquorice root 6 drachms, sugar 1 lb. 8 oz., mucilage of gum tragacanth to make into a paste.

ORRIS PERFUME.

Take best dried and scraped orris roots, free from mould. Bruise or grind them; the latter is best, as, being very tough, they require great labor to pound. Sift the powder through a fine hair sieve, and put the remainder in a baker's oven, and dry the moisture. A violent heat will turn the roots yellow. When dry, grind again, and sift; and repeat the same until the whole has passed through the sieve; mix nothing with it, as it would mould and spoil it.

OTTAR OF ROSES.

Take a very large earthen or stone jar, or a large clean wooden vessel. Fill it with the leaves of the flowers of roses, very well picked, and freed from all seeds and stalks—pour upon them as much pure spring water as will cover them, and set the vessel in the sun in the morning at sun-rise, and let it stand till the evening, then take it into the house for the night; expose it in this manner for six or seven successive days, and at the end of the third or fourth day, a number of particles of a fine yellow oily matter will float on the surface, which in two or three days more, will gather into a scum, which is the ottar of roses. This is taken up by cotton tied to the end of a piece of stick, and squeezed with the finger and thumb into a small phial, which is immediately well stopped; and this is repeated for some successive evenings, or while any of this fine essential oil rises to the surface of the water.

This oil is said to be sold at a guinea a drop in the East Indies. The monks of St. Mark's Convent, at Florence, are said to have made good ottar of roses for about £8 per ounce.

OXALIC ACID, TO DETECT.

Blue sugar loaf paper is recommended as a test of distinction between oxalic acid and Epsom salts, which have been too often mistaken for each other. It is reddened by the former, but not affected by the latter. A simpler test consists in wetting the tip of the finger, applying it first to the supposed salt, and then to the tongue—if oxalic acid, it tastes very sour; if Epsom salt, very bitter and saline. Another test is to place a drop on the tongue; the acid will be more apparent, and fetor produced by the action of this trivial quantity; the patient will soon find occasion to quell its effects by the saliva or by water. Most people take physic, not only with their eyes shut, literally, but their senses also, and dread the taste of salts until they have got them fairly down, when, in case of mistake, no remedy is at hand. Let the salts, therefore, be mixed with a silver spoon; then wipe it dry, and smell it. If the mixture be really salts, nothing will be perceptible, more than if the spoon had been in simple water. But should the spoon have been in a solution of oxalic acid, it will impart a very strong and suffocating smell.

OXYCROCEUM.

I. Black pitch, black rosin, and yellow wax, of each 4 oz., Chios turpentine, galbanum, gum ammoniac, myrrh, olibanum, and mastic, each 1 oz. 3 drachms, saffron $2\frac{1}{2}$ oz.

II. Common Burgundy pitch 4 lbs., black pitch 7 lbs., yellow resin 6 lbs., Venice turpentine 3 lbs., common turpentine 2 lbs., dragon's blood 8 oz. These are warm plasters for the chest, &c.

OXLEY'S TINCTURE FOR THE TOOTH-ACHE.

The root of feverfew 10 oz., sulphuric ether 1 pint. Digest for ten days, strain, add 1 oz. of camphor, 1 oz. of oil of rosemary, and 2 drachms of laudanum. Mix and shake them well together. To be applied to the aching tooth on a piece of lint.

OXYGENIZED LARD.

Prepared lard 1 lb., nitric acid 6 drachms. This is a stimulant ointment to foul ulcers, &c., and often sold for the ointment of the nitrate of mercury.

OXYMEL.

I. Honey 2 lbs., white wine vinegar 1 lb. Mix together with frequent agitation.

II. White wine vinegar 2 lbs., white sugar 5 lbs.

III. *Of Colchicum.*—Fresh roots of colchicum 1 oz., distilled vinegar 1 lb. Soak for two days, press, and add honey 2 lbs. Boil to a syrup.

This preparation is taken in asthma and dropsy, the dose being 1 drachm twice a day, gradually to be increased.

IV. *Of Cream of Tartar.*—Cream of tartar 2 oz., honey 24 oz., water 6 pints. Boil in stone-ware or glass to the consistence of a syrup.

V. *Of Garlic.*—Vinegar $\frac{1}{2}$ pint, caraway seeds and sweet fennel seeds, of each 2 drachms. Boil with it $\frac{1}{2}$ oz. of garlic, cover it over while hot; when cold, strain, and add 10 oz. of honey.

VI. *Of Squills.*—Honey 3 lbs., vinegar of squills 2 lbs. Boil to a proper consistence.

OYSTER KETCHUP.

Pound the fish, and add to each pint of them, 1 pint of sherry wine and 1 oz. of salt, powdered mace 2 drachms, pepper 1 drachm. Boil up, skim, strain, add to each pint, brandy 2 tea-spoonsful, then bottle. To flavor sauces when oysters are out of season.

OYSTER-SHELL POWDER.

Get some fresh oyster shells, wash them, and scrape off the yellow part from the out-sides; lay them on a clear fire till they become red hot, then lay them to cool, and take off the softest part, powder it, and sift it through a fine sieve; after which use it immediately, or keep it in bottles well corked up and laid in a dry place. It is used to recover sour wine.

PAINT, FLEXIBLE.

Yellow soap, cut into slices $1\frac{1}{2}$ lbs., boiling water 1 gallon; dissolve, and mix while hot with $1\frac{1}{4}$ cwt. of oil color; used to paint canvas.

PAINT, TO REMOVE THE SMELL OF.

In the room which is to be purified strew some hay slightly moistened. The hay is be sprinkled with chloride of lime, and left for some hours, taking care to keep the room closed. The decomposing action of the carbonic acid in the air, causes the chlorine to exude from the chloride of lime, which, being diffused in the room, destroys the smell of paint. If the damp is required to be absorbed at the same time, pounded muriate of lime is placed on plates or in earthen vessels, which, having an affinity for moisture, attracts the water from the atmosphere and becomes liquid. The same result may be attained by the use of chlorine. The operation is effected in the following manner:—A small earthen vessel is placed in the middle of the apartment; it is placed on a heated brick or on a small furnace containing very little fire; in this vessel is afterwards put 1 oz. of oxide of manganese and 3 oz. of hydrochloric acid.

The mixture must be stirred with a glass tube, and the windows and doors kept shut for twenty-four hours.

PAINTER'S CREAM.

Painters, who have long intervals between their periods of labor, are accustomed to cover the parts they have painted with a preparation which preserves the freshness of the colors, and which they can remove when they resume their work. This preparation is as follows:—Take of very clear nut oil 3 oz., mastic in tears, pulverized, $\frac{1}{2}$ oz., sal saturni, in powder, (acetate of lead,) $\frac{1}{2}$ oz. Dissolve the mastic in oil over a gentle fire, and pour the mixture into a marble mortar, over the pounded salt of lead; stir it with a wooden pestle, and add water in small quantities, till the matter assumes the appearance and consistence of cream, and refuses to admit more water.

PANADA.

Put a blade of mace, a large piece of the crumb of bread, and a quart of water, in a clean saucepan. Let it boil two minutes, then take out the bread, and bruise it very fine in a bason. Mix with it as much of the warm water as it will require, pour away

the rest, and sweeten it to the taste of the patient. If necessary, put in a piece of butter of the size of a walnut, but add no wine. Grate in a little nutmeg, if requisite.

PAPER BLEACHING.

I. This title comprehends two different processes: one for bleaching rags, and other materials from which paper is at first fabricated, and another for refabricating paper from old written or printed papers. Rags, when grey or colored, are to be separated and ground in the paper mill in the usual way, till brought to a sort of uniform consistence, having been previously macerated according to their quantity and tenacity. The mass is then treated with an alkaline ley. It is next treated with any of the preparations of chlorine, which is thought most convenient; the chloride of lime is most usually employed. If this immersion do not produce the desired effect, which does not often happen if the colors are tenacious, such as red and blue, let the treatment with the alkaline leys be repeated, and follow it with another bath of the chlorine preparation. Then sour the whole in a bath of sulphuric acid, much diluted and cold, for when hot its action will be less effectual. Water is then to be run upon it till it come off without color or indication of acidity. Black is the most easily discharged color, and will seldom require being treated with ley or steep of sulphuric acid, one bath of alkali and another of chloride of lime being sufficient to produce a good white.

II. Old printed or written paper is first to be sorted according to its quality, and all the yellow edges cut off by the bookbinder's plane. One hundred weight of this paper is to be put sheet by sheet into vats sufficiently capacious, with 500 quarts of hot water. The whole is to be stirred for about an hour, and as much water gradually added as will rise about 3 inches above the paper, and to be left to macerate for four or five hours. It is then ground coarsely in the mill, and boiled in water for about an hour, taking care to add, before it begins to boil, 13 quarts of caustic alkaline ley. After boiling, it is macerated in the ley for twelve hours, when it is pressed, and is sufficiently white, is forthwith manufactured into paper; if not, the process is repeated. Written paper may be bleached by sulphuric acid alone, and printed paper by alkaline or soap leys, but the above process is the most effectual, and the expense is exceedingly trifling. Paper which has been written or printed, may even be bleached without destroying the leaves, by treating them with the same chemical agents, taking care to arrange the sheets alternately between cloths in the same manner as the paper makers dispose their sheets of paper when delivered from the form.

PAPER, GLAZING OF.

Almost all the printing and colored papers being now made by machinery, and being made very fast, it is important that the glazing process should be performed with the same expedition as the paper is made. To this end there are generally three cast-iron rollers or cylinders of great weight; the top roll weighs about 13 cwt., the bottom 25 cwt., and a small one, which runs on the side of the largest, 5 cwt.; these rollers are placed at the end of the drying machine, and the paper being only partially dried, is passed between the before-mentioned rollers, which being heated by steam, complete the drying process, and impart to the paper a beautiful gloss, which may be increased by screws placed on the top roller. Writing papers are either *glazed* or *boarded*, as it is called; that which is glazed is effected by placing each sheet between polished copper or zinc plates, which are then passed between solid iron rollers, one, two, or three, according to the degree of gloss required. Paper which is *boarded*, is placed, sheet by sheet, between glazed boards; it is then pressed in a powerful press for about twelve or fourteen hours. There is another process called *hot-pressing*, which is merely placing heated iron plates between the *wads* or parcels of glaze-boards when placed in the press, in lieu of boards of wood. The iron plates are made very hot in an oven.

PAPER PASTE.

This is made of white paper, boiled in water for five hours; then the water being poured off, the pulp is pounded in a Wedgewood mortar, passed through a sieve, and mixed with a little gum water, or else isin-glass-glue.

Some years since there was at Bath, an exhibition, called the *Papyrusium*, consisting of some hundreds of beautiful groups of figures and landscapes, made wholly of fine paper paste, by Mrs. Aberdeen, in which the delicate color and plastic character of the material were finely exemplified. It is at present used as a modelling material, chiefly to make the finer mouldings and statues in paper architectural models, and for which M. Deighton is so celebrated.

PAPER POWDER, OR POLLEN POWDER.

This is the same as the above pulp, dried, pounded fine, and passed through a sieve, the size or gum water being omitted. It is employed by the bird stuffers to dust over the legs of some birds, and the bills of others, to give them a powdery appearance; also to communicate the downy bloom to rough-coated artificial fruit, and other purposes of a similar nature.

PAPER, STAINING OF.

I. *Yellow*. — Paper may be stained a beautiful yellow by the tincture of turmeric, formed by infusing 1 oz. or more of the root, powdered, in 1 pint of spirits of wine. This may be made to give any tint of yellow, from

the lightest straw to the full color, called French yellow, and will be equal in brightness even to the best dyed silks. If yellow be wanted of a warmer or redder cast, annatto or dragon's blood must be added. The best manner of using these, and the following tinctures, is to spread them even on the paper or parchment, by means of a broad brush, in the manner of varnishing.

II. *Crimson*.—A very fine crimson stain may be given to paper by a tincture of the Indian lake, which may be made by infusing lake some days in spirits of wine, and then pouring off the tincture from the dregs. It may be stained red by red ink. It may also be stained of a scarlet hue by the tincture of dragon's blood in spirits of wine, but this will not be bright.

III. *Green*.—Paper or parchment may be stained green, by the solution of verdigris in vinegar, or by the crystals of verdigris dissolved in water.

IV. *Orange*.—Stain the paper or parchment first of a full yellow, by means of the tincture of turmeric; then brush it over with a solution of fixed alkaline salt, made by dissolving $\frac{1}{2}$ oz. of pearlash, or salt of tartar, in a quart of water, and filtering the solution.

V. *Purple*.—Paper or parchment may be stained purple, by archil, or by the tincture of logwood. The juice of ripe privet berries expressed will likewise give a purple dye.

PAPIER DE SURETE.

White paper pulp, mixed with an equal quantity of pulp tinged by any stain easily affected by chlorine, acid, alkalis, &c., and made into sheets as usual. It will be evident that writing cannot be discharged by chemical means, without altering the color of the paper also.

PAPIER MACHE.

This consists of cuttings of white or brown paper, boiled in water, and beaten in a mortar till they become a kind of paste, and then mixed with a solution of gum arabic in size, to give tenacity to them. The pulpy mass thus formed is made into tea-boards, toys, &c., by pressing it into oiled moulds. When dried, it is covered with a mixture of size and lamp black, and afterwards varnished.

It is from this material that the scrolls, wreaths, and rosette ornaments for theatres, decorative cornices, &c., are frequently made, being gilt afterwards. Also, the French, who excel in papier maché work, are accustomed to make numerous models, painting them with fresco colors—that is with various pigments mixed with whiting, or some opaque color. Of this description have been formed models of the chief routes through Switzerland, in which the foundation, or general surface, is of paper, formed irregularly, and colored to resemble mountains, &c. The glaciers are of coarsely pounded glass—the roads painted brown—the rivers blue—the woods made of the pile of velvet cut off, and the villages of cork.

PARACELSUS'S PLAISTER.

I. Olive oil 6 oz., yellow wax $1\frac{1}{2}$ oz., litharge $4\frac{1}{2}$ oz., gum ammoniac and bdellium, of each $\frac{1}{2}$ oz., galbanum 6 oz., opoponax, laurel oil, calamine, long birthwort, round birthwort, myrrh, and frankincense, of each 2 drachms, Chian turpentine 1 oz.

II. Simple diachylon 28 lbs., diachylon with gum 2 lbs., canella alba and frankincense, of each $1\frac{1}{2}$ lb.

PARCHMENT.

This article is manufactured from sheep skins, cleared from lime; the skin is stretched on a frame, where the flesh is pared off with an iron circular knife; it is then moistened with a rag, and whiting spread over it. The workman then, with a large pumice stone, flat at the bottom, rubs over the skin, and scours off the flesh. He next goes over it with the iron instrument as before, and rubs it carefully with the pumice stone without chalk; this serves to smooth the flesh side. He drains it again by passing over it the iron instrument as before; he passes it over the wool side, then stretches it tight on a frame. He now throws on it more whiting, and sweeps it over with a piece of woolly lamb skin. It is now dried, and taken off the frame by cutting it all round. Thus prepared, it is taken out of the skinner's hands by the parchment maker, who, while it is dry, pares it on a summer, (which is a calf-skin stretched in a frame,) with a sharper instrument than that used by the skinner, who, working it with the arm from the top to the bottom of the skin, takes away about half its substance. It is again rendered smooth by the pumice stone, which leaves the parchment finished. Parchments have lately been split into 2 or 3 thicknesses.

PARCHMENT GLUE.

Take 1 lb. of parchment, and boil it in 6 quarts of water, till the quantity be reduced to 1 quart; then pour off the fluid from the dregs, and boil it again, till it be of the consistence of glue.

PAREGORIC ELIXIR.

I. Purified opium and flowers of benzoin, of each 1 drachm, camphor 2 scruples, oil of anniseed $\frac{1}{2}$ drachm, spirits of wine 2 lbs.

II. Purified opium and flowers of benzoin, of each 12 oz., gum benzoin 6 oz., camphor 1 oz., oil of anniseed 12 drachms, proof spirit 3 gallons.

III. Extract of opium 2 oz. 2 drachms, camphor and flowers of benzoin, each 1 oz. 4 drachms, oil of anniseed 6 oz., spirits of wine 2 gallons, water 10 pints.

IV. Opium 1 oz., gum benzoin 8 oz., camphor 1 oz., oil of anniseed 4 drachms, spirits of wine 12 pints, water 2 pints. Anodyne, used to allay the tickling of a cough.

PAREIRA, INFUSION OF.

Pareira brava 6 drachms, boiling water 1 pint. Macerate for two hours. Dose 1 to 2 oz. in irritation of the urinary organs.

PARFAIT AMOUR.

A French cordial, the same as cedrat cordial, but colored with a little cochineal. (See *Cedrat*.)

PARIS'S TEST FOR WINE, ETC.

Put into a crucible 1 oz. of sulphur and 1 oz. of pure lime, and keep them in a white heat for nearly half an hour; when cold, add 1 oz. of the super-tartrate of potass, and boil the whole in a matrass with some distilled water for about half an hour. Decant the supernatant liquor into small phials, adding about 20 or 30 drops of hydrochloric acid to each. The phials must be well stopped and preserved for use. Lead, copper, and other deleterious metals will be precipitated of a black color by this liquid, if poured in the quantity of only a few drops into the suspected wine or cyder.

The hydrochloric acid is added to this test to prevent the precipitation of iron, which might exist in the wine without any mischief resulting from its use.

PARISIAN DENTRIFICE.

Take 4 oz. each of powdered Florentine iris and Peruvian bark, 12 oz. of prepared chalk, (whiting,) 1 oz. of myrrh, 1½ oz. of rose pink, and 16 drops each of the oils of cloves and cinnamon.

PARISIAN SOFT VARNISH.

Take of virgin-wax and asphaltum, or Greek pitch, each 1 oz., black pitch ½ oz., and Burgundy pitch ¼ oz. The asphaltum must be pounded in a mortar, and the wax melted over a slow fire, in a pot of glazed earthenware, and the rest of the ingredients added little by little, stirring the mixture accordingly, till the whole be well melted and incorporated; and taking care that the matter be not suffered to burn. Afterwards throw the whole mass into an earthen vessel full of clean water, and knead it with the hands, to form it into little balls; and then roll them up in new strong taffety for use.

PARKER'S CEMENT.

This cement is made of very argillaceous limestones, which are burnt in conical kilns, with a continued fire of pit-coal, in the same manner as other limestones; but if the heat be so great as to cause a commencement of fusion in the cement, it will be totally spoiled. It is reduced to an impalpable powder by grinding as soon as it is burnt, and is sent away in barrels well closed. It is recommended to be mixed with fine angular sand well washed, in the proportion of 2 parts to 3 of cement, for foundations and cornices exposed to rain; from 3, 4, and 5 parts to

3 of cement, for common mortars; from 3 parts to 2 of cement, for coating walls exposed to cold; and 5 parts to 2 of cement, for walls exposed to dryness or heat.

The above is much used in London for facing houses, and for the foundations of large edifices. It requires much practice in the workmen who use it; for if not tempered to the proper consistence, and immediately applied, it solidifies unequally, cracks, and adheres badly.

PARLIAMENT CAKES.

I. *White*.—Make a paste with 4 lbs. of sugar, 8 lbs. of flour, 2 oz. of butter, ½ oz. of volatile salt, and 1 quart of water. Soak the sugar in the water, rub together the flour and butter, then add the salt and the liquid; roll it into very thin cakes, cut into a square from about 5 inches in length and breadth, put upon tins, and bake in a slow oven.

II. *Brown*.—The method of making is the same as for the white, and the composition is the dough used for gingerbread. The flat cakes, when rolled and cut to shape, should be brushed over with water, and this suffered to dry before baking. When taken out of the oven, the various cakes of both kinds are to be placed upon each other, and a weight put upon them till cold, to keep them flat.

PARMENTIER'S SALAD VINEGAR.

Dried tarragon, savory, chives, and shallots, of each 3 oz., tops of dried mint and of baln, a handful each, vinegar 1 gallon. Steep for a fortnight in a warm place, strain and squeeze.

PARMESAN, TO IMITATE.

Let the day's milk be heated to the degree of 120° of Fahrenheit, then removed from the fire until all motion ceases. Put in the rennet, allow an hour for the coagulation, after which set the curd on a slow fire until heated to 150°, during which the curd separates in small lumps. A few pinches of saffron are then thrown in, together with cold water sufficient to reduce it instantly to a bearable heat, when the curd is collected, by passing a cloth beneath it, and gathering it up at the corners. Place the curd in a circle of wood without a bottom; lay it on a table covered by a round piece of wood, pressed down by a heavy stone. The cheese will acquire sufficient consistence in the course of a night to bear turning, when the upper side is to be rubbed with salt, and continued alternately for forty days. In Italy, the outer crust is next cut off, and the new surface varnished with linseed oil; but that may well be omitted, as well as coloring one side of it red.

PAROLIC, OR UNIVERSAL CEMENT.

Curdle skim milk, press the whey out of it, break the curd into small pieces, and dry it, until it becomes fit to grind in a coffee mill to a coarse powder; 100 oz. of fresh

curd, by drying, is reduced to about 30. Take perfectly dried curd 10 oz., strong quick-lime, in powder, 1 oz., camphor, also powdered, 2 scruples. Mix, and put immediately into wide-mouthed small phials, which, when full, must be carefully stopped. When to be used, take as much as is wanted, mix with a little water, and apply directly; when dry, neither water nor acids have any effect upon it.

PARSNIP WINE.

I. Boil 1 bushel of sliced parsnips in 60 quarts of water one hour, then strain it, add 45 lbs. of lump sugar, boil one hour more, and when cold, ferment with yeast, that done, add a quart of brandy and bottle.

II. To each gallon of water add 4 lbs. of parsnips, washed, peeled, and boiled till tender, drain, but do not bruise them, for then there will be very great difficulty in making the wine clear. To each gallon of the liquor add 3 lbs. of loaf-sugar and $\frac{1}{2}$ oz. of crude tartar, and when cooled to the temperature of 75°, put in a little new yeast; let it stand four days in a tub in a warm room, tun it, bung it up when the fermentation has ceased. March and October are the best seasons to make it in. It should remain twelve months in the cask before it is bottled.

PASSOVER CAKES.

These are the unleavened bread of the Jews, and are made as thin as possible, and of a very large size. First mix and prepare a dough of 4 lbs. of flour with 1 lb. of water, roll it out very thin, and about 10 inches in diameter, dock it well on both sides, and bake in a very hot oven.

PASTE FOR BOOK-BINDERS, ETC.

Ordinary flour paste is made by beating up into a smooth thin batter a little wheat-flour with cold water, when mixed, pour upon it boiling water to the quantity of a pint to every table-spoonful of flour used; stir it up all the time of mixing, and if it is made in a small quantity only, it will be necessary to give it a boil up before using. When it is required very strong, as for book-binders, shoe makers, &c., it is necessary to mix with it, before boiling, either alum to the amount of $\frac{1}{8}$ the flour used, or else $\frac{1}{4}$ or $\frac{1}{2}$ of rosin; alum also makes it keep much better.

Imperishable.—The following directions for making a paste, that will keep for any length of time, are from Dr. M'Culloch:—He says, "that which I have long used in this manner, is made of flour in the usual way, but rather thick, with a proportion of brown sugar and corrosive sublimate. The use of the sugar is to keep it flexible, so as to prevent its scaling off on smooth surfaces,

and that of the corrosive sublimate, independently of preserving it from insects, is an effectual check against its fermentation. This salt, however, does not prevent the formation of mouldiness, but as a drop or two of the essential oils, viz. lavender, peppermint, anise, bergamot, &c., is a complete security against this, all the causes of destruction are effectually guarded against. Paste made in this manner, and exposed to the air, dries into the state of horn, and it may be wetted at any time for use."

We advise all persons to use alum instead of that deadly poison, corrosive sublimate. It answers the same purpose as effectually, and cannot occasion injury to children, who would find the above, with its sugar and peppermint, too inviting.

PASTILES.

I. *A la Rose.*—Gum arabic 1 oz., gum olibanum 1 oz., storax 1 oz., nitre $\frac{3}{4}$ oz., charcoal powder 6 oz., oil of roses 20 drops. The above mixture is to be thickened with $\frac{1}{4}$ oz. of gum tragacanth, dissolved in rose water, and the whole pounded and made into a paste.

II. *For Religious Incense.*—Ambergris 8 drachms, powder of rose leaves 4 drachms, gum benzoin 2 oz., essence of roses 1 oz., gum tragacanth 1 oz., and a few drops of the oil of red sanders wood. (See *Fumigating*.)

III. *Common.*—Gum benzoin 1 lb., cloves $\frac{1}{2}$ oz., cinnamon 2 drachms, a stick of calamus aromaticus, mucilage of gum to mix.

IV. *De Portugal.*—Cake left in making angel water, mixed up into a paste with gum water, made by dissolving gum tragacanth in orange flower-water; then dissolve 20 grains of ambergris in 3 oz. of mille-fleurs water, and add this to the former.

PATCHOULI, ESSENCE OF.

Indian patchouli leaves 2 lbs., rectified spirits of wine 9 pints, water 1 gallon; macerate for a week, frequently shaking the vessel, then distil over 1 gallon.

PATENT CEMENT.

A mixture of lime, clay, and oxide of iron, separately calcined and reduced to fine powder, are to be intimately mixed. It must be kept in close vessels, and mixed with the requisite quantity of water when used.

This cement is useful for coating the joinings of the wood of which the pneumatic trough is composed, in order to render it water tight, and for other purposes of a like nature.

PATENT INK.

Logwood shavings and powdered galls, of each 2 lbs., pomegranate bark 4 oz., green vitriol 1 lb., gum arabic 8 oz., water 1 gallon.

There appears in this receipt too little water.

PATENT MUSTARD.

Black pepper 12 lbs., common salt 18 lbs., water 15 gallons. Boil, strain, and to each gallon add 5 lbs. of flower of mustard.

PATENT YELLOW.

Common salt 1 cwt., litharge 4 cwt., ground together with water. Keep for some time in a gentle heat, water being added to supply the loss occasioned by evaporation. The salt will be decomposed, its acid, the muriatic, uniting with the litharge or lead, while its other constituent, soda, is left free. This must be well washed out by repeated washings with fresh water. The white sediment that remains is lastly heated, until it becomes of a fine yellow color.

PAULINE CONFECTION.

Tedoary, cinnamon, long pepper, black pepper, styrax, galbanum, opium, and Russian castor, of each 2 oz., simple syrup, boiled to the consistence of honey, 4 lbs.

PAVILION CAKES.

Make a dough of flour $1\frac{1}{2}$ lb., butter $\frac{1}{2}$ lb., loaf-sugar $\frac{1}{2}$ lb., 2 eggs, a little milk, a few drops of the essence of lemon, $\frac{1}{4}$ oz. of volatile salts. Roll this dough into a sheet, $\frac{1}{8}$ inch in thickness, and cut it out with a plain round cutter of $3\frac{1}{2}$ inches in diameter, put these cakes so as not to touch each other on a tin, brush the tops of them over with egg, well beat up, and then cover the tops with bits of almonds and sugar, in equal quantity, the sugar and almonds being about the size of peas, press down the almonds a little, remove upon other tins, slightly buttered, and bake in a moderately-warm oven.

PAYEN'S ALCOHOL.

Mix a little caustic magnesia with the strongest spirits of wine that can be procured, put it by for some time, that the magnesia may take up any acetic acid that may be contained in the spirit. Now filter and distil the spirit twice in a water bath from $\frac{1}{10}$ its weight of high-dried chloride of lime.

PEACH BLOSSOMS, SYRUP OF.

Peach blossoms 1 lb., warm water 3 lbs., soak for a day, press out, and repeat the infusion with fresh flowers four times more. Strain, and to 3 pints of the liquor add $2\frac{1}{2}$ lbs. of sugar; boil to a syrup. This is mildly cathartic, and in America, where wild peach trees are abundant, it is administered to children.

PEARL POWDER.

I. Take 4 oz. of the best magistery of bismuth, and 2 oz. of fine starch powder. Mix them well together, and putting them into a funnel-shaped glass, wide at top and narrow at bottom, pour over them $1\frac{1}{2}$ pint of proof spirit, and shake them well; let them remain a day or two. When the powder falls to the bottom, pour off the spirit, leaving it dry; then place the glass in the sun, to evaporate the moisture. Next turn out the white mass, the dirty parts of which form the top, whilst the pure ingredients remain at the bottom. If there be any dirty

particles, scrape them off, and again pulverize the remaining part of the cake, and pour more proof spirit over it. Proceed as before; and, if there be any moisture remaining, place the cone on a large piece of smooth chalk, to absorb its moisture. Cover the whole with a bell-glass, to preserve it from dust, and set it in the sun to dry and whiten it. Next grind the mass with a muller on a marble stone, and keep the powder in a glass bottle, secured by a ground stopper, from air.

II. Dissolve nitrate of bismuth in water, or else the metal itself in dilute nitric acid, then add weak salt and water, until the whole of the bismuth is precipitated; collect, wash, and dry the powder with great care.

III. Take of the above powder any quantity, and mix up intimately the same quantity of French chalk. This gives a satiny gloss to the delicate white of the other.

PEARL SOFT SOAP.

It is only a few years since the process for making this elegant soap became known. It differs little from ordinary soft soap, and owes its beautiful aspect merely to minute manipulation. Weigh out 20 lbs. of purified hog's lard on the one hand, and 10 lbs. of potash lye on the other. Put the lard into an earthenware vessel, gently heated upon a sand bath, stirring it constantly with a wooden spatula; and when it is half melted, and has a milky appearance, pour into it only one-half of the lye, still stirring, and keeping up the same temperature, with as little variation as possible. While the saponification advances gradually, we shall perceive, after an hour, some fat floating on the surface, like a film of oil, and at the same time the soapy granulation falling to the bottom. We must then add the second portion of the lye; whereon the granulations immediately disappear, and the paste is formed. After conducting this operation during four hours, the paste becomes so stiff and compact, that it cannot be stirred. It must then gradually cool, and afterwards beaten strongly in a marble mortar, along with the essence of bitter almonds, when it will be fit for sale.

PEARL WATER.

Put $\frac{1}{2}$ lb. of the best Spanish oil soap, cut or scraped very fine, into 1 gallon of boiling soft water; stir the whole well, and let it stand till cold; then add 1 quart o. rectified spirits of wine, and $\frac{1}{2}$ oz. of oil o. rosemary, and mix it thoroughly. It is reported excellent as a cosmetic, and for removing freckles.

PEARLS, DISCOLORED, TO WHITEN.

Soak them in hot water, in which some bran with a little tartar and alum have been boiled; rub them gently between the hands,

which may be continued until the water grows cold, or until the object is effected, when they may be rinsed in lukewarm water, and laid on writing paper in a dark place to cool.

PEARS, TO DRY.

Pare the pears and leave the stalks on; cover them with water, and either boil in a brass kettle, or stew in earthenware, until they are tender; then lay them upon old dishes, and put them into a slow oven to dry; turn them frequently, that all parts may dry equally. When done, put them in paper bags, and hang them in a dry place, or keep them in tin cannisters or boxes. Reserve the water in which the fruit is boiled, and by constantly using this for the succeeding operation, a syrup is obtained, which gives a gloss to the fruit, as if sugar was used. Sugar is not needed.

PEARS, TO PRESERVE.

Take $\frac{1}{2}$ peck of pears, pare them, and, leaving the eyes and stalks on, put them into a pan with as much boiling water as will cover them; add a pint of damson syrup; let them boil until they are tender, then put them into jars. Take the liquor in which they were boiled, and add to it $\frac{1}{2}$ of sugar, and boil and pour it over them. Repeat this on the second day, and on the third do the same, putting in the other $\frac{2}{3}$ of sugar. Let it boil until it is perfectly clear, and pour it hot upon the fruit; when cold, put brandied paper over them, and tie closely; $2\frac{1}{2}$ lbs. of sugar is the quantity for $\frac{1}{2}$ peck of fruit. (See *Apple*.)

PECTORALS.

Those medicines are called pectorals, which have particularly a tendency to soothe the pain and allay the irritation occasioned by coughs, colds, slight inflammation, and those minor disorders which are so apt to attack the throat and chest. The following are of this class, to which may be added the pectoral and cough remedies:—

I. *Elixir*.—Balsam of tolu 2 oz., gum benzoin $1\frac{1}{2}$ oz., saffron $\frac{1}{2}$ oz., rectified spirits of wine 1 quart.

II. *Linctus*.—Spermaceti and Spanish juice, of each 8 oz., water sufficient to soften the liquorice. Make a thin electuary, and add honey 3 lbs., oil of anniseed 1 oz.; mix well. A popular and excellent demulcent.

III. *Lozenges*.—Flower of sulphur 6 drachms, flower of benzoin $\frac{1}{2}$ drachm, gum arabic and Florentine iris root, of each 3 drachms, anisetted balsam of sulphur 1 drachm, sugar 18 oz. Mix up with mucilage of gum tragacanth.

IV. *Pills*.—Powdered ipecacuanha and squills, of each 4 scruples, acetate of morphia 16 grains, Castile soap 1 oz. Mix, and divide into 192 pills, of which from 1 to 3 may be taken two or three times a day.

PENCIL DRAWINGS, TO PRESERVE.

I. Get a pan or tub, sufficiently spacious to admit the drawing horizontally; fill it with clean water, and run the drawing through it in that direction; then lay it on something flat to dry. Do not lay the drawing, while wet, on any colored wood, such as mahogany, &c., which will stain the paper in streaks. This will take off the loose lead.

II. Fill the same vessel a second time, with rather more than $\frac{1}{4}$ new milk, and the remaining part clean water, through which run the drawing again horizontally, and leave it to dry as before. Should milk be scarce, mix a little, in the proportions above-mentioned, in a tea-cup, and run the drawing lightly over with a camel-hair pencil.

PENNYROYAL, ESSENCE OF.

Spirits of wine 2 pints, color with spinach, strain and add oil of pennyroyal 3 oz.

PENNYROYAL WATER.

I. Dried herb $1\frac{1}{2}$ lb. to 1 gallon of proof spirit.

II. Oil of pennyroyal 7 scruples, spirits of wine $4\frac{1}{2}$ pints, water 6 pints; distil off 1 gallon.

PEPPER, ELECTUARY OF.

Black pepper and liquorice root in fine powder, of each 1 lb., fennel 3 lbs., honey and white sugar of each 2 lbs.—mix.

PEPPER SALVE.

Hog's lard 1 lb., black pepper 4 oz. This is very stimulant and irritating; it is applied occasionally to indolent tumours, &c.

PEPPER, TINCTURE OF.

Soak 4 oz. of black pepper for three or four days in 1 lb. of spirits of wine. Then strain.

PEPPERMINT CORDIAL.

Take 13 gallons of rectified spirit, 1 in 5 under hydrometer proof, 12 lbs. of loaf sugar, 1 pint of spirit of wine, that will fire gunpowder, 15 pennyweights of oil of peppermint, and as much water as will fill up the cask, which should be set up on end, after the whole has been well roused.—Sufficient for 20 gallons.

PEPPERMINT DROPS.

Sugar 2 lbs., peppermint water 4 oz., made into drops. Essence of peppermint may be used instead of peppermint water if they are wanted very warm.

PEPPERMINT, ESSENCE OF.

I. Spirits of wine 1 pint, put into it 1 oz. of prepared kali, previously heated; decant and add $\frac{1}{2}$ oz. of oil of peppermint.

II. Oil of peppermint 1 lb., strong spirits of wine 2 gallons, color with dried peppermint leaves 8 oz.

III. Oil of peppermint 3 oz., spirits of wine, colored with spinach, 2 pints.

PEPPERMINT LOZENGES.

I. Sugar 2 lbs., starch 2 oz., essence of peppermint a few drops—mix up with solution of gum tragacanth.

II. White sugar 4 lbs., oil of peppermint 6 drachms.

III. White sugar $14\frac{1}{2}$ drachms, melt in a ladle, add white sugar $1\frac{1}{2}$ drachm, mixed previously with 45 drops of essence of peppermint.

IV. White sugar 6 oz., oil of peppermint 36 drops, whites of 2 eggs—rub together, and form into lozenges.

PEPPERMINT, OIL OF.

Obtained from the dried plant; 4 lbs. of the fresh herb will yield 3 drachms. In general it requires rectifying to render it bright and fine. It is stimulant and carminative.

PEPPERMINT, SPIRIT OF.

I. Soak $1\frac{1}{2}$ lb. of the dried leaves in 1 gallon of proof spirit for three or four days—then filter.

II. Oil of peppermint $6\frac{1}{2}$ scruples, spirits of wine $4\frac{1}{2}$ pints, water to make up a gallon.

PEPPERMINT WATER.

I. Take of the herb of peppermint, dried, $1\frac{1}{2}$ lbs., and of water as much as is sufficient to prevent burning—distil off a gallon. This has been known to allay sickness when nothing else would succeed, and is used in flatulent colics. A wine-glassful may be taken, and often repeated.

II. Take of oil of peppermint 1 lb., water a sufficient quantity. Draw off 30 gallons. This is stimulant and carminative, and covers disagreeable flavors.

PERCUSSION CAPS, PRIMING FOR.

One of the compounds used for this purpose depends for its quality upon the chlorate of potass. 10 parts of gunpowder are rubbed with water, and the soluble part poured off; the remaining paste is then mixed with $5\frac{1}{2}$ parts of the chlorate of potass, and a drop of it put into each of the small copper caps adapted to the peculiar nipple of the touch-hole of the gun; a blow being struck upon the cap, the powder is inflamed, and communicates to that in the barrel. The great disadvantage of this compound is, that it forms products which soon rust the touch-hole and surrounding parts; fulminating mercury is therefore now generally substituted.

This powder must not be handled when dry, as it is very apt to explode with the slightest friction.

PERFUME FOR SCENT BOXES, ETC.

I. Coriander seeds, Florentine iris root, rose leaves, and calamus aromaticus, of each 4 oz., lavender flowers 8 oz., musk 1 scruple, rosewood 1 drachm.

II. Coriander seeds, Florentine iris root, rose leaves of each 1 oz., of mace and cloves, each 1 drachm, calamus aromaticus root 1 oz., lavender flowers 1 oz., 4 drachms, musk 3 grains.

PERMANENT WHITE.

This valuable pigment, the white color of which is not tarnished by sulphuretted hydrogen, or any other fume, and therefore used to paint upon chemical bottles, &c., is the sulphate of baryta, obtained by adding carbonate of baryta to the sulphate of potass, or when wanted in large quantities, it is made by purifying the native sulphate of baryta, an abundant natural product, called also *Heavy Spar*, *Ponderous Spar*, and *Marmor Metallicum*.

PERPETUAL INK.

Pitch 3 lbs., melt over the fire, then add lamp black 1 lb.—mix well. Used in a melted state to fill the letters on tombstones, &c.

Black sealing wax is used to fill the letters of door plates, &c., rubbed on the plate while hot, and afterwards cleaned off and oiled.

PERRY.

A fermented liquor made from pears, in the same manner as cider is from apples. (See *Cider*.)

PERSIAN CREAM.

Take $\frac{1}{2}$ pint of almond emulsion, 1 drachm of essence of almonds, 4 grains of bichloride of mercury, and $\frac{1}{2}$ oz. of spirits of wine, with any perfume.

PERUVIAN BALSAM, EMULSION OF.

Balsam of Peru 4 drachms, oil of almonds 6 drachms, powdered gum 1 oz.—mix and add cautiously 6 oz. of rose water.

PETER'S PILLS.

Aloes, jalap, scammony, and gamboge, of each 2 oz.

PEW'S CEMENT.

Powdered quicklime 1 part, and powdered baked clay 2 parts. Mix, and then add 1 part of freshly-baked and pounded plaster of Paris to 2 other parts of clay; when mixed put them with the former mixture, stir all well up. It is mixed, and applied like mortar.

PEWTER.

I. *Common*.—Melt in a crucible 7 lbs. of tin, and when fused, throw in 1 lb. of lead, 6 oz. of copper, and 2 oz. of zinc. This combination of metals will form an alloy of great durability and tenacity; also of considerable lustre.

II. *Best*.—The best sort of pewter consists of 100 parts of tin and 17 of regulus of antimony.

III. *Hard*.—Melt together 12 lbs. of tin, 1 lb. of regulus of antimony, and 4 oz. of copper.

PHIAL GLASS.

I. *Best*.—Take of white sand 120 lbs., of unpurified pearl-ashes 50 lbs., common salt 10 lbs., arsenic 5 lbs., and magnesia 5 oz.

This will be a very good glass for the purpose, and will work with a moderate heat, but requires time to become clear, on account of the proportion of arsenic; when, however, it is once in good condition, it will come very near to the crystal glass.

II. *Common*.—Take of the cheapest kind of white sand 120 lbs., wood ashes, well burnt and sifted, 80 lbs., of pearl-ashes 20 lbs., common salt 15 lbs., and arsenic 1 lb.

This will be green, but tolerably transparent, and will work with a moderate fire, and vitrify quickly with a strong one.

PHOSPHORIC ALCOHOL.

Boil a grain of phosphorus in 1 oz. of spirits of wine, or with spirits of turpentine, and a sufficient quantity of phosphorus will be dissolved to render the fumes above the liquid luminous, whenever the cork is withdrawn from the containing phial.

PHOSPHORIC ETHER.

Boil a grain of phosphorus in 1 oz. of sulphuric ether, contained in a phial; enough will be dissolved to render the ether luminous when exposed to the air. Cork the phial, and the phosphorescent appearance will cease; to be renewed each time the vessel is uncorked.

PHOSPHORIC OIL.

I. Dissolve 1 grain of phosphorus in a table-spoonful of olive oil in a test tube, by means of the heat of a water-bath. The phosphorus will dissolve but slowly. When it is dissolved, the liquid must be kept in a well-closed phial. A few drops of the oil rubbed over the face, hands, or clothes, will appear quite luminous in the dark, and so also will be the contents of the bottle itself, when uncorked.

II. Instead of olive oil, use the oil of lavender, lemon, or rather essential oil. Set the tube or phial aside for a day or two, when the phosphorus will be dissolved; this substance having the property of dissolving in hot fixed oil, or cold essential oil. The effect is as by the last method.

PHOSPHORIC WRITING.

Insert a small piece of phosphorus into the end of a quill. Holding the quill in the hand, write upon a wall with the phosphorus; the characters will in the dark appear luminous. A basin of cold water must be at hand to quench the flame, should the phosphorus become inflamed, which it is very likely to do, in consequence of the heat arising from the friction.

PHOSPHORUS BOTTLES.

I. Phosphorus 2 drachms, lime 1 drachm; mixed together, put into a loosely-stopped

phial, and heat before the fire, or in a ladle of sand for about half an hour.

II. Phosphorus 1 drachm, white wax 15 grains; put it into a bottle under water, and melt them together; let the water cool, and as the mixture begins to grow solid, turn the bottle round, so that the sides may become coated.

PHOSPHURET OF SULPHUR.

Put some shreds of phosphorus in a phial or flask, and with them about an equal quantity of pulverized sulphur; pour water upon this mixture, and put it over a lamp or on a sand-bath; when the water arrives at a temperature sufficient to melt the phosphorus, the union of that with the sulphur will commence and continue, until a perfect sulphuret is formed. This experiment requires caution, as at the time of union of the substances, if the heat be not very moderate, an explosion will probably ensue. This substance ignites with the least degree of friction, it may therefore be used to advantage in the manufacture of *lucifer* matches, and for this purpose, as the presence of oxygen is of little moment, it is only necessary to melt together 2 parts of sulphur to 3 of phosphorus, by putting them in a cup and immersing the lower part of the cup in boiling water, the water however not flowing into it. For the sake of safety, it should be damped with weak gum water before applied to the matches. It must be kept in a stoppered phial, otherwise it becomes changed into phosphorus acid, and deposits sulphur.

PHOTOGRAPHIC PAPER.

I. *Talbot's first method*.—Take superfine writing paper, and dip it into a weak solution of common salt, and wipe it dry, by which the salt is uniformly dispersed throughout its surface. Then spread a solution of nitrate of silver on one surface only, and dry it at the fire. The solution should not be saturated, but 6 or 8 times diluted with water; when dry, the paper is fit for use.

II. To render this paper more sensitive, it must be again washed with salt and water, and afterwards with the same solution of nitrate of silver, drying it between times.

III. *Cooper's receipt*.—Soak the paper in a boiling hot solution of chlorate of potass for a few minutes; the strength of the solution is of little consequence. Then take it out, dry it, and wet it with a brush on one side with nitrate of silver, 60 grains to 1 oz. of water, or if not required to be very sensitive, 30 grains to the oz. will do.

This paper has a very great advantage over any other, for it can be fixed by washing with common water. It is, however, very apt to become discolored, even in the making, or shortly afterwards, and is besides not so sensitive, nor becomes so dark as that made with common salt.

iv. *Daguerre's receipt*.—Immerse a sheet of thin paper in hydrochloric (or as it is commonly called muriatic) ether, which has been kept sufficiently long to have become acid; the paper is then carefully and completely dried, as this is stated to be essential to its proper preparation. The paper is then dipped into a solution of nitrate of silver (the degree of concentration of which is not mentioned,) and dried, without artificial heat, in a room from which every ray of light is carefully excluded. By this process it acquires a very remarkable facility in being blackened on a very slight exposure to light, even when the latter is by no means intense.

This paper rapidly loses its extreme sensitiveness to light, and finally becomes not more readily acted upon by the solar beams, than paper dipped in nitrate of silver only.

v. *Golding Bird's receipt*.—This is a modification of Mr. Talbot's process. It consists in using 200 grains (nearly $\frac{1}{2}$ oz.) of salt to a pint of water, soaking the paper in it, taking off the superfluous moisture between the folds of bibulous paper, or by a cloth; while still damp, to be washed on one side with a solution of 20 grains of fused nitrate of silver (lunar caustic) in 1 oz. of water, and hung up in a dark room to dry.

This, Mr. B. observes, produces a rich mulberry tint.

PHOTOGENIC DRAWINGS, TO MAKE.

Place upon a flat surface a piece of the photogenic paper, with the prepared side upwards, upon this the object is to be delineated, cover it with a piece of flat glass, (plate glass is the best;) expose this to diffused daylight, or still better, to the direct rays of the sun, when that part of the paper not covered with the object will immediately become tinged with a violet color; and if the paper be good, in a few minutes pass to a deep brown, or bronze black color. It must then be removed, as no good will be obtained by keeping it longer exposed; on the contrary, the delicate parts yet uncolored will become in some degree affected. The photogenic paper will now show a more or less white and distinct representation of the object chosen.

It must be evident, that the closer the contact of the paper and object, the finer will be the outline. To accomplish this, it is common to take a book cover, or a piece of wood, and lay upon it first 3 or 4 folds of flannel, or what is better, a pad of cotton wadding, the paper, object, and glass upon this, and to tie them together as tightly as possible, or else to place moderately heavy weights upon the corners of the glass.

PHOTOGENIC, DRAWINGS, TO FIX.

i. To do this with certainty is most difficult. Mr. Talbot says, "That to dip the drawings into a saturated solution of salt and water is sufficient to fix them, that is, to prevent change when the finished drawings should afterwards be subjected to light."

This receipt may succeed occasionally, but it does not always, though certainly it retards, at all times, further discoloration.

ii. Iodide of potassium, or as it is more frequently called, hydriodate of potass, dissolved in water, and very much diluted, is a more useful preparation to wash the drawings with; it must be very weak, or it will not only dissolve the unchanged muriate as is intended, but the blackened oxide also, and the drawing be thereby spoiled.

iii. The most certain material to be used is one of the hyposulphites, as proposed by Sir W. Herschell, who, very many years since, showed the peculiar effects of these salts in decomposing the nitrate, muriate, and carbonate of silver. Washing the photogenic drawing with a solution of hyposulphite of soda, no matter as to the strength of the solution, the muriate which lies upon the lighter parts of it will become changed so much in their nature, as to become unalterable to light, while the rest remains dark as before.

Before using either of these preparations for fixing the drawings, they should be soaked for a minute or two in hot water, which of itself removes a large portion of the muriate of silver that is to be got rid of.

PICCALILLI, OR INDIAN PICKLE.

White cabbages sliced, cauliflowers pulled to pieces and scalded, French beans, apples, and cucumbers sliced, whole gherkins, small onions, and any other vegetables, are all placed in a jar, slightly salted, mixed with rather a large proportion of pepper, mustard, ginger, and other spices, and covered with very strong vinegar.

PICROMEL.

To bullock's gall add a solution of sugar of lead, as long as any sediment falls; filter, add subcarbonate of lead; wash the sediment, dissolve in weak acetic acid, and pass through the solution hydro-sulphuric acid gas, filter, and evaporate the liquor nearly to dryness; re-dissolve in water, and add a small quantity of strong alcohol to make it keep. It is used to distinguish the acetate of lead from the sub-acetate.

PICTURE FRAMES, GILDING OF.

The surface to be gilt must be carefully covered with a strong size, made by boiling down pieces of white leather or clippings of parchment, till they are reduced to a strong jelly. This coating being dried, 8 or 10 more must be applied; the size being mixed with a small quantity of whiting. The last coat is composed of size and massicot, or sometimes yellow ochre. Let it dry thoroughly, and then damp the surface a little at a time with a damp sponge, and apply the gold leaf before this dries. It will immediately adhere, and when dry, those parts which are to be brilliant, are to be burnished with an agate or dog's-tooth burnisher.

PICTURES, TO CLEAN.

Having taken the picture out of its frame, take a clean towel, and making it quite wet, lay it on the face of your picture, sprinkling it from time to time with clear soft water; let it remain wet for two or three days. Take the cloth off and renew it with a fresh one; after wiping your picture with a clean wet sponge, repeat the process till you find all the dirt soaked out of your picture; then wash it well with a soft sponge, and let it get quite dry; rub it with some clear nut or linseed oil, and it will look as well as when fresh done.

PICTURE VARNISH.

I. Mastic 12 oz., Scio turpentine 2 oz. 4 drachms, camphor 30 grains, pounded glass 4 oz., oil of turpentine $3\frac{1}{2}$ pints. Let the mastic dissolve with frequent agitation, then, after settling for some hours, pour off the clear part for use.

This is fit for oil paintings, but is apt to chill, or turn milky.

II. Copal varnish 2 lbs.—heat it, and pour it into a mixture of turpentine $1\frac{1}{2}$ lb., and lyeing oil $\frac{1}{2}$ lb.

This dries slowly, but never chills. For prints, the best varnish is Sandarac.

PIERRE DIVINE.

A nostrum used for tooth-ache, composed of 3 oz. of burnt alum, mixed with 1 oz. of solution of ammonia, and colored with 20 grains of vermilion.

PILES, OR HÆMORRHOIDS.

The piles consist of small tumours situated on the verge of the anus, which are sometimes separate, round, and prominent, but sometimes the tumour is like a ring around that part. In some cases there is a discharge of blood, particularly when the patient goes to stool, when the disease is known as the bleeding piles, and in other cases there is no discharge, when it is called the blind piles. The piles are a very common complaint with persons who lead a sedentary life, especially those who are given to sensual indulgences, and recur with such persons periodically, two, three, or more times a year. They may be brought on also by hard riding, costiveness, the medicine aloes, or anything which draws the blood to those parts, or impedes its circulation through them. The piles are not dangerous, but always most inconvenient, and generally attended with great soreness and pain. In curing them, regard must be had to keep the bowels open with gentle aperient medicines, such as Seidlitz powders, Epsom salts, and particularly a mixture of 1 oz. each of cream of tartar and sulphur, mixed into an electuary with treacle; a tea-spoonful of the mixture may be taken two or three times a day. As a local application, nothing perhaps is better than to anoint them

twice a day with ointment of nut galls, or dabbing the parts now and then with tincture of catechu and laudanum. The application of this last, if used, is to be but seldom, because being astringent and sedative, the frequent use would interfere with the aperient effects of the medicine which is taken internally. When very painful, a fomentation of poppy-heads is advisable. The following are the best remedies:—

I. Take of galls, in powder, 2 drachms, hog's-lard $\frac{1}{2}$ oz. Mix into an ointment, to be applied by means of lint to the external piles, taking, at the same time, the following:—Quassia, in raspings, 2 drachms, boiling water 1 pint. Let it remain three hours, then strain; to 7 oz. of the strained liquor, add aromatic confection 1 drachm, ginger, in powder, 2 scruples. Take of this mixture 2 table-spoonful, at twelve and seven every day.

II. *Electuary*.—Take of the electuary of senna $1\frac{1}{2}$ oz., washed flowers of sulphur 4 drachms, vitriolated kali, in powder, 1 drachm, syrup of roses, as much as is sufficient. Make into an electuary, of which take the size of a nutmeg, going to bed, as may be required.

This is an excellent remedy for persons who have the piles, or are subject to their return.

III. *Ointment*.—(a) Carbonate of lead 4 drachms, sulphate of morphia 15 grains, stramonium ointment 1 oz., olive oil sufficient to bring to a proper consistence.—(b) Spermaceti ointment 8 oz., powdered galls 1 oz., powdered opium 1 drachm, solution of diacetate of lead $1\frac{1}{2}$ drachm.

PIMENTO, SPIRIT OR TINCTURE OF.

Bruised allspice $2\frac{1}{2}$ oz., proof spirit 1 gallon, water 1 quart. It is carminative and stomachic, used in various mixtures.

PINCHBECK.

Pure copper 5 oz., and zinc 1 oz. The copper must be first melted before the zinc is added.

PINE-APPLE ICE.

I. Take 1 lb. of fresh pine apple, $\frac{1}{2}$ pint of syrup, in which a pine has been preserved, 2 or 3 slices of pine apple cut in small dice, and the juice of 3 lemons. Pound or grate the pine apple, pass it through a sieve, mix, and freeze.

II. Take 8 oz. of preserved pine apple, 4 slices cut in small dice, 1 quart of cream, the juice of 3 lemons, and sufficient syrup from the pine to sweeten it. Pound the preserved pine, mix the lemons with the cream, and freeze.

III. Take $\frac{1}{2}$ pint of pine syrup, 1 pint of water, the juice of 2 lemons, and 3 or 4 slices of preserved pine cut into small. Mix and freeze.

iv. Take 1 lb. of pine apple, 1 pint of syrup, $\frac{1}{2}$ pint of water, and the juice of 2 lemons. Cut the pine in pieces, and put it into a stew-pan with the syrup and water, and boil until tender; pass it through a sieve, add the lemon juice, with 2 or 3 slices of the pine cut in small dice. Mix, and freeze when cold.

These may be made with preserved fruit as well as fresh fruit.

PINK SAUCERS, PINK DYE.

I. Safflower previously washed in water, until it no longer gives out any color, and dried, 8 oz., subcarbonate of soda 2 oz., water 2 gallons. Infuse, strain, add French chalk 4 lbs., scraped fine with Dutch rushes, and precipitate the color upon it with citric or tartaric acid.

II. Washed safflower 2 drachms, subcarbonate of potash 18 grains, spirits of wine 7 drachms; digest for two hours, add distilled water 2 oz.; digest for two hours more, add distilled vinegar or lemon juice, sufficient to reduce it to a fine rose color. This is used as a cosmetic, and to dye silk stockings.

PINKS, SYRUP OF.

Clove pinks $1\frac{1}{2}$ lb., water $2\frac{1}{2}$ pints, sugar 3 lbs. Let the flowers be fresh gathered, cut off the white points of the petals, and weigh them. First pound the flowers in a marble mortar with a little water, add the rest of the water to it, let it stand twenty-four hours, then strain, and add the sugar.

PIN WHEELS.

First roll some paper pipes, about 14 inches long each; these pipes must not be made thick of paper, 2 or 3 rounds of elephant paper being sufficient. When your pipes are thoroughly dried, you must have made a tin tube, 12 inches long, to fit easy into the pipes; at one end of this tube fix a small conical cup, which done, is called a funnel; then bend one end of one of the pipes, and put the funnel in at the other, as far as it will reach, and fill the cup with composition; then draw out the funnel by a little at a time, shaking it up and down; and it will fill the pipe as it comes out. Having filled some pipes, have made some small blocks, about 1 inch diameter, and $\frac{1}{2}$ inch thick, round one of these blocks wind and paste a pipe, and to the end of this pipe join another, which must be done by twisting the end of one pipe to a point, and putting it into the end of the other, with a little paste; in this manner join 4 or 5 pipes, winding them one upon the other, so as to form a spiral line. Having wound on your pipes, paste 2 slips of paper across them, to hold them together; besides these slips of paper, the pipes must be pasted together.

PISTACHIO CREAM.

Beat $\frac{1}{2}$ lb. of pistachio nut kernels in a mortar, with a table-spoonful of brandy. Put them into a pan with a pint of good cream, and the yolks of 2 eggs, beaten fine. Stir it gently over the fire, till it grows thick, and then put it into glasses, or a china soup plate. When it is cold, stick it over with small pieces of the nuts, and send it to table.

PITCH OINTMENT.

I. *Simple*.—Black pitch, wax, and rosin, of each 9 oz., olive oil 16 oz. Melt together, and stir till cold. Used in eruptions, scald head, &c.

II. *Compound*.—(a) Mix with the above a like quantity of acetate of lead ointment. —(b) Tar $\frac{1}{2}$ lb., wax $\frac{1}{2}$ oz., flowers of sulphur 2 oz. Used in itch, ring-worm, &c. Commonly called *Edinburgh Ointment*.

PIT-COAL BLACK.

A black pigment, made by grinding down the ordinary pit-coal, particularly that which is called cannel coal, or other sort that has a shining fracture.

This affords one of the most useful black, or rather brown colors, the artist can place on his palette, being remarkably clear, not so warm as Vandyke brown, and serving as a shade for blues, reds, or yellows, when glazed over them. Coal, when burnt to a white heat, then quenched in water, and ground down, gives an excellent blue-black.

PITH BALLS, FOR ELECTRICAL USES.

Procure some of the thick young shoots of the common elder tree, cut them into lengths between the joints, and push out the pith of each length with a piece of round wood, which must be as near as possible the size of the hole where the pith is. Dry this pith for use. When wanted for balls, cut out each ball moderately-true with a pen-knife, and to round them more perfectly, and take off the rough edges, roll them very gently with a circular motion, on a smooth table, but not so hard as to compress the balls.

PLAGUE WATER.

Leaves of mint $\frac{1}{2}$ lb., leaves of angelica, horehound, and wormwood, of each 4 oz., proof spirit $1\frac{1}{2}$ gallon. Distil, and draw off while good.

PLASTER OF PARIS, TO CAST IN.

This process requires at all times two operations;—first, the preparation of the moulds—secondly, casting from them. These moulds may be of sulphur for small objects, (see *Sulphur*), or of plaster for large objects; or when the mould must, of necessity, be in several pieces. Various modifications of the process will be found under the words *Face*, *Mould*, *Medallion*, *Wax*, &c. &c.

I. *To prepare the moulds*.—Take a small piece of wadding, make it damp with clean sweet oil, and rub it over the face of the

sulphur mould, making this wet with oil, but not so wet as that the oil shall lay upon it in drops, or fill up the cavities; a uniform thin surface of oil being all that is requisite. When you have oiled a number of the moulds in this way, (say 20 of them,) surround each with a strip of hard paper, and fasten the end of it with paste or a wafer. The moulds will now be ready for use.

II. *To cast upon them.*—Pour some water in a basin to about 3 parts full, and sprinkle into it as much of the plaster as you think will suffice for the moulds which have been prepared, to cover each $\frac{1}{4}$ inch in thickness. When the plaster has been sprinkled in, pour off all the water which floats above it, and with a spoon (not iron) stir up the plaster, which will now be found as thick as honey; put about a tea-spoonful into each of the moulds; and as quickly as possible afterwards brush it with a small stiff-haired brush into all the depressions of the mould. This is best done by holding the brush upright, and slightly beating the plaster with the points of the hairs. Then immediately afterwards, and before the plaster begins to set, or to get hard, fill up each mould to the requisite thickness, and as each is filled, take it up in the left hand, (supposing the spoon to be in the right,) and tap the bottom of it gently upon the table four or five times, merely to shake the plaster down evenly, so as to present a level surface at the top, and to prevent holes appearing upon the face. The cast is now completed, and will in a few minutes become sufficiently hardened to be removed from the mould, when it will only require trimming with a knife around the edges, and gradually drying. Oiling the moulds each time, any number of casts may be made in the same manner.

The time which plaster of Paris takes to set varies extremely; when very fresh, it will be perhaps five minutes; when rather more stale, it will often set so rapidly, that it is extremely difficult to use it quick enough. When still longer kept, it will gradually lose its power of setting altogether; and not only so, but become rotten and wholly unfit for the purposes of the caster.

PLASTER CASTS, POLISHING OF.

I. Put into 4 lbs. of clear water, 1 oz. of pure curd soap, grated and dissolved in a well-glazed earthen vessel; then add 1 oz. of white bees'-wax, cut into thin slices; as soon as the whole is incorporated, it is fit for use. Having well dried the figure before the fire, suspend it by a twine, and dip it once in the varnish; upon taking it out, the moisture will appear to have been absorbed in two minutes' time; stir the compost, and dip it a second time, and this generally suffices. Cover it carefully from the dust for a week, then with soft muslin rag, or cotton wool, rub the figure gently, when a most brilliant gloss will be produced.

II. Take skimmed milk, and with a camel's hair pencil, lay over the model till it holds out, or will imbibe no more. Shake or blow off any that remains on the surface, and lay it in a place perfectly free from dust; when dry, it will look like polished marble, and answers equally well with the former, except it is put outside the house in wet weather. If the milk is not carefully skimmed, it will not answer.

III. Fuse $\frac{1}{2}$ oz. of tin, with the same quantity of bismuth, in a crucible; when melted, add $\frac{1}{2}$ oz. of mercury, and when perfectly combined, take the mixture from the fire and cool it. This substance, mixed with the white of an egg, forms a most beautiful varnish for plaster of Paris casts.

PLASTER FIGURES, BRONZING OF.

When water color is used, the work must be sized over, until it will *bear out*, that is, until the moisture will stand upon the surface, and not sink immediately in. The books in general recommend size made from isinglass, but good, clear, common glue, is much cheaper, and will answer equally well. After the cast or sculpture has been properly sized, it is ready to receive the color; this is prepared by grinding Prussian blue, yellow ochre, and lamp black, in some weak size. The colors ought to be ground separately, and afterwards mixed together, as the Prussian blue requires more grinding than either of the others; and because they may afterwards be so mixed, as to produce any tint required. The color must be spread evenly over the article to be bronzed, and allowed to dry. When it is dry, dip a brush into some thin oil gold-size, scrape the brush, so that but little of the size may remain in it, and pass it over the figure, so as just to moisten every part; it is then to be put by until it becomes *tackey*, that is, until the finger will adhere to, but not be moistened by the size; it is then ready to receive the bronze powder. When gold-size is not at hand, a little japanned varnish, or even fat oil, diluted with spirits of turpentine, will answer the purpose. Sometimes the bronze powder is applied without the intervention of any adhesive matter, excepting the size contained in the water color. It must then be rubbed on before the color is perfectly dry.

PLATE GLASS, COMPOSITION OF.

I. White sand 100 parts, carbonate of lime 12, soda 45 to 48, fragments of glass of like quality 100, oxyde of manganese $\frac{1}{4}$.

II. Lynn sand, previously well washed and dried, 720 parts, alkaline salt, containing 40 per cent. of soda, 450 parts, lime, slacked and sifted, 80 parts, nitre 25 parts, cullet or broken plate glass 425 parts.

PLATE POWDER.

I. Quicksilver with chalk 1 oz., prepared chalk 7 oz.

II. Polisher's putty and burnt hartshorn, of each $\frac{1}{2}$ lb., prepared chalk 1 lb.

Polisher's putty is white oxide of tin.

III. Mix together equal parts of cream of tartar, common salt, and alum. A little of this powder added to water, very much brightens plated goods boiled in it.

PLATED ARTICLES, TO CLEAN.

The plate ought to be free from grease; wash it, therefore, in boiling water, and if it have rough edges, brush it well before beginning to clean it. The leathers should be soft and thick; the sponge well soaked in water before using it. Use the plate powder, or whiting, either wet or dry; if wet, do not put it on too much plate at once; rub it, if plain, with the bare hand. Small articles, such as spoons and forks, can be done between the finger and thumb. The longer plate is rubbed, the better it will look. When done enough, brush the whiting or powder from out of the crevices and crests of the plate, and from between the prongs of the forks very carefully. Be careful also not to rub the salt and tea spoons, and other small articles, too hard, lest they should break or bend. Keep a clean leather to finish rubbing the plate with, after it is brushed, and let it be dusted with a linen cloth before it is put upon the table. Plated articles require even more care than silver ones; they should be cleaned with soft brushes, not too often, and never with any thing but plate powder, not even whiting by itself; do not wet them more than can be helped, or they will tarnish; nor brush them more than is necessary, or the silver will come off; the best thing for them is spirits of wine or oil, and take care that no plated articles remain long dirty or damp, for if they do, they will rust, in case they are plated on steel, and canker, if plated on copper. Wash the brushes after the plate is cleaned with warm water and soap, do them quickly, and then set them to dry, with the wooden side uppermost, as that takes the most drying, and the bristles are apt to come out if the wood remain long wet.

PLATINIZE, METAL GOODS TO.

Solid chloride of platinum 1 part, dissolved in 100 parts of water, and to this solution, add common salt 8 parts. This mixture is to be heated, and the vessels, after having been cleaned and made bright, being placed in the solution for a few minutes, will become covered with a complete coat of platinum.

PLATINUM MOIR, OR SPONGY PLATINUM.

Melt platina ore with double its weight of zinc, reduce the alloy to powder and treat

it first with dilute sulphuric acid, and next with dilute nitric acid, to oxidize and dissolve out all the zinc. The remainder is the platinum moir, or spongy platina, which becomes incandescent, when exposed to the fumes of spirits of wine, to hydrogen, and other inflammable gases and vapours.

PLATINUM OINTMENT.

Perchloride of platinum 1 drachm, extract of belladonna 2 drachms, lard 4 oz.; mix together.

PLIABLE VARNISH FOR UMBRELLAS.

Take any quantity of caoutchouc, as 10 or 12 oz., cut it into small bits with a pair of scissors, and put in a strong iron ladle, (such as that in which plumbers or glaziers melt their lead,) over a common pit-coal or other fire, which must be gentle, glowing, and without smoke. When the ladle is hot, put a single bit into it; if black smoke issues, it will presently flame and disappear, or it will evaporate without flame; the ladle is then too hot. When the ladle is less hot, put in a second bit, which will produce a white smoke; this white smoke will continue during the operation, and evaporate the caoutchouc; therefore no time is to be lost, but little bits are to be put in, a few at a time, till the whole are melted; it should be continually and gently stirred with an iron or brass spoon. The instant the smoke changes from white to black, take off the ladle, or the whole will break out into a violent flame, or be spoiled or lost. Care must be taken that no water be added, a few drops only of which would, on account of its expansibility, make it boil over furiously, and with great noise; at this period of the process, 2 lbs. or 1 quart of the best drying oil is to be put into the melted caoutchouc, and stirred till hot, and the whole poured into a glazed vessel through a coarse gauze, or wire sieve. When settled and clear, which will be in a few minutes, it is fit for use, either hot or cold. The silk should be always stretched horizontally by pins or tenter-hooks on frames, (the greater they are in length the better,) and the varnish poured on cold in hot weather, and hot in cold weather. It is perhaps best always to lay it on when cold. The art of laying it on properly consists in making no intestine motion in the varnish, which would create minute bubbles, therefore brushes of every kind are improper, as each bubble breaks in drying, and forms a small hole, through which the air will transpire.

PLOMBIERE ICE, OR SWISS PUDDING.

Take $1\frac{1}{2}$ pint of cream, and $\frac{1}{2}$ pint of milk, and make them into a custard with 7 yolks of eggs, flavor it with curaçoa, maraschino, or rum, freeze the custard, and add about $\frac{1}{2}$ lb. dried cherries, orange, lemon

and citron peel, and currants, and mix them together in the iced custard. Prepare a mould shaped like a melon, by strewing the inside with dried currants, fill it with the mixture and freeze in fresh ice mixed with salt. This is served up to the dessert in a dish with a sauce of custard, flavored with brandy, it is cut with a silver knife and eaten with spoons.

PLUKNET'S OINTMENT FOR CANCER.

White arsenic, flowers of sulphur, flowers of ranunculus flammula, flowers of the stinking chamomile, made into a paste with white of egg. A dangerous remedy.

PLUKNET'S OINTMENT.

Crow-foot 1 handful, dog's fennel 3 sprigs, pound well, add flour of sulphur and white arsenic of each 3 small thimblesful, beat well together, form into bolusses and dry in the sun, then powder them, and for use mix with yolk of egg, spread a little on a small piece of pig's bladder, size of half-a-crown, and apply to the sore, and allow it to remain till it falls off of itself.—Used once in cancer.

There cannot be a stronger sarcasm on the old method of prescribing than this dangerous ointment, where arsenic is measured by the thimbleful, and the acrid crow-foot by the handful.

PLUMS, TO PRESERVE.

Plums are preserved in the same manner as apricots, which may be referred to. The proportion of sugar is about equal to that of the fruit. Large plums, such as the Orleans, greengage, magnum bonum, and egg plums, may be first boiled in a little water, then wiped dry; their stones, where possible, removed by rubbing the fruit through a coarse sieve. A few of the stones may be broken, and the kernels added to the jam, when boiling. Bullace and damsons are not boiled in water, nor have their stones separated.

PLUMMER'S CEMENT.

Melt black rosin 1 lb., then stir in from 1 to 2 lbs. of brick-dust. Sometimes a little tallow is added.

PLUMMER'S PILLS.

Take of calomel 1 drachm, sulphate of antimony 1 drachm, gum guaiacum 2 drachms. Mix these assiduously with mucilage, and divide into 60 pills, 2 pills forming a dose. To be taken at night. These are alterative, diaphoretic, purgative, and beneficial in cutaneous eruptions, &c.

PLUMMER'S POWDER.

Calomel and sulphuret of antimony, equal parts. An alterative medicine.

POLLARD OAK.

Either burnt umber, or Vandyke brown, makes an excellent pollard oak color. The color in this case, unlike wainscot, (see *Oak*)

should be laid on unevenly, or darker in some places than in others, after the character of the wood; a coarse sponge, moistened, and assisted by the cutter, produces the effect very well. When the masses of color are properly disposed with the sponge and cutter, it must be softened off with the badger-hair tool, and the knots put in with the end of a hog-hair fitch, by holding the handle between the thumb and fore-finger, and twisting it round; these knots may afterwards be assisted with a camel-hair pencil. A few small veins are frequently found in pollard-oak; these may be wiped off in the same manner as for wainscot. When this is dry, the second or upper grain may be put on: this grain occurs in almost all the woods except light oak and rose-wood; indeed, it is the proper grain of the wood, with the above exceptions. Some of the first color diluted will do for this second grain. To put on this grain, the thin, flat hog-hair brush should be dipped into the color, and the hairs must be combed out to straighten and separate them. As soon as the grain is put on, the softener should be passed lightly across the grain, in one direction only; this will make one edge of grain soft and the other sharp, as it occurs in the wood. When the second grain is dry, it may be varnished.

POLYCHRESTUM, ELIXIR OF.

Gum guaiacum 6 oz., balsam of Peru $\frac{1}{2}$ oz., rectified spirits of wine, 1 quart. Digest for four days and strain.

POMAMBRA, OR SWEET BALLS.

I. Florentine iris root $1\frac{1}{2}$ oz., cinnamon $\frac{1}{2}$ oz., cloves, rosewood, and lavender flowers of each 2 drachms, ambergris and musk of each 3 grains, mucilage of gum tragacanth made with rose-water enough to make the rest into a paste. It is worn in the pocket as a perfume.

II. Plaster of Paris 2 oz., sandal-wood, root of the round cyprus, cloves, each 2 drachms, benzoin, styrax and calomus aromaticus each $\frac{1}{2}$ oz., ivory black $1\frac{1}{2}$ oz., civette, and musk each $\frac{1}{2}$ scruple, Peruvian balsam 2 drachms, oil of cinnamon 5 drops, oil of rosewood 15 drops, essence of jasmine 1 drachm, essence of neroli 1 scruple, mix up into a paste with mucilage of gum tragacanth, made with rose water. These are made up into beads, pierced while wet with a large needle, strung as a necklace and dried.

POMATUM.

I. *Common*.—Take 4 lbs. of fresh and white mutton suet, skinned and shredded very fine, which melt in about 2 quarts of spring water, and whilst hot, put the whole into a well-glazed earthen pan, small at bottom and wide at the top. Let it stand until the fat is quite cold, and all the im-

purities fall to the bottom, which carefully scrape off. Now break the fat into small pieces, which put into a pan, with 2 gallons of spring water, for a whole day; stir and wash often. Next day change the water, and when poured off a second time, at the end of twenty-four hours, dry the fat by rubbing in a clean linen cloth. Now put the suet, with $1\frac{1}{2}$ lb. of fresh hog's-lard, into a large pan, and melt the whole over a gentle fire. When properly combined, put the whole into an earthen pan, and beat it with a wooden spatula, until cold. Whilst beating, add 6 drachms of essence of lemon, and 30 drops of oil of cloves, previously mixed together. Now continue beating, until the mixture be perfectly white, and afterwards put it up into small pots. Leave the pots open until the pomatum is quite cold; when cover them by pieces of bladder, &c. In summer, use more suet, and mix in a cool place; in winter use more hog's-lard, and make the pomatum in a warm room.

II. *Hard*.—Take 30 lbs. of suet, $1\frac{1}{2}$ lbs. of white wax, 6 oz. of essence of bergamot, 4 oz. of lemon, 1 oz. of lavender, 4 drachms of oil of rosemary, and 2 drachms of essence of ambergris. Shred and pick the suet clean, and melt it in an earthen pan or pipkin; then stir it well and strain, and when nearly cold, add the perfumes, stirring well as before; when properly mixed, pour it into tin moulds.

III. Take 6 oz. of common pomatum, and add to it 3 oz. of white virgin wax, scraped fine. Melt them in an earthen pan, immersed in a large one, containing boiling water, both being placed over a clear and steady fire. When properly incorporated, keep stirring, until it is nearly cold, then put it into small pots, or make it up into small rolls. Perfume it according to taste.

IV. *Soft*.—Take 25 lbs. of hog's-lard, 8 lbs. of mutton suet, 6 oz. of oil of bergamot, 4 oz. of essence of lemons, $\frac{1}{2}$ oz. of oil of lavender, and $\frac{1}{4}$ oz. of oil of rosemary. These ingredients are to be combined in the same manner as those for the hard pomatum. This pomatum is to be put up in pots, in the usual way.

POMATUM, SCENTS FOR.

I. Oil of lavender 14 oz., oil of cloves 1 oz., oil of marjoram 2 oz., gum benzoin 20 oz.

II. Essence of bergamot and essence of lemon, of each 12 oz., oil of cloves and oil of marjoram, of each 3 oz., gum benzoin 20 oz.

III. Essence of bergamot 1 lb., essence of lemon 8 oz., oil of marjoram and oil of cloves, of each 2 oz., oil of orange $1\frac{1}{2}$ oz.

IV. *Cowslip Scent*.—Essence of bergamot 1 lb., essence of lemon $\frac{1}{2}$ lb., oil of cloves 4 oz.

V. *Jonquil Scent*.—Essence of bergamot and essence of lemons, of each $\frac{1}{2}$ lb., oil of cloves 2 oz., oil of sassafras and oil of orange, of each 1 oz.

VI. *Mille-fleurs Scent*.—Essence of lemons 3 oz., essence of ambergris 4 oz., oil of cloves and oil of lavender, of each 2 oz.

PONGIBOU SNUFF.

Yellow snuff scented with orange flowers 1 lb., civette 12 grains, sugar sufficient to grind the civette to a powder, then add essence of neroli 4 drachms. Snuff will not bear more than this quantity of essence without being greasy.

PONTEFRAC LOZENGES.

The same as refined liquorice, but made up into small flat cakes or drops. They generally contain $\frac{1}{2}$ part of gum arabic or the commoner kind of glue. These last are apt to get soft in damp weather.

PONTIFF'S SAUCE.

Soak slices of veal, ham, sliced onions, carrots, parsnips, and a head of white celery: add 1 glass of white wine, as much good broth, 1 clove of garlic, 4 shalots, 1 clove, a little coriander, and 2 slices of peeled lemons. Boil on a slow fire till the meat is done; skim it and sift in a sieve; add a little catsu, and a small quantity of fine chopped parsley, just before it is used.

POPLAR BUDS OINTMENT.

I. Bruised poplar buds 1 part, lard 3 parts, boil and strain.

II. Bruised poplar buds 12 oz., fresh leaves of poppies, henbane, belladonna and common nightshade of each 8 oz., lard $4\frac{1}{2}$ lbs. Both emollient and stimulant, afterwards sedative.

POPPY LOZENGES.

Extract of poppies 3 oz., sugar 15 oz. powdered gum tragacanth 2 oz.—mix with rose water into a stiff paste, cut into shape and dry. These are used to allay the tickling sensation of a cough.

POPPY OIL, TO GIVE A DRYING QUALITY TO.

Into 3 lbs. of pure water put 1 oz. of sulphate of zinc, (white vitriol) and mix the whole with 2 lbs. of the oil of pinks, or poppy oil. Expose this mixture in an earthen vessel capable of standing the fire, to a degree of heat sufficient to maintain it in a slight state of ebullition. When one-half or two-thirds of the water has evaporated, pour the whole into a large glass bottle or jar, and leave it at rest till the oil becomes clear. Decant the clearest part by means of a glass funnel, the beak of which is stopped with a piece of pork: when the pletely effected, remove the cork stopper, separation of the oil from the water is complete and supply its place by the fore-finger, which must be applied in such a manner as to

suffer the water to escape, and to retain only the oil. Poppy-oil when prepared in this manner becomes, after some weeks, exceedingly limpid and colorless.

POPPIES, SYRUP OF.

I. Poppy heads without the seeds 14 oz., boiling water $2\frac{1}{2}$ gallons, boil to one-half, press out the liquor with a strong pressure, boil again to 2 pints, strain while hot, boil again to 1 pint, and dissolve in it 2 lbs. of white sugar.

II. Poppy heads broken 5 lbs. 4 oz., water 2 gallons, sugar 35 lbs.

This is very tedious to make, so that the syrup of opium is generally sold for it. The above are made from white poppies; the following from red poppies.

III. Scald and press wild poppy flowers 1 lb., in 18 oz. of boiling water, press out the liquor, let it settle, decant, and add white sugar $2\frac{1}{2}$ lbs.

IV. Flowers 14 lbs., water 48 lbs., sugar 91 lbs.

This is narcotic, but is chiefly used to color medicines, it is much milder than opium.

POPPIES, TINCTURE OF.

Poppies, every part except the root, dried in the shade and powdered 4 oz., proof spirit 1 pint, digest a week and strain. Produces about 8 or 10 oz., and is about half the strength of tincture of opium.

PORCELAIN, OR CHINA.

Porcelain, or china, is a semi-vitrified earthenware, of an intermediate nature between common ware and glass. Chinese porcelain is composed of two ingredients, one of which is a hard stone, called *petunse*, which is carefully ground to a very fine powder; and the other, called *kaolin*, is a white earthy substance, which is intimately mixed with the ground stone. The former is of the silicious, and the latter of the aluminous genus. Several compositions of mingled earths may yield a true porcelain, by being burnt; and the porcelains of various countries differ in their mixtures. But the principal basis of any true porcelain is that kind of clay which becomes white by baking, and which, either by intermingled heterogeneous earth, or by particular additions, undergoes in the fire an incipient vitrification, in which the true nature of porcelain consists. Feldspar and gypsum, if added, may give that property to infusible clay. When porcelain is to be made, the clay is properly selected, carefully washed from impurities, and again dried. It is then finely sifted, and most accurately mingled with quartz, ground very fine; to which is added some burnt and finely-pulverized gypsum. This mass is worked with water to a paste, and duly kneaded; it is usually suffered to lie in this state for years. The vessels and other goods

formed of this mass are first moderately burnt in earthen pots, to receive a certain degree of compactness, and to be ready for glazing. The glazing consists of an easily melted mixture of some species of earths, as the *pestrosilex* or chert, fragments of porcelain and gypsum, which, when fused together, produce a crystalline, or vitreous mass, which, after cooling, is very finely ground, and suspended in a sufficient quantity of water. Into this fluid the rough ware is dipped, by which the glazing matter is deposited uniformly on every part of its surface. After drying, each article is thoroughly baked or burnt in the violent heat of the porcelain furnace. It is usual to decorate porcelain by paintings, for which purpose, enamels or pastes, colored by metallic oxides, are used, so easy of fusion, as to run in a heat less intense than that in which the glazing of the ware melts.

PORCELAIN, ENAMELS FOR.

I. Mix 100 parts of pure lead with from 20 to 25 of the best tin, and bring them to a low red heat in an open vessel. The mixture then burns nearly as rapidly as charcoal, and oxidates very fast. Skim off the crusts of oxide, successively formed, till the whole is thoroughly calcined. Then mix all the skimmings, and again heat as before, till no flame arises from them, and the whole is of an uniform grey color. Take 100 parts of this oxide, 100 of white sand, and 25 or 30 of common salt, and melt the whole by a moderate heat. This gives a greyish mass, often porous, and apparently imperfect, but which, however, runs to a good enamel when afterwards heated.

II. Melt together, pulverized feldspar 27 parts, borax 18 parts, sand 4 parts, potash, nitre, and potter's earth, each 3 parts; then add 3 parts of borax reduced to fine powder.

PORCELAIN, COLORS FOR.

Manganese produces the dark purple color; gold precipitated by tin a rose color; antimony an orange color; cobalt different shades of blue; copper is employed for the browns and dead-leaf greens; nickel and umber for fine browns; and nickel along with potass for greens.

PORT WINE, IMITATIVE.

I. Cyder 24 gallons, juice of elderberries 6 gallons, port wine 4 gallons, brandy $1\frac{1}{2}$ gallon, logwood 1 lb., isinglass 12 oz., dissolved in 1 gallon of the cyder. Bung it down, in two months it will be fit to bottle, but should not be drank till the next year. If a rough flavor be desired, from 4 to 6 oz. of alum may be added.

II. Cyder 36 gallons, elder wine and damson wine, of each 11 gallons, brandy 5 gallons.

PORT WINE, TO FINE.

Take the whites and shells of 8 fresh eggs, beat them in a wooden can or pail with a whisk, till it becomes a thick froth; then add a little wine to it, and whisk it again. If the pipe is full, take out 4 or 5 gallons of the wine to make room for the finings. If the weather be warm, add 1 pint of fresh-water sand to the finings. Stir it well about, after which put in the finings, stirring it for five minutes; put in the can of wine, leaving the bung out for a few hours, that the froth may fall; then bung it up, and in eight or ten days it will be fine and fit for bottling.

PORT WINE, TO IMPROVE.

If wanting body, color, and flavor, draw out 30 or 40 gallons, and return the same quantity of young and rich wines. To a can of which put 3 gills of coloring, with a bottle of wine or brandy. Then whisk it well together, and put it into the cask stirring it well. If not bright in about a week or ten days, fine it for use; previous to which put in at different times a gallon of good brandy. If the wine is short of body, put a gallon or two of brandy in each pipe, by a quart or two at a time, as it feeds the wine better than putting it in all at once. But if the wines are in a bonded cellar, procure a funnel that will go to the bottom of the cask, that the brandy may be completely incorporated with the wine.

PORTABLE GLUE.

Take 1 lb. of the best glue, boil and strain it very clear; boil likewise 4 oz. of isinglass, put it in a double glue-pot, with $\frac{1}{2}$ lb. of fine brown sugar, and boil it pretty thick, then pour it into moulds; when cold, cut and dry them in small pieces.

This glue is very useful to draughtsman, architects, &c., as it immediately dilutes in warm water, and fastens the paper without the process of damping.

PORTABLE SOUP.

Cut into small pieces 3 large legs of veal, 1 of beef, and the lean part of a ham. Lay the meat in a large cauldron, with $\frac{1}{2}$ lb. of butter at the bottom, 4 oz. of anchovies, and 2 oz. of mace. Cut small 6 heads of clean washed celery, freed from green leaves, and put them into the cauldron, with 3 large carrots cut thin. Cover all close, and set it on a moderate fire. When the gravy begins to draw, keep taking it off till it is all extracted. Then cover the meat with water, let it boil gently for four hours, then strain it through a hair sieve into a clean pan, till it is reduced to one-third. Strain the gravy drawn from the meat into a pan, and let it boil gently, until it be of a glutinous consistence. Take care and skim off all the fat as it rises. Watch it when it is nearly done, that it does not burn; next season it with cayenne pepper, and pour it on flat earthen dishes, $\frac{1}{4}$ inch thick. Let it stand till the

next day, and then cut it out by round tins larger than a crown piece. Set the cakes in dishes in the sun to dry.

PORTER, TO BREW.

I. Take a mixture of brown amber and pale malts, nearly in equal quantities, and turn them into the mash-tub in this order. Turn on the first liquor at 165°; mash one hour, and then coat the whole with dry malt. In one hour set the tap. Mix 10 lbs. of brown hops to the quarter of malt, half old and half new; boil the first wort briskly with the hops for three-quarters of an hour, and after putting into the copper 1 $\frac{1}{2}$ lbs. of sugar, and 1 $\frac{1}{2}$ lbs. of Leghorn juice (extract of liquorice) to the barrel, turn the whole into the coolers, rousing the wort all the time. Turn on the second liquor at 174°, and in an hour set tap again. This second wort having run off, turn on again at 145°; mash for an hour, and stand for the same; in the mean time boiling the second wort with the same hops for an hour. Turn these into the coolers as before, and let down into the tub at 64°, mixing the yeast as it comes down. Cleanse the second day at 80°, previously throwing in a mixture of flour and salt, and rousing thoroughly.

For private use, every quarter of malt ought to yield 2 $\frac{1}{2}$ barrels, but brewers would run 3 barrels to a quarter.

II. The following article is to be considered as applicable, when not less than 50 quarters of malt are used:—The liquor for the first mash should be heated in the copper to 150°, in the proportion of 2 barrels to each quarter of malt, which is to be an equal mixture of pale amber and brown malts. These are mashed about three-quarters of an hour; the liquor is then allowed to stand on the goods an hour. The top of the mash tun is next opened to let off the liquor as quickly as possible, and the top is to be left open till the next liquor is brought into the tun, and the goods may drain. During this, the second liquor has been heating, and may at two hours and three-quarters, or three hours from the beginning, have acquired the heat of 160°, the quantity being 1 barrel to a quarter of malt. Mash this half for three-quarters of an hour; let it stand one hour, and then let it be run off in the course of half an hour more; at about five hours and a half from the beginning, the third mash should be made at 180°; the quantity being 1 barrel to the quarter. Mash this half an hour, let it stand one hour, and tap as before. A fourth liquor is seldom mashed, but if it is, it may be cold or blood-warm, as it is of no use but to make the sour beer for finings, and it is of little consequence how it is done. Some brewers use it for the first liquor of the next brewing, but this is not perhaps a

good plan, as it often becomes foxed, and then it taints the whole brewing. These worts are to be boiled with from 12 to 14 lbs. of hops to the quarter of malt, if the liquor is intended for keeping eight or twelve months, but in the ordinary run of porter, not intended for keeping, 5 lbs. may be sufficient. The first wort should be boiled one hour, the second two hours, and the third four hours. The worts are now to be cooled down, as expeditiously as the weather will permit, to about 60°, if the medium heat of the atmosphere is about 60°; if it is more or less, allowance must be made as before directed. All the three worts are to be brought into the square together, and about 5 pints of yeast to the quarter of malt put in; the proportion of coloring is arbitrary, as it depends upon the coloring of the malt.

III. From Sugar and Malt.—To every quarter of malt take 100 lbs. of brown sugar, and in the result, it will be found that the sugar is equal to the malt. The quarter of malt is to be brewed with the same proportions, as though it were 2 quarters; and sugar is to be put into the tun, and the first wort let down upon it, rousing the whole well together. The other worts are then to be let down, and the fermentation, and other processes carried on as in the brewing of malt.

PORT-FIRES.

These are small thin cases, 2½ inches long and about ¼ inch diameter, (sometimes much larger,) not choked, but merely turned in at one end, and the composition rammed in quite to the other end. They are used in pyrotechnic devices of various kinds, and also attached to long sticks to fire other works. Their composition may be meal-powder 1 part, sulphur 2, and nitre 4; or meal-powder 3, sulphur 1, and nitre 3 parts. These may be made without cases, by rolling string or cotton well in either of the above compositions, damped with vinegar or turpentine, though then a small quantity of gum tragacanth should be added. Many persons put a little of this gum to the rocket stars, and with good effect.

Military.—A military port-fire is 16½ inches in length, and will burn from fourteen to sixteen minutes. The weight of 12 is 3 lbs. 12 oz. The composition is saltpetre 12 lbs., sulphur 4 lbs., cylinder-mealed powder 2 lbs.

Port-fires were made during the siege of Gibraltar in the following manner:—Two ounces of nitre were dissolved in a gallon of water, and sheets of soft brown paper dipped in the solution; these, when dry, were rolled up into a tight rope. Port-fires may be made also by boiling square rods of lime, birch, or poplar, in a solution of nitrate of lead for six hours, using 1 lb. of the nitrate to each quart of the water. The matches are then dried, and afterwards boiled in spirits of turpentine, they are then wiped and dried. A yard of this match burns three hours. (For similar preparations, see *Slow Match*.)

PORTLAND POWDER, FOR THE GOUT.

His Grace the Duke of Portland, who was an extreme sufferer from the gout, became acquainted with a medicine in Switzerland, for the cure of that inveterate disorder, and purchased the receipt for the benefit of his country. Of the powder which the Duke took himself, he gave directions for the composition and mode of preparation, gratuitously, to all who desired it, as follows:—Take of aristolochia rotunda, or birthwort root, the tops and leaves of gentian root, germander, ground pine, and centaury. Take of all these, well dried, powdered, and sifted fine, equal weight; mix them well together, and take 1 drachm of this mixed powder every morning fasting, in a cup of wine and water, broth, tea, or any other vehicle you like best; keep fasting an hour and a half after it; continue this for three months without interruption, then diminish the dose to ¾ drachm for three months longer; then to ½ drachm for six months more, taking it regularly every morning, if possible; after the first year, it will be sufficient to take ½ drachm every other day. As this medicine operates insensibly, it will perhaps take two years before you receive any great benefit, so you must not be discouraged, though you do not perceive at first any great amendment—it works slow, but sure; it does not confine the patient to any particular diet, so long as he abstains from those meats and liquors that have always been considered pernicious in the gout, as champagne, drams, high sauces, &c.

In rheumatism, which is not habitual, a few of the drachm doses may do; but if habitual, or of long duration, the powder must be taken as for the gout. The remedy requires patience, as it operates but slowly in both distempers.

PORTUGAL WATER.

Take 1 pint of orange-flower water, 1 pint of rose-water, and ½ pint of myrtle-water; to these put ½ oz. of distilled spirit of musk, and 1 oz. of spirit of ambergris. Shake the whole well together, and the process will be finished.

PORTUGAL CAKES.

Mix into 1 lb. of fine flour, 1 lb. of loaf sugar, beat and sifted, and rub it into 1 lb. of butter, till it is thick, like grated white bread; then put to it 2 spoonsful of rose-water, 2 of sack, and 10 eggs; work them well with a whisk, and put in 8 oz. of currants. Butter the tin pans, fill them half full, and bake them. If made without currants, they will keep a year.

POTATOES, TO PRESERVE.

1. Large quantities may be cured at once, by putting them into a basket as large as the vessel containing the boiling water will admit, and then just dipping them a minute or two at the utmost. The germ, which is so near

to the skin, is thus killed, without injuring the potatoe; and in this way several tons might be cured in a few hours. They should then be dried in a warm oven, and laid up in sacks or casks, secure from the frost, in a dry place.

11. Another mode of preserving this valuable root is, first to peel them, then to grate them down into a pulp, which is put into coarse cloths, and the water squeezed out by putting them into a common press, by which means they are formed into flat cakes. These cakes are to be well dried and preserved for use, as required.

This is an excellent and ingenious mode of preserving potatoes, although attended with too much trouble on a large scale.

POTATOES, FROSTED, TO USE.

If much frozen, lay them in cold water, and to each peck of potatoes take $\frac{1}{4}$ oz. of saltpetre dissolved in water, which mix with the fluid in which they are boiled; if the potatoes are so frozen, as to be quite unfit for nourishment, they will make starch, and will yield more flour than if uncorrupted by the icy power. This flour, with an equal quantity of wheat-flour, some butter, sugar, a little balm, and a few currants, makes excellent bread for tea. If formed into small cakes, and put into a slow oven, it will keep a month.

POTATOE BREAD.

I. Boil the potatoes not quite so soft as common, then dry them a short time on the fire, peel them while hot, and pound them as fine as possible, next put a small quantity of pearlash to new yeast; while it is working briskly, add as much rye, meal, or flour, as can be worked in. Mix the whole well together, but do not add any water to it. After the dough is thus prepared, let it stand an hour and a half or two hours, before it is put into the oven; observe it will not require so long baking as regular flour bread.

II. Take 5 lbs. of dried potatoe starch, and 5 lbs. of the pulp; dissolve a suitable quantity of leaven or yeast in warm water, the mixture being exactly made the night before; let it be all night in a kneading trough, well covered and kept warm until the next day—this is the second leaven; then add 5 lbs. more of starch, and the same quantity of pulp, and knead it well; the water must be in the proportion of $\frac{1}{2}$ part, that is, upon 20 lbs. of paste there must be 5 lbs. of water, which is to be used as hot as possible.

POTATOE JELLY.

To obtain this jelly in perfection, let a potatoe be washed, peeled, and grated; throw the pulp, thus procured, into a jug of water, and stir it well. Pass the mixture of pulp and water over a sieve, and collect the water,

which passes through into a basin. Let this stand for a few minutes, and a sufficient quantity of starch will have fallen for the purpose required. Pour off the water, and then keep stirring up the starch at the bottom of the basin, while boiling water is being poured upon it; and it will soon and suddenly pass to the state of a jelly. The only nicety required is to be careful that the water is absolutely boiling, otherwise the change will not take place. It does not require more than eight minutes to change a raw potatoe into a basinful of most excellent jelly, which has only to be seasoned with a little sugar, nutmeg, and white wine, to please the most fastidious palate.

POTATOE PASTE.

Potatoes, grated fine, 1 lb., water $2\frac{1}{2}$ pints, boil, and add powdered alum $\frac{1}{2}$ oz.

POT POURRI.

Put into a large china jar the following ingredients, in layers, with bay-salt strewed between the layers, 2 pecks of damask roses, part in buds and part blown, violets, orange flowers, and jasmine, a handful of each, orris root sliced, benjamin, and storax, 2 oz. of each, musk $\frac{1}{4}$ oz., angelica root, sliced, $\frac{1}{4}$ lb., 1 quart of the red parts of clove gilly-flowers, 2 handfuls of lavender-flowers, $\frac{1}{2}$ handful of rosemary-flowers, bay and laurel leaves, $\frac{1}{2}$ handful of each, 3 Seville oranges, stuck as full of cloves as possible, dried in a cool oven, and pounded, $\frac{1}{2}$ handful of knotted marjoram, and 2 handfuls of balm of Gilead, dried. Cover all quite close. When the pot is uncovered, the perfume is very fine.

POTS DES BRINS.

These are large paper cylinders, filled with powder, stars, sparks, &c. They are usually made of paste-board, and about 4 diameters long; they should be choaked at one end like common cases. They are generally exhibited in numbers, fixed on a plank of some kind, in the following manner:—On the under side of your plank, make as many grooves as you intend to have rows of pots, then at a little distance from each other, and exactly over the grooves, fix as many pegs, about three-fourths of one diameter high; then through the centre of each peg bore a hole down to the groove at bottom, and on every peg fix and glue a pot, the mouth of which must fit tight on the peg; then through all the holes run a quick-match, one end of which must go into the pot, and the other into the groove, which must have a match laid in it from end to end, and covered with paper, so that when lighted at one end, it may discharge the whole instantaneously. In each pot put about 1 oz. of mealed and corn powder, then put in some stars, and in others rain, snakes, serpents,

crackers, sparks, &c. When they are loaded, secure their mouths by putting paper over each.

When fired in considerable numbers, these pots des brins, from their affording so great a variety of fires, produce a most pleasing exhibition.

POUNCE.

This is used to brush over the surface of parchment to take off its greasiness, and also to prevent ink from sinking into the substance of paper, the sizing of which has been disturbed by the knife in scraping out. The liquid used on linen, previous to writing on it with marking ink, and to prevent the sinking of the ink, is called *Liquid Pounce*.

I. Gum sandarac, pounded very fine.

II. Cuttle-fish bone, dried, yellow rosin, and burnt alum, in equal quantities, and well mixed together.

III. *Liquid*.—Carbonate of soda 1 oz., and gum arabic 2 drachms, dissolved in 6 oz. of rain-water.

POUND CAKE.

I. Take 1 lb. each of sugar, butter, eggs, and flour, mixed into a paste with a tea-cupful of milk, $\frac{1}{2}$ oz. of sal volatile being added to make them light.

II. Take $1\frac{1}{4}$ lb. of butter, the same of loaf-sugar, 1 pint of eggs, $\frac{3}{4}$ oz. of volatile salt, a tea-cupful of milk, and 3 lbs. of flour.

III. Take 1 pint of eggs, 1 lb. of loaf-sugar, 6 oz. of butter, 2 lbs. of flour, $\frac{1}{2}$ oz. of volatile salt. Beat the butter to a cream in a smooth-glazed warm earthenware dish, stir in the sugar by degrees, then the eggs; also, gradually, before they are all in, add a part of the flour, and mix it with the remaining portion of the eggs well together; then dissolve the volatile salt in the milk, add a little of this and of the flour alternately, till the whole have been added, and until all the ingredients are well incorporated together. It may now be poured into buttered tins, surrounded by paper, filling them about 3 parts full, and sprinkling a few currants upon the top of each. The whole mixing should be completed as rapidly as possible, and the cakes immediately put into a slow oven. To know when it is done, thrust a small wooden skewer into it; if dry when taken out, the cake is done, if sticky, it must be baked longer.

IV. Beat 1 lb. of butter in an earthen pan until it is like a fine thick cream, then beat in 9 whole eggs till quite light; put in a glass of brandy, a little lemon peel, shred fine, then work in $1\frac{1}{4}$ lb. of flour; put it into the hoop or pan, and bake it for an hour. A pound plum cake is made the same, with putting $1\frac{1}{2}$ lb. of clean washed currants and $\frac{1}{2}$ lb. of candied lemon peel.

POWELL'S DIURETIC DROPS.

These are made of 4 oz. of oil of juniper in 1 pint of spirits of wine.

POWELL'S BALSAM.

Mix together 2 drachms of syrup of tolu, 1 oz. of paregoric elixir, and 2 oz. of liquorice.

PRADIER'S POULTICE FOR THE GOUT.

The following is said to have been purchased by the Emperor Napoleon for £2,500 for the use of the public. Balm of Mecca 6 drachms, red bark 1 oz., saffron $\frac{1}{2}$ oz., sarsaparilla 1 oz., sage 1 oz., rectified spirits of wine 3 lb. Dissolve separately the balm of Mecca in $\frac{1}{3}$ of the spirits of wine, macerate the rest of the substances in the remainder for 48 hours—filter, and mix the two liquors for use. The tincture obtained is mixed with twice or thrice the quantity of lime water. The bottle must be shaken in order to mix the precipitate which settles at the bottom. The following is the mode of applying the remedy:—A poultice must be prepared of linseed meal, which must be rather stiff, and spread very hot, of the thickness of a finger, on a napkin, so as to be able completely to surround the part affected; if it be required for both legs, from the feet to the knees, it will take about 3 quarts of linseed meal. When the poultice is prepared, and as hot as the patient can bear it, about 2 ounces of the prepared liquor must be poured equally over the whole of the surface of each, without its being imbibed; the part affected is then to be wrapped up in it, and bound up with flannel and bandages to preserve the heat. The poultice is generally changed every 24 hours, sometimes at the end of 12.

PRECIPITATE OINTMENT.

White.—In 2 oz. of subcarbonate of soda dissolve 3 scruples of white precipitate, 2 drachms of flour of sulphur, and $1\frac{1}{2}$ oz. of simple ointment.

Red.—Red precipitate 1 oz., mix with 2 oz. of white wax, and 6 oz. of melted suet.

PRESBURG ZWEIBACK, OR BISCUITS.

Make some long loaves out of dough made as for plain buns, without spice; make the dough rather tighter, and the leaves smaller, so that they may be about 2 inches wide when baked. Do not prove them too much, but let them be rather under than over-proved; when they are baked, cut them in slices an inch thick, and each slice again in two pieces. Then blanch equal parts of sweet and bitter almonds, and dry them in a gentle heat; pound them in a mortar with the same weight of loaf sugar, and sift it through a coarse wire sieve. What does not pass through, pound again as before; mix the sugar and almonds, when they have passed through the sieve, with the whites of eggs, into a thin paste, spread the eggs over the tops and sides of each piece with a knife, so as to give them a coating. Place them on

clean tins in rows about 2 inches apart, but nearly touching at the ends; bake them in a cool oven till the almond paste is done, then put them in the stove, and dry them well.

PRICKED BRITISH WINES, TO RESTORE.

I. Rack the wines down to the lees into another cask, where the lees of good wines are fresh; then put a pint of strong brandy, and scrape $\frac{1}{2}$ lb. of yellow bees'-wax into it, which by heating the spirit over a gentle fire, will melt; after which dip a piece of cloth into it, and when a little dry, set it on fire with a brimstone match, put it into the bung-hole, and stop it up close.

II. First prepare a fresh cask, that has had the same kind of wine in it which is about to be racked, then match it, and rack off the wine, putting to every 10 gallons, 2 oz. of oyster powder, and $\frac{1}{2}$ oz. of bay salt, then get the staff and stir it well about, letting it stand till it is fine, which will be in a few days; after which rack it off into another cask, (previously matched) and if the lees of some wine of the same kind can be got, it will improve it much.—Put likewise a quart of brandy to every 10 gallons, and if the cask has been emptied a long time, it will match better on that account; but if even a new cask, the matching must not be omitted. A fresh empty cask is to be preferred.

PRINCE RUPERT'S DROPS.

Let fall drops of melted glass into cold water; the drop assumes by that means an oval form with a tail or neck resembling a retort. They possess this singular property, that if a small portion of the tail is broken off, the whole bursts into powder, with an explosion; and a considerable shock is communicated to the hand that grasps it.

PRINCE'S CORDIAL.

I. For 3 gallons, take 2 quarts of cherry brandy, 1 quart of raspberry brandy, 1 quart of currant wine, 1 gallon of rectified spirits, 3 pints of syrup, and fill it up with water. Fine it with a little roche alum.

II. For 4 gallons, take 1 gallon of rectified spirit, add 1 quart of cherry brandy, 1 quart of red currant wine, 1 quart of orange wine, $\frac{1}{2}$ oz. of mace, $\frac{1}{4}$ oz. of cloves, $\frac{1}{4}$ oz. of cinnamon, $\frac{1}{2}$ oz. of coriander seeds, $\frac{1}{2}$ oz. of caraway seeds, 1 drachm of the oil of Seville orange peel, 1 drachm of the oil of lemon peel, and 2 quarts of syrup. Make it up to 4 gallons with boiling water, soaking the seeds and spices in the water, and the oils in the spirit for two or three days, then mixing altogether, and after fourteen days, straining or filtering the whole.

PRINTERS' INK.

I. Ten or twelve gallons of nut-oil or linseed oil are set over the fire in a large iron pot, and brought to boil. It is then stirred

with an iron ladle; and whilst boiling, the inflammable vapour arising from it, either takes fire of itself, or is kindled, and is suffered to burn in this way for about half an hour; the pot being partially covered, so as to regulate the body of the flame, and, consequently, the heat communicated to the oil. It is frequently stirred during this time, that the whole may be heated equally; otherwise, a part would be charred, and the rest left imperfect. The flame is then extinguished by entirely covering the pot. The oil, by this process, has much of its unctuous quality destroyed, and, when cold, is of the consistence of soft turpentine: it is then called varnish. After this, it is made into ink, by mixture with the requisite quantity of lamp black; of which, about $2\frac{1}{2}$ oz. are sufficient for 16 oz. of the prepared oil. The oil loses by the boiling about $\frac{1}{2}$ of its weight, and emits very offensive fumes. During the boiling add by degrees 3 oz. of turpentine soap, and 2 oz. of black rosin to every lb. of oil. Besides these additions, others are made by the printers, of which the most important is a little fine indigo in powder, to improve the beauty of the color.

II. One lb. of lamp black, ground very fine, or run through a lawn sieve, 2 oz. of Prussian blue, ground very fine, 4 oz. of linseed oil, well boiled and skimmed, 4 oz. of spirits of turpentine, very clear, 4 oz. of soft varnish, or neat's-foot oil. To be well boiled and skimmed, and while boiling the top burned off by several times applying lighted paper. Let these be well mixed, then put the whole in an iron pot, and boil them very carefully one hour.

III. In a secured iron pot boil 12 gallons of nut oil; stir with an iron ladle, having a long handle; while boiling, put an iron cover partly over, set the vapour on fire by lighted paper often applied, keep well stirring, and on the fire one hour at least, (or till the oily particles are burnt,) then add 1 lb. of onions cut in pieces, and a few crusts of bread, to get out the residue of oil; also, rosin varnish 16 oz., fine lamp black 3 oz., ground indigo $\frac{1}{2}$ oz. Boil well one hour. Canada balsam, or the balsam of copaiba, may be substituted for the varnish with advantage.

IV. Take 16 oz. of varnish, 4 oz. linseed oil, well boiled, 4 oz. clear oil of turpentine, 1 lb. lamp black, 2 oz. Prussian blue, and 1 oz. of indigo. Boil one hour.

PRINTING INKS, COLORS FOR.

Red.—Mineral orange red 2 oz., Chinese vermilion 1 oz.

Blue.—Cobalt blue 2 oz., Prussian blue 3 oz., with white-lead to form the tint required.

Green.—Mineral green $\frac{1}{2}$ oz., chrome green 4 oz.

Brown.—Burnt umber $\frac{1}{2}$ oz., rose pink 4 oz., English vermillion 2 drams.

Lilac.—Prussian blue $\frac{1}{4}$ oz., Indian red 3 oz.

Lilac Pink.—Rose pink 2 oz., satin white, or French chalk, 3 oz.

Orange.—Mineral orange 1 oz., chrome yellow 2 oz.

Black.—French black 4 lbs., lamp black $2\frac{1}{2}$ lbs., rock indigo 2 oz., Indian red 2 oz.

The above colors to be ground in printers' varnish, or oil, as prepared for ordinary printers' ink.

PRINTERS' ROLLERS.

To 8 lbs. of transparent glue, add as much rain or river water as will just cover it; and occasionally stir it during seven or eight hours. After standing for twenty-four hours, and all the water is absorbed, submit it to the action of heat, in a water bath, (that is, surrounded by water, as glue is generally heated,) and the glue will soon be dissolved. Remove it from the fire as soon as froth is seen to rise; and mix with it 7 lbs. of molasses, which has been previously made tolerably hot; stir the composition well together, in the water-bath, over the fire, but without suffering it to boil. After being thus exposed to the heat for half an hour, and frequently well stirred, it should be withdrawn from over the fire, and allowed to cool for a short time, previous to pouring it into a cylindrical mould, made of tin, tinned sheet-iron, or copper, having a wooden cylinder previously supported in the centre, by means of its end-pivots or gudgeons. After remaining in the mould at least eight or ten hours in the winter, and a longer time in summer, the roller is to be taken out of the mould, by means of a cord fastened to one of the gudgeons, and passed over a strong pulley fixed to the ceiling; but care must always be taken that the cylinder is drawn out slowly from the mould.

Old rollers are re-cast in the same manner; first taking care to wash them with a strong alkaline ley, and adding a small quantity of water and molasses. The best mode, however, of making use of the old composition, is, by mixing it with some new, made of 2 lbs. of glue, and 4 lbs. of molasses.

PRINTERS' TYPES.

Put into a crucible 10 lbs. of lead, and when it is in a state of fusion, throw in 2 lbs. of antimony; these metals in such proportions form the alloy of which printing types are made. The antimony gives a hardness to the lead, without which the type would speedily be rendered useless in a printing press. Different proportions of lead, copper, brass, and antimony, frequently constitute this metal.

Every artist has his own proportions, so that the same composition cannot be obtained from different foundries: each boasts of the superiority of his own mixture.

PRINTS, TO BLEACH.

Simple immersion in chlorine in water, letting the article remain in it, a longer or shorter space of time, according to the strength of the liquor, will be sufficient to whiten an engraving. If it be required to whiten the paper of a bound book, as it is necessary that all the leaves should be moistened by the acid, care must be taken to open the book well, and to make the boards rest on the edge of the vessel, in such a manner that the paper alone shall be dipped in the liquid; the leaves must be separated from each other, in order that they may be equally moistened on both sides. The liquor assumes a yellow tint, and the paper becomes white in the same proportion; at the end of two or three hours, the book may be taken from the acid liquor, and plunged into pure water with the same care and precaution, as recommended in regard to the acid liquor, that the water may touch both sides of each leaf. The water must be renewed every hour, to extract the acid remaining in the paper, and to dissipate the disagreeable smell.

PRINTS, TO COPY.

I. Take a piece of good transparent oil silk, and place it over the print, &c. that you wish to copy. Trace lightly, with a steel pen and good common ink; when the ink dries, breathe on it; if a large subject, hold it over the vapour of warm water for a few seconds; then place a piece of clean paper on the tracing, and rub it with the hand; on taking up the paper, an accurate copy will be found. Two copies can be taken from the same tracing.

II. Grind a piece of window-glass on one side; place the smooth side on the print, &c. and trace on the ground side with a good black-lead pencil. Place a piece of paper on the tracing, and rub briskly on it for a short time with a paper-knife; on taking up the paper, an accurate copy of all things delineated on the glass will be found on it. Two copies can be taken from the same tracing. Plans of machinery, &c., can be readily copied by either of these plans, also statues and engraved portraits, landscapes, philosophical apparatus, &c.

The silk can be washed with soap and water, or water slightly acidulated, so that it will last for several years. The glass can be washed with water; the copies can be colored with Indian ink, &c. When a copy is required perfectly similar in position to the original, proceed as follows:—Trace as usual, then turn the silk, and go over the tracings again on the other side; the copy from this will be in the same position as the original.

III. Take a piece of clean lanthorn-horn, lay it upon the print or picture you wish to take off; then with a crow-quill, dipped in Indian ink, draw every stroke of the outline upon the horn; when dry, breathe upon that side of the horn whereon you have made

your draft 3 or 4 times, and clap it directly on a piece of clean white paper, with the drawn side downwards; then, pressing it hard with the palm of your hand, the drawing will stick to your paper, and the horn come off clean.

This method is commonly practised by artists, and especially engravers, with a fine kind of hard and glassy paper, called horn paper. The engravers scratch every line which is visible through the paper, and then rub red lead or red ochre over the whole; when reversed, it leaves the color on the ground laid on the copper plate beneath, in the finest possible lines—infinately finer indeed than the lines made by the pen, especially as these spread by the pressure used in transferring.

IV. Take a sheet of the finest white paper, wet it over with clean linseed oil on one side, and wipe the oil off clean, then let it stand and dry, otherwise it will spoil a printed picture by the soaking through of the oil. Having thus prepared the paper, lay it on any printed or painted picture, and it may be seen perfectly through; then with a black lead pencil, copy with ease any picture on the oiled paper; then put it upon a sheet of clean white paper, and with a little pointed tracer or burnisher, go over the strokes drawn upon the oiled paper, and the same will be very neatly and exactly drawn upon the white paper.

V. The page or print is soaked in a solution first of potass, and then of tartaric acid. This produces a perfect diffusion of crystals of bi-tartrate of potass through the texture of the unprinted part of the paper. As this salt resists oil, the ink-roller may now be passed over the surface, without transferring any of its contents, except to the printed part.

PRINTS, TO TRANSFER TO WOOD.

First varnish the wood once with white hard varnish, which facilitates the transferring; then cut off the margins of the print, which should be on unsized paper; that is, paper that absorbs like blotting paper; and wet the back of it with a sponge and water, using enough water to saturate the paper, but not so as to be watery on the printed side. Then, with a flat camel-hair brush, give it a coat of transfer (spirits of wine) varnish on the printed side, and apply it immediately—varnished side downwards—on the wood-work, placing a sheet of paper on it and pressing it down with the hand, till every part adheres. Then, gently rub away the back of the print with the fingers, till nothing but a thin pulp remains. It may require being wetted again, before all that will come (or rather ought to come) off is removed. Great care is required in this operation, that the design or printed side be not disturbed. When this is done, and quite dry, give the work a coat of white hard varnish, and it will appear as if printed on the wood.

PRINTS, TO SIZE BEFORE COLORING.

Best pale glue and white curd soap, of each 4 oz., hot water 3 pints. Dissolve and then add 2 oz. of alum, powdered.

PRINTS, VARNISHES FOR COLORED.

I. Take 1 oz. of Canada balsam and 2 oz. of spirit of turpentine. Mix them together. Before this composition is applied, the drawing or print should be sized with a solution of isinglass in water, and when dry, apply the varnish with a camel's-hair brush.

II. Dissolve 1 oz. of the best isinglass in about a pint of water, by boiling it over the fire; strain it through fine muslin, and keep it for use. Try the size on a piece of paper moderately warm, and if it glistens, it is too thick; add more water. If it soaks into the paper, it is too thin; add or diminish the isinglass till it merely dulls the surface; then give your drawing 2 or 3 coats, letting it dry between each, being careful (particularly in the first coat) to bear very lightly on the brush, (which should be a flat tin camel's-hair,) and the size should flow freely from it, otherwise you may damage the drawing. Then take the best mastic varnish, and with it give at least 3 coats, and the effect will answer your most sanguine wishes.

This is the method used by many eminent artists, and is found superior to any that has been tried.

III. Dilute $\frac{1}{4}$ lb. of Venice turpentine with 1 gill of spirits of wine; if too thick, a little more of this last; if not enough, a little more of the former, so that you bring it to the consistence of milk; lay 1 coat of this on the right side of the print, and when dry, it will shine like glass. If it be not to your liking, you may lay on another coat.

PRIMROSE VINEGAR.

To 15 quarts of water put 6 lbs. of brown sugar; let it boil ten minutes, and take off the scum; pour on it $\frac{1}{2}$ peck of primroses; before it is quite cold, put in a little fresh yeast, and let it work in a warm place all night; put it in a barrel in the kitchen, and when done working, close the barrel, still keeping it in a warm place.

PROMETHEAN LIGHT BOXES.

The liquid is concentrated sulphuric acid. The bottle containing it is never opened except when it is to be used; for the acid, when exposed to the air, imbibes moisture very rapidly, and is soon spoiled. The matches are prepared as follows:—The ends of some small slips of light wood are dipped into a strong solution of gum, and afterwards into the mixture of chlorate of potass and sulphur, prepared by rubbing 2 grains of the former into a fine powder in a mortar, and adding 1 grain of flowers of sulphur, then mix them very accurately by well triturating them in the gentlest possible manner. The powder is fastened to the wood by

the gum, and the matches, when dry, are fit for use. Then take one end and dip it into the liquid, upon which it takes fire.

PROPRIETY, ELIXIR OF.

The old medicine, known as the elixir of propriety, is the same as the compound tincture of aloes. When rendered acid by sulphuric acid, it was called *Elixir Proprietatis cum acido*, and when made alkaline by the addition of salt of tartar, it was *Elixir Proprietatis tartarizatum*.

PRUNELLA, SALT OF.

Melt 1 lb. of saltpetre, inject upon it gradually 2 oz. of flowers of sulphur, and pour it into small pistol bullet moulds. Called sometimes *Sore Throat Salt*, being used to allay the inflammation of inflamed throats.

PRUSSIAN BLUE.

Previous to the making of this substance, an alkali must be prepared as follows:—Fixed alkali must be burnt in ox's blood, or with horn-shavings, or any other animal matter. The salt is now to be washed out. It is of an amber color, and has the scent of peach blossoms.

I. A solution of martial vitriol, and another of alum, are put together in a large glass, and the alkaline lye poured upon them. A greenish precipitate is thrown down. The liquor is filtered, in order to get the precipitate by itself, which is collected, and put into a glass cup. Upon pouring a little marine acid on this precipitate, it immediately acquires a fine blue color. This part of the process is called the brightening.

II. Prussian blue may be made without alum, in the following manner:—Pour a little of the alkaline lye into a glass, drop in an acid till no further effervescence ensues. Let a little of the solution of martial vitriol be poured into the lye, and a fine Prussian blue is formed that needs no brightening.

III. This color is also made in the following manner:—2 parts of purified potass are most intimately blended with 3 parts of dried finely-pulverized bullock's blood. The mass is first calcined in a covered crucible, on a moderate fire, until no smoke or flame appears; and it is after this brought to a complete, yet moderate ignition; or equal parts of potass and finely-powdered coals, prepared from bones, horns, claws, &c., are mingled, and heated in a covered crucible to a moderate redness. This done, either of these two calcined masses is, after cooling, lixiviated with boiling water, and the lixivium filtered. Now make a solution of 1 part of green vitriol and 2 parts of alum, and add to it, while yet hot, the above lixivium, little by little, and separate the greenish-blue precipitate, which then forms by means of a filter. If, afterwards, a slight quantity of diluted muriatic acid is affused upon this

precipitate, it assumes a beautiful dark blue color. The operation is terminated by edulcorating and drying the pigment thus prepared.

PRUSSIAN CAKES.

Take common dough with currants in it, and make it into a round flat cake, of any required size, place it on a buttered tin; when it is about half proved, divide it equally into any number of parts with a long flat piece of wood, having a thin edge; place it again to prove. When risen enough, brush over the top lightly with the white of an egg, whisked to a strong froth, dust it with loaf-sugar powder, and sprinkle it with water, just sufficiently to moisten the sugar, bake it in rather a cool oven, to prevent the icing getting too much color.

PRUSSIAN GREEN.

I. The sediments of the two first processes for making Prussian blue, before they have had muriatic acid added to them.

II. Pour a solution of chlorine upon fresh precipitated Prussian blue.

PRUSSIC ACID LOTION.

I. Medicinal prussic acid 1 to 4 drachms, lettuce water 36 oz. Mix.

II. Medicinal prussic acid and rectified spirit 2 fluid drachms, distilled water 7½ oz., sugar of lead 16 grains.

III. Medicinal prussic acid 1½ drachm, rectified spirit and water, of each 6 fluid oz. Mix.

Lotions of prussic acid have been employed to allay pain and irritation in various skin diseases, in cancer, scald head, tic-doloureux, &c., with varied success.

PRUSSIC ACID MIXTURE.

Medicinal prussic acid 15 drops, simple syrup 1 oz., water 5 oz. Dose, a table-spoonful two or three times a day;—each dose contains 1½ drops of prussic acid. Shake the bottle before pouring out the dose.

PUNCH.

I. Take 2 or 3 good fresh lemons, ripe and with rough skins, and some lumps of good sugar; grate a handful of the skins of the lemons through a bread grater on the sugar, then squeeze in the lemons, bruise the sugar, and stir the juice well together, for much depends on the process of mixing the sugar and lemons. Pour on them 1 quart of boiling water, and again mix well together; add 1½ pint of brandy, and the same quantity of rum; stir up, strain through a sieve, put in 1 pint of syrup, and 1 or 2 quarts of boiling water, or, what is far better, 3 pints of boiling water and 1 pint of warm porter, adding the froth of the porter last, and after the rest has been well stirred together. This gives a creamy appearance to the punch, while the porter itself adds much to its fullness of flavor.

II. *Ready-prepared*.—Take $\frac{1}{2}$ oz. of the oil of Seville orange peel, $\frac{1}{2}$ oz. of the oil of lemon peel, killed in a pint for each of spirits of wine, with 2 drachms of the oil of bitter almonds, 2 quarts of lemon or lime juice, 3 gallons of proof rum, 1 gallon of proof brandy, and 2 gallons of syrup. Mix them all well together in a cask. When wanted for use, you have only to add boiling water, according to strength required, and a little hot porter, as per last receipt.

III. Take 6 lemons and 2 Seville oranges; rub off the yellow rinds of 3 or 4 of the lemons, with lumps of fine loaf-sugar, putting each lump into the bowl, as soon as saturated with the oil and juice; then thinly pare the other lemons and Seville oranges, and put these rinds also into the bowl, to which adding plenty of sugar, pour a very small quantity of boiling water, and then press the juice of all the fruit, and follow by a little more warm water. Make up to the above quantity of fruit, the sugar to $1\frac{1}{2}$ lb., and the water to 1 gallon, making the whole about 5 quarts; to this add 1 quart of Jamaica rum, and 1 pint of French brandy, or a greater proportion of spirit, if desired to be very strong.

IV. To 1 tea-spoonful of citric acid, put $\frac{1}{4}$ lb. of sugar, 1 quart of water, nearly boiling, $\frac{1}{2}$ pint of rum, $\frac{1}{4}$ pint of brandy, and a little lemon peel, or in lieu of it, a few drops of the essence of lemon may be added.

PUNCH A LA ROMAINE.

Make a quart of lemon ice, and flavor it with a glass or two each of rum, brandy, champagne, and Maraschino. When it is frozen, take to each quart the whites of 5 eggs, and whisk them to a very strong froth, boil $\frac{1}{2}$ lb. of sugar to the ball, and rub it with a spoon against the sides of the vessel that contains it, while cooling, in order to grain it; when it turns white, mix it quickly with the whites of the eggs, stir them lightly together, and add the ice to them; when cold, mix all well together and serve in glasses.

PUNCH-WATER ICE.

Take lemon ice, made with or without $\frac{1}{3}$ part of orange juice, mix with it, before freezing, a little of lemon essence, to give the flavor of the peel, add sugar to taste, and mix with each quart the whites of 3 eggs, well whisked up. When almost frozen, add rum, brandy, or wine, to give it a spirituous or vinous flavor. According to the spirit or wine added, so will be the name.

PURGING MEDICINES.

Such medicines go by this name as act violently upon the lower bowels, and produce copious evacuations; such are aloes, scammony, jalap, and others. Often used synonymously with aperient, laxative, cathartic, &c. but usually considered to apply chiefly to the

more powerful of these medicines. The following are purging mixtures often recommended:—

I. Epsom salts and Glauber's salts, of each 3 drachms, mint water $\frac{1}{2}$ oz., liquid tartrate of antimony 1 drachm. Dose, 2 large spoonful twice a day.

II. Epsom salts and Glauber's salts, of each $\frac{1}{2}$ oz., green vitriol 5 grains, camphor mixture $7\frac{1}{2}$ oz. Dose as above.

III. Castor oil $\frac{1}{2}$ oz., the white of an egg, syrup of poppies 2 drachms, laudanum 5 drops, water 1 oz. For a dose every three or four hours.

IV. Rhubarb 18 grains, super-sulphate of potass 10 grains, cinnamon water 1 oz. For a dose.

V. Tartrate of soda 2 drachms, carbonate of soda 1 scruple, water $1\frac{1}{2}$ oz.; dissolve, and add, when about to be taken, 1 large spoonful of lemon juice, to occasion an effervescence. Take this quantity as a dose every morning.

VI. Carbonate of soda 2 drachms, sulphate of iron 3 grains, magnesia 1 drachm, water $1\frac{1}{2}$ pint. When the salts are dissolved, add elixir of vitriol 3 drachms, cork directly, and keep it close till used. An excellent tonic.

PURGING MIXTURE.

Any of the purging salts, such as Epsom salts, Glauber's salts, or Cheltenham salts, 2 oz., infusion of senna 5 oz., syrup of orange peel 1 oz., tincture of ginger $\frac{1}{2}$ oz., tincture of pimento 2 drachms. Dose 1 to 3 table-spoonful early in the morning, in stomach complaints, &c.

PURGING BALLS FOR HORSES.

I. Barbadoes aloes 5 oz., hard soap 3 oz., ginger and olive oil, of each 1 oz. Melt together in a ladle, and while warm, divide into 6 balls.

II. Aloes and hard soap, of each 5 oz., pearl ashes 1 oz., powdered ginger 2 oz. Melt as above for 8 balls.

PURL.

I. To 1 pint of warm ale, add 1 quartern of gin or rum, 3 or 4 lumps of sugar, and a little ginger.

II. To a pint of hot porter, add a wine-glassful of brandy bitters, and $\frac{1}{2}$ glass of ginger cordial. Some prefer carraway cordial, and others coriander cordial.

PURPLE ENAMEL.

Take the finest gold; dissolve it in aqua-regia, regulated with sal-ammoniac; put it in a sand-heat for about forty-eight hours to digest the gold, collect the powder, grind it with six times its weight of sulphur, put it into a crucible on the fire till the sulphur is evaporated; then amalgamate the powder with twice its weight of mercury, put it into a mortar or other vessel, and rub it together for about six hours, with a small quantity of

water in the mortar, which change frequently; evaporate the remaining mercury in a crucible, and add to the powder 10 times its weight of flux, or more or less, as the hardness or softness of the color may require.

PURPLE FIRE.

I. Reduce each of the following ingredients separately to a fine powder; mix them by stirring carefully, and rub them through a hair sieve. The mixture will, when made into rocket stars, and inflamed, burn with a fine purple light:—Chlorate of potash 2 oz., black oxyde of copper 1 oz., sulphur 1 oz.

II. Lamp black, realgar, and nitre, of each 1 part, sulphur 2 parts, chlorate of potash 5 parts, fused nitrate of strontia 12 parts.

III. Chlorate of potash 42 parts, nitrate of potash and sublimed sulphur, of each 22½ parts, black oxyde of copper 10 parts, sulphuret of mercury 2½ parts.

IV. Chlorate of potash 77½ parts, sulphur 13 parts, sulphate of copper 9½ parts.

The first three receipts are for burning in pans, the last for rocket stars. All these must have their ingredients pounded separately, and then mixed together very gently with the hand, or an ivory knife, lest they should explode. If a little dried chalk be added to either of the above, the color will be lilac.

PURPLE PRECIPITATE OF CASSIUS.

Dissolve some pure gold in nitro-muriatic acid; add either acid, or metal, until saturation takes place. Now dissolve some pure tin in the same kind of acid; observe the same point of saturation as with the gold, and pour it into the solution of gold. A purple powder will be precipitated, which must be collected and washed in distilled water.

This beautiful purple color, as before-mentioned, is extremely useful to enamellers, and to glass stainers. When brought into fusion with a clear transparent glass, it tinges it of a purple, red, or violet color; hence the method of making false rubies and garnets.

PURPLE TABLETTES.

A kind of lozenge, good for heartburn, indigestion, flatulence, acidity, &c. Magnesia 3 lbs., white sugar 1½ lb., drop lake 1 oz., gum tragacanth 3 oz. Mix, cut into small squares, and dry.

PUTTY FOR GLAZIERS.

Mix a quantity of whiting into a very stiff paste with linseed oil, rubbing and beating it well before using. For particular purposes, as for fan lights, garden hand lights, iron-framed green houses, and other places, where the lap or hold is very narrow, a little white-lead may be added to advantage. Colored putty has a mixture of red ochre, lamp black, or other color, with the whiting.

Flexible.—Take 10 lbs. of whiting and 1 lb. of white-lead, mix it with the necessary quantity of boiled linseed oil, adding to it a wine-glassful of the best salad oil.

The last prevents the white-lead from hardening, and preserves the putty in a state sufficiently soft, to adhere at all times, and not by getting hard and cracking off, suffering the wet to enter, as is often the case with ordinary hard putty.

PYROLA, INFUSION OF.

Take of the leaves of pyrola or winter green 1 oz., boiling water 1 pint. Infuse for three or four hours, and strain. This is astringent and diuretic, in doses of 1 to 2 oz. It has the singular property of blackening the urine.

PYROLIGNEOUS ACID, OR WOOD VINEGAR.

When we distil a vegetable body in a close vessel, we obtain at first the included water, or that of vegetation; there is next formed another portion of water, at the expense of the oxygen and hydrogen of the body; a proportional quantity of charcoal is set free, and with the successive increase of the heat, a small portion of charcoal combines with the oxygen and hydrogen to form acetic acid. This was considered for some time as a peculiar acid, and was accordingly called *pyroligneous* acid. As the proportion of carbon becomes preponderant, it combines with the other principles, and then some empyreumatic oil is volatilised, of little color, but which becomes thicker, and of a darker tint, always getting more loaded with carbon. The apparatus employed for obtaining crude vinegar from wood, by the agency of heat, are large iron cylinders. In this country they are made of cast iron, and are laid horizontally in the furnace; in France, they are made of sheet iron rivetted together, and they are set upright in the fire. The crude pyroligneous acid is rectified by a second distillation in a copper still, in the body of which about 20 gallons of viscid tarry matter are left from every 100. It has now become a transparent brown vinegar, having a considerably empyreumatic smell, and a sp. gr. of 1.013. Its acid powers are superior to those of the best household vinegar, in the proportion of three to two. By redistillation, saturation with quicklime, evaporation of the liquid acetate to dryness, and conversion into acetate of soda by sulphate of soda, the empyreumatic matter is so completely dissipated, that on decomposing the pure acetate of soda by sulphuric acid, a perfectly colorless and grateful vinegar rises in distillation. Its strength will be proportionable to the concentration of the decomposing acid.

PYROPHORI.

I. Take 2 parts of the sulphate of potash and 1 of lamp black, reduce them both to a fine powder, and let the two be intimately mixed; then place them in a glass phial, and cover the outside of the phial with a thick coating of clay, place it in the fire and keep it red hot for a few minutes, then take it out and cover the mouth of the phial with

a piece of clay. In this state let it get cool, when the coating of clay may be taken off and the phial corked. When a few grains of this powder are afterwards let fall from the phial, they will take fire spontaneously upon coming in contact with the air, forming what is called a *pyrophorus*. This mixture appears to contain potassium, which rapidly attracting oxygen from the air, excites heat sufficient to inflame the other ingredients.

II. It is well known that when $2\frac{1}{2}$ parts of pure tartaric acid, deprived of its water of crystallization, are quickly mixed in a dry capsule, with 8 parts of peroxide of lead, perfectly dry, and reduced to powder, ignition very soon occurs throughout the mass, which is very vivid and of long duration. This fact, first mentioned by Mr. Walker, would lead to the supposition that other organic substances would undergo similar reaction with peroxyde of lead; and this has been verified by the experiments of M. Boetliger. On experimenting with the

oxalic and citric acids, he found that the action of the former on the peroxide of lead was more rapid, and perhaps stronger, than that of tartaric acid; while that of citric acid was rather weaker. Thus, on mixing together $5\frac{1}{2}$ parts of peroxide of lead and 1 part of oxalic acid, dried in hot air, or containing 19 per cent. of water, almost instantaneous ignition of the mass occurs; but it continues for a much shorter time than with the tartaric acid, because the oxalic acid contains less carbon. In order to obtain a pyrophorus with citric acid, 1 atom of citric acid, previously fused and kept some time in fusion, then dried and pulverized, must be promptly mixed with 2 atoms of peroxide of lead, at the temperature of 73° Fahr. The ignition of the whole mass is almost as vivid, and continues for as long a time, as with tartaric acid. Minium, litharge, and carbonate of lead, mixed with tartaric acid, yield also, according to M. Boetliger, pyrophori, but not so good as those yielded by pure oxide.

QUASS.

A vinegar used in Russia, made by mixing water and rye-flour, and exposing it to the air and sun till it turns sour.

QUASSIA, EXTRACT OF.

Made by boiling the wood cut into chips, straining and evaporating the solution. The quassia wood will yield about a sixth part of its weight of extract.

This is used chiefly by the brewers as a bitter to save hops, under the name of *mulum*.

QUASSIA, INFUSION OF.

Quassia wood chips 2 scruples, boiling distilled water 1 pint. Macerate for two hours, and strain. It is used as a tonic, and is very bitter; also, when sweetened with treacle, it makes an excellent fly-water.

QUEEN CAKES.

Take 1 lb. of sugar, beat and sift it, 1 lb. of well-dried flour, 1 lb. of butter, 8 eggs, and $\frac{1}{2}$ lb. of currants, washed and picked; grate a nutmeg, and an equal quantity of mace and cinnamon, work the butter to a cream, put in the sugar, beat the whites of the eggs twenty minutes, and mix them with the butter and sugar. Then beat the yolks for half an hour, and put them to the butter. Beat the whole together, and when it is ready for the oven, put in the flour, spices, and currants; sift a little sugar over them, and bake them in tins.

QUEEN'S CORDIAL.

For 3 gallons, take 2 gallons of rectified spirit, 1 drachm of the oil of peppermint, 2 drachms of the oil of caraway seeds, 1 oz. of coriander seeds, 1 oz. of cassia, $\frac{1}{2}$ oz. of mace, 1 pint of spirits of wine, and 2 pints of syrup; fill it up with water, and clarify with alum.

QUEEN'S METAL.

Take $4\frac{1}{2}$ lbs. tin, $\frac{1}{2}$ lb. of bismuth, $\frac{1}{2}$ lb. antimony, and $\frac{1}{2}$ lb. lead. Or, 100 lbs. tin, 8 lbs. antimony, 1 lb. bismuth, and 4 lbs. copper.

This alloy is used for making tea-pots, and other vessels which imitate silver.

QUEEN'S YELLOW.

Boil together 5 parts by weight of sulphuric acid and 4 of mercury; a white crystalline persulphate of mercury is obtained. This, when thrown into water, undergoes decomposition, being resolved into a soluble supersulphate, and an insoluble subsulphate, which is precipitated, forming, when washed and dried, Queen's yellow. It is far from being a permanent pigment.

QUICK MATCH.

Take some common cotton, such as is used for the wick of candles, and double it so that there may be 4 or 6 strands; boil it for some time in vinegar, and then, when sufficiently cold to handle, draw it through the hands to

squeeze out the greater part of the vinegar. This being done, rub over it some common thin paste, and afterwards some dry meal-powder, or draw it through the hand loaded with meal-powder, then sift some meal-powder over it, and let it dry. Make cases of long strips of paper, the longer the better, and cut about 2 inches wide; rolled on a wire, and secured by the outer edge with paste, the quick-match drawn through this when both are quite dry, forms the quick-match; several joints may be united by tying them together with thread and tissue-papering the joints, taking care that the match of one touches the match of the other; or if a great length is required, the match need not be cut at all, but the various lengths of case slipped on by a wire or bodkin, and tied at the joints as before.

QUICKSILVER OINTMENT.

I. Take 1 lb. of quicksilver, $1\frac{1}{2}$ oz. of balsam of sulphur; rub them well together, and add 1 lb. of lard.

II. Take 3 oz. of quicksilver, 6 drachms of nitric acid; dissolve, and then add $\frac{1}{2}$ lb. of lard, 12 oz. of olive oil. Melt together, add the acid, and stir till cold. Both used in farriery.

QUILLS, PREPARATION OF.

I. *Dutch method.*—Immerse the quill when plucked from the wing in water almost boiling; leave it there till it becomes sufficiently soft; compress it, turning it on its axis with the back or blade of a knife. The immersion and compression must be continued till the quill is clear when cold, and the membrane and greasy covering is entirely removed; it is immersed a last time to render it cylindrical, which is done by whirling it between the thumb and fore finger; it is then dried in a gentle temperature.

The French discovered this process when they conquered Holland.

II. *French method.*—A bath of very fine sand must be kept constantly at a suitable temperature, which is about 140° Fah.; into this, the quill end of the feather must be plunged, and left in it a few instants. On taking the quills out, they must be strongly rubbed with a piece of flannel, after which they are found to be white and transparent. Both carbonate of potash in solution and dilute sulphuric acid have been tried to effect the same end, but without success. The yellow tint, which gives quills the air of age, is produced by dipping them for a little while in dilute muriatic acid, and then making them perfectly dry. But this process must be preceded by the sand-bath operation.

III. *English method.*—Quills are dressed by the London dealers in two ways; by the one, they remain of their natural color; by

the other, they acquire a yellow tint. The workman sits before a small stove fire, into which he thrusts the barrel of the quill for about a second, then lays its root quickly below his blunt-edged knife, called a hook, and pressing this firmly with the left hand, draws the quill briskly through with his right. The bed on which the quill is laid to receive this pressure is called the plate. It is a rectangular smooth lump of iron, about 3 inches long, $1\frac{1}{2}$ broad, and $2\frac{1}{2}$ thick, which is heated on his stove to about the 350° F. The hook is a ruler of about 15 inches in length, somewhat like the patten-makers' knife, its fulcrum being formed at the one end by a hook and staple, and the power of pressure being applied by the hand at the other end. The quill, rendered soft and elastic by the heat, endures the strong scraping-action of the tool, and thus gets stripped of its opaque outer membrane, without hazard of being split. A skilful workman can pass 2000 quills through his hands in a day of ten hours. They are next cleaned by being scrubbed by a woman with a piece of rough dog-fish skin, and finally tied up by a man in bundles of $\frac{1}{4}$ hundred each. In another mode of dressing quills, they are steeped a night in decoction of turmeric, to stain them yellow; taken out and dried in warm sand contained in a pot, then scraped as above described. The first are reckoned to make the best pens, though the second may appear more beautiful. Crow quills for draughtsmen, as well as swan quills, are prepared in the same way.

The quills plucked from well-fed living birds have most elasticity, and are least subject to be moth-eaten. The best are those plucked, or which are spontaneously cast in the month of May or June, because they are then fully ripe. In the goose's wing, the five exterior feathers only are valuable for writing. The first is the hardest and roundest of all, but the shortest. The next two are the best of the five. They are sorted into those of the right and the left wing, which are differently bent. The heaviest quills are, generally speaking, the best. Lately, steaming for four hours has been proposed as a good preparation.

IV. *Austrian method.*—The following is the manner in which M. Scholz, of Vienna, proceeds in the preparation of quills for writing, by means of which he renders them more durable, and even superior to the best Hamburgh quills. For this purpose he makes use of a kettle, into which he pours common water, so as to occupy the fourth part of its capacity, he then suspends a certain quantity of feathers perpendicularly, the barrel lowermost, and so placed, as that its extremity may only touch the surface of the water; he then covers the kettle with a lid properly adjusted, boils the water, and keeps the feathers four hours in this vapour bath. By means of this process he frees them of their fatty parts, and renders them soft and transparent. On the following day,

after having scraped them with the blade of a knife, and then rubbed them with a bit of cloth, he exposes them to a moderate heat; by the day after they are perfectly hard and transparent, without however having the inconvenience of splitting too easily.

QUINCE MARMALADE.

Boil quinces in water, until soft, then rub them through a sieve. Boil this pulp with half its weight of sugar, till of a consistence to become solid when cold.

QUINCE WINE.

I. Gather the quinces when pretty ripe, in a dry day, rub off the down with a linen cloth, then lay them in hay or straw for ten days, to perspire. Now cut them in quarters, take out the cores, and bruise them well in a mashing tub with a wooden pestle. Squeeze out the liquid part, by pressing them in a hair bag, by degrees, in a cyder press; strain this liquor through a fine sieve, then warm it gently over a fire, and skim it, but do not suffer it to boil. Now sprinkle into it some loaf-sugar reduced to powder; then, in a gallon of water and a quart of white wine, boil 12 or 14 large quinces, thinly sliced; add 2 lbs. of fine sugar, and then strain off the liquid part, and mingle it with the natural juice of the quinces; put this into a cask, (not to fill it,) and mix them well together, then let it stand to settle; put in 2 or 3 whites of eggs, then draw it off. If it be not sweet enough, add more sugar, and a quart of the best Malmsey. To make it still better, boil $\frac{1}{2}$ lb. of stoned raisins and $\frac{1}{2}$ oz. of cinnamon bark, in a quart of the liquor, to the consumption of a third part, and straining it, put it into the cask when the wine is fermenting.

II. Take 20 large quinces, gathered when they are dry and full ripe. Wipe them clean with a coarse cloth, and grate them with a large grater or rasp as near the cores as possible, but do not touch the cores. Boil a

gallon of spring-water, throw in the quinces, and let them boil softly about a quarter of an hour. Then strain them well into an earthen pan, on 2 lbs. of double-refined sugar. Pare the peel of 2 large lemons, throw them in, and squeeze the juice through a sieve. Stir it about till it be very cool, and then toast a thin bit of bread very brown, rub a little yeast on it, and let the whole stand close covered twenty-four hours. Then take out the toast and lemon, put the wine in a cask, keep it three months, and then bottle it. If a 20-gallon cask is wanted, let it stand six months before bottling it; and remember, when straining the quinces, to wring them hard in a coarse cloth.

QUININE, MEDICINES OF.

I. *Cerate*.—Sulphate of quinine 1 part, simple cerate 10 parts. Mix well.

II. *Essence*.—Alcohol 1 oz., diluted sulphuric acid 1 drachm, add sulphate of quinine to saturation.

III. *Lozenges*.—Sulphate of quinine 32 grains, white sugar 1 lb., mucilage of gum tragacanth to make into a paste. Divide into 15 grain lozenges.

IV. *Ointment*.—Sulphate of quinine 1 part, lard 2 parts.

V. *Wine*.—Sulphate of quinine 6 grains, Madeira wine 1 lb. Malmsey, or any other wine may be used.

VI. *Syrup*.—Sulphate of quinine 26 grains, simple syrup 1 lb. Good in fevers. Mix it with water as a common drink.

QUIN'S SAUCE.

I. Walnut pickle and port wine, of each 1 pint, mushroom ketchup 2 pints, anchovies and eschalots, of each 2 dozen, soy $\frac{1}{2}$ pint, cayenne pepper 2 drams. Boil gently for ten minutes, then strain and bottle.

II. Soy 8 lbs., walnut ketchup and mushroom ketchup, of each 2 gallons, sprats 8 lbs. cayenne pepper 8 oz., garlic 1 lb.

RAGOUT SPICE.

Flour of mustard, black pepper, and grated lemon peel, of each $\frac{1}{2}$ lb., allspice, ginger, and nutmeg, of each $\frac{1}{4}$ oz., cayenne pepper 2 oz., dry salt 1 lb. Mix all together.

RAISIN VINEGAR.

After making raisin wine, lay the pressed raisins in a heap to heat, then to each cwt. put 10 gallons of water, and a little yeast.

RAISIN WINE.

Take 28 lbs. of raisins, picked from the stalks. Let them be chopped into small bits with any proper instrument, and thrown into a deep tub or bucket. Pour on them 3 gallons of tolerably hot water, and let them stand for twelve hours. Throw the whole into a hair-cloth or canvas bag, and with a press of sufficient power force out the juice. On the marc pour 2 gallons more of hot water, and after twelve hours press

out as before. Mix the 2 liquors, add 3 lbs. of white sugar, and dissolve it perfectly. A fermentation will set in; when over, the liquor is to be racked into a clean cask, and left bunged up for three months, after which it is to be again racked. $\frac{1}{4}$ oz. of isinglass, dissolved in a little water or wine, is to be mixed with it, and the whole returned into the cask. Being closely bunged, it is to remain for twelve months, after which it may be bottled. The cask should be full.

RASPBERRIES, TO PRESERVE WHOLE.

Have a pan of sugar boiled to the *blow*. Throw in a few fine unbroken, dry, but not over-ripe raspberries, boil them for a few minutes, and take them out with a skimmer without breaking them. Do more with the same sugar, and so on until all are done, putting them, when taken out, as dry as possible into preserving jars; lastly, pour over them the rest of the syrup, or some apple jelly. Other soft fruits may be done in the same way. *Raspberry compote* is the same, except that the fruit is first suffered to remain four or five hours in the syrup altogether, and then boiled for two or three minutes. In both cases take off all the scum that arises with a scoop of white paper or a card.

RASPBERRY CORDIAL OR BRANDY.

Mix together equal quantities of raspberry juice and strong gin, or British brandy, to which has been previously added a little oil of cinnamon, killed in strong spirits of wine. Sweeten with loaf-sugar, using 1 lb. to the gallon.

RASPBERRY CREAM.

I. Mix the juice of fresh raspberries with the cream, to the desired strength of flavor, sweeten it with loaf-sugar, and beat up to a strong froth; serve in glasses, putting a little froth at the top of each. In winter, warm some raspberry jam, strain the juice from it, and add the cream while the juice is still warm.

II. Rub a quart of raspberries through a hair sieve, to take out the seeds, mix the juice well with cream; sweeten it with sugar to your taste, then put it into a stone jug, and raise a froth with a chocolate mill. As the froth rises, take it off with a spoon, and lay it upon a hair sieve. When there is as much froth as wanted, put what cream remains in a deep china dish, and pour the frothed cream upon it, as high as it will lie on.

RASPBERRY DROPS.

Press out the juice of some ripe raspberries through a piece of flannel or cloth, upon twice their weight of sugar, boil them till they crystallize when cold, then drop the sugar thus boiled upon white paper, or upon tin plates, and dry in a slow oven, or the sun.

RASPBERRY ICE.

Take 1 pint of raspberries, 1 pint of cream, 1 lb. of loaf-sugar, $\frac{1}{2}$ pint of ripe currants or cherries. Mash and strain the fruit, mix the other articles with it, and freeze. The same for a water ice, substituting water for cream, and adding to the above quantity the juice of 2 lemons.

RASPBERRY JAM.

Mash a quantity of fine ripe dry raspberries, strew on them their own weight of loaf sugar, and half their weight of white currant juice. Boil them half an hour over a clear slow fire, skin them well, and put them into pots or glasses; tie them down with brandy papers, and keep them dry. Strew on the sugar as quick as possible after the berries are gathered, and in order to preserve their flavor, they must not stand long before boiling them.

RASPBERRY JELLY.

Take 3 pottles of ripe raspberries, and 1 of ripe currants; press out the juice and filter it; to 1 pint of juice add 1 lb. of loaf-sugar, boil till it jellies sufficiently.

RASPBERRY PASTE.

Mash a quart of raspberries, strain one half and put the juice to the other half; boil them a quarter of an hour, put to them a pint of red currant juice, and let them boil all together, till the raspberries are done enough. Then put $1\frac{1}{2}$ lb. of double refined sugar into a clean pan, with as much water as will dissolve it. Boil it to a sugar again, then put in the raspberries and juice, scald and pour them into glasses. Put them into a stove to dry, and turn them when necessary.

RASPBERRY ROCK.

Boil sugar to the degree of dryness, called the *crack*, pour out on a greased slab the greater portion, color the rest with cochineal, and pour that out also, but in a different part; roll out the uncolored part, and flavor it with raspberry juice and a little tartaric acid. Make it into a ball, and holding one part in the hand, drag it repeatedly on a hook, till it becomes white; then, the red part having been kept warm, cover over it for rock; and for sticks, wrap the red round it in lines, and draw or roll the whole out to a proper thickness.

RASPBERRY SYRUP.

Put any desired quantity of fruit into a pan or basin, and reduce it to a mash. Cover the basin or pan with a cloth or piece of paper, to keep out any dust or dirt, and put it into a warm place for three or four days, or until a fermentation has commenced, so as to destroy the mucilage, or the syrup would become a jelly in the bottles. Filter the juice through a flannel bag, and let it be clear. To a pint of filtered juice add 2 lbs.

of powdered loaf sugar, which put into a bell-metal or copper preserving pan, as tin changes the color of red fruits to a deep purple. Place them on the fire, and stir them together until the sugar is dissolved, or at the most it should only be suffered to boil up 3 or 4 times before it is removed. Take off all the scum as it rises. When cold, bottle it and cork close.

RASPBERRY VINEGAR SYRUP.

I. For this purpose use either white or red raspberries, only observing to use the best white vinegar with white raspberries, and red vinegar for red raspberries. To each pint of juice, add $1\frac{1}{2}$ pint or 1 quart of vinegar, of the common strength; or if it is strong or concentrated vinegar, use only equal portions. To each pint of this mixture, add 2 lbs. of powdered loaf sugar, and proceed in every respect as for raspberry syrup.

II. Three-parts fill a wide-mouthed bottle or jar with picked raspberries, and nearly fill the bottle with vinegar; or 3 lbs. of raspberries may be allowed to a quart of vinegar. Let them infuse for a week, keeping the bottle closely covered. At the end of that time, pour the vinegar and raspberries into a fine sieve, or a piece of lawn spread over a pan, and press the fruit a little, that the juice may run from them with the vinegar. To each pint of juice use 2 lbs. of powdered loaf sugar, which put into a pan or jar, and place it in a pan of boiling water; keep it at this heat until the sugar is dissolved, and let the whole cool gradually. When the syrup is cold, bottle and cork close for use.

These will be found a most useful store, and are much used by many persons during hot weather, for making a kind of sherbet with water. The raspberry vinegar syrup makes a most refreshing, pleasing, and generally an acceptable and approved drink for invalids, as well as a sherbet.

RASPBERRY WINE.

I. Take of cold soft water 6 gallons, cider 4 gallons, raspberries 6 gallons, any other fruit 3 gallons—ferment. Mix raw sugar 18 or 20 lbs., red tartar in fine powder 3 oz., orange and lemon peel, 2 oz., dry, or 4 oz. fresh, then add brandy 3 quarts. This will make 18 gallons.

II. Gather the raspberries when ripe, husk and bruise them; then strain them through a bag into jars or other vessels. Boil the juice, and to every gallon put $1\frac{1}{2}$ lb. of lump sugar. Now add whites of egg, and let the whole boil for 15 minutes—skimming it as the froth rises. When cool and settled, decant the liquor into a cask, adding yeast to make it ferment. When this has taken place, add a pint of white wine, or $\frac{1}{2}$ a pint of proof spirit to each gallon contained in the cask, and hang a bag in it con-

taining 1 oz. of bruised mace. In three months, if kept in a cool place, it will be very excellent and delicious wine.

RATAFIA.

This is a liquor prepared from different kinds of fruits, and is of different colors according to the fruits made use of. These fruits should be gathered when in their greatest perfection, and the largest and most beautiful of them chosen for the purpose.

I. *Red.*—Take of black-heart cherries 24 lbs., small black cherries 4 lbs., raspberries and strawberries, each, 3 lbs. Pick the fruit from their stalks, and bruise them, in which state let them continue 12 hours; then press out the juice, and to every pint of it add $\frac{1}{4}$ lb. of sugar. When the sugar is dissolved, run the whole through the filtering bag, and add to it 3 quarts of proof spirit. Then take of cinnamon 4 oz., mace 1 oz., and cloves 2 drachms. Bruise these spices, put them into a still with a gallon of proof spirit and 2 quarts of water, and draw off a gallon with a brisk fire. Add as much of this spicy spirit to the ratafia as will render it agreeable; about $\frac{1}{4}$ is the proportion.

II. *Dry or Sharp.*—Take of cherries and gooseberries, each 30 lbs., mulberries 7 lbs., raspberries 10 lbs. Pick all these fruits clean from their stalks, &c., bruise them, and let them stand 12 hours; but do not suffer them to ferment. Press out the juice, and to every pint add 3 oz. of sugar. When the sugar is dissolved, run it through the filtering bag, and to every 5 pints of liquor add 4 pints of proof spirit; together with the same proportion of spirit drawn from spices.

III. *Common.*—Take of nutmegs 8 oz., bitter almonds 10 lbs., Lisbon sugar 8 lbs., ambergris 10 grains. Infuse these ingredients three days in 10 gallons of proof spirit, and filter it through a flannel bag for use. The nutmegs and bitter almonds must be bruised, and the ambergris rubbed with the Lisbon sugar in a marble mortar, before they are infused in the spirit.

RATAFIA CAKES.

Beat $\frac{1}{2}$ lb. each of sweet and bitter almonds in fine orange, rose, or ratafia water, mix $\frac{1}{2}$ lb. of fine pounded and sifted sugar with the same, add the whites of 4 eggs well beaten to it, set it over a moderate fire in a preserving-pan. Stir it one way until it is pretty hot, and when a little cool, form it into small rolls, and cut it into thin cakes. Shake some flour lightly on them, give each a light tap, and put them on sugar papers, sift a little sugar on them, and put them into a thorough slack oven.

RATAFIA, ESSENCE OF.

Essential oil of almonds 1 oz., spirit of wine 1 pint; mix. Used to make noyau, &c.

RATCLIFFE'S COUGH MIXTURE.

Mix together 4 drachms of syrup of squills, 4 drachms of elixir of paregoric, 4 drachms of syrup of poppies. Take a tea-spoonful in a little tea or warm water, as occasion requires.

RAZOR PASTE.

I. Finely-washed oxide of tin (putty powder) 1 oz., powdered oxalic acid $\frac{1}{4}$ oz., powdered gum 20 grains. Make into a stiff paste with water.

II. Emery reduced to a very fine powder 2 parts, spermaceti ointment 1 part.

III. Jeweller's rouge or crocus, and suet, equal parts.

IV. The last, with the addition of an equal part of black lead.

V. Diamond dust 1 part, powdered chalk or red ochre 1 part.

This diamond dust is from an inferior kind of diamond lately brought from Brazil.

VI. The snuff of a tallow candle made into a paste with grease of any kind.

RED CHALK CRAYONS.

The preparation of those red crayons, which are best adapted for drawing, is performed as follows:—A quantity of hematite is ground in a porphyry mortar, with filtered water, until it be extremely divided, so as to form an impalpable powder. This powder is again diffused in a quantity of water, sufficient to allow finer parts of the mixture to be passed through a fine sieve, placed above a large vessel filled with water. The liquid holding the hematite in suspension is then agitated; and after this, allowed to rest four and twenty hours. At the end of this time, there is formed at the bottom of the vessel a deposit of hematite, in the form of a very fine powder; the water is cautiously decanted from it. To form crayons of this impalpable powder, a uniting medium is necessary. This is afforded either by gum arabic or isinglass, of which the proportions vary, according to the use to which the crayon is destined; less of it being required for soft crayons, which, consequently, yield their color more readily; and more for the hard ones, which preserve their points longer. The following are the proportions to be employed in five kinds of crayons, of different degrees of hardness.

I. For the soft red crayons, which leave broad traces, 18 grains of dry gum arabic, to 1 oz. of the prepared hematite powder.

II. For harder crayons, 21 grains of gum, to 1 oz. of the hematite powder.

III. For still harder crayons, and which make small and delicate marks, 22 grains of gum to 1 oz. of hematite.

IV. For the hardest of this kind, 27 grains of gum, to 1 oz. of hematite.

V. For crayons which leave shining traces, 36 grains of isinglass, to 1 oz. of the prepared hematite powder. The gum or isinglass is to be dissolved separately in a sufficient quantity of water, and their solutions passed through a linen cloth; the hematite powder is then added. The liquid is brought near to a gentle fire, until the mass is somewhat thickened by the evaporation of the water, when it is to be removed from the fire. The mixture is then to be carefully ground on a porphyry slab, to render it as intimately mixed as possible, and is ready to be formed into crayons. To effect this, the mass, when it has become of a proper consistence, is forced through a cylinder; the sticks thus formed, are dried, and divided into crayons, of 2 inches long. They are then sharpened at their points; and the hard crust, which had formed upon them while drying, is removed.

RED CROCKERY, GLAZE FOR.

Common salt 13 lbs., carbonate of potass 30 parts; dissolve them in water, and dip in the article to be glazed.

RED DYES.

The coloring matters employed for dyeing red, are archil, madder, carthamus, kermes, cochineal, and Brazil wood.

I. *For Wool.*—Coarse woollen stuffs are dyed red with madder or archil; but fine cloth is almost exclusively dyed with cochineal, though the color which it receives from kermes is much more durable. Brazil wood is scarcely used, except as an auxiliary, because the color which it imparts to wool is not permanent. Wool is dyed red, by first impregnating it with alumine, by means of an alum bath, and then boiling it in a decoction of cochineal or madder, till it has acquired the wished-for color. The color will be finer, if tin-mordant is substituted for alum; indeed, it is usual with dyers to add a little nitro-muriate of tin when they want fine colors. The addition of archil and potass to the cochineal, both renders the red darker, and gives it more bloom; but the bloom very soon vanishes. For paler colors, one-half of the cochineal is withdrawn, and madder substituted in its place. Wool may be dyed scarlet, by first boiling it in a solution of murio-sulphate of tin, then dyeing it pale yellow with quercitron bark, and afterwards crimson with cochineal; for scarlet is a compound color, consisting of crimson mixed with a little yellow.

II. Take $4\frac{1}{2}$ lbs. of cream of tartar, $4\frac{1}{2}$ lbs. of alum; boil the wool gently for two hours; transfer it into a cool place, and wash it next day in pure water. Then infuse for half an hour 12 lbs. of madder, and 1 lb. of chloride of tin, in luke-warm water, then filter the whole through canvas. The red remain upon the canvas. The

liquor, not being required, is thrown away, or used for other and inferior purposes.

III. *For Silks*.—Silk is usually dyed red with cochineal, or carthamus, and sometimes with Brazil-wood. Kermes does not answer for silk; madder is scarcely ever used for that purpose, because it does not yield a color bright enough. Archil is employed to give silk a bloom; but it is scarcely ever used by itself, unless when the color wanted is lilac. Silk may be dyed crimson, by steeping it in a solution of alum, and then dyeing it in the usual way in a cochineal bath. The colors known by the names of *poppy*, *cherry*, *rose*, and *flesh-color*, are given to silk by means of carthamus. The process consists merely in keeping the silk as long as it extracts any color, and then well washing it in clean water.

IV. *Ivory, Bone, Hair, and Feathers*.—The same as the dye for wool; or the article, if solid, may be wrapped up in a piece of scarlet cloth, and boiled with it in water, a little alum being added.

V. *Wood*.—The best red stain or dye for wood is archil, as sold at the shops. Lay a coat of this over the wood, and then, when dry, wash it over with vinegar or other acid. Logwood and red sanders wood may be used for the same purpose, but is not so durable.

VI. *Marble*.—Dissolve alkanet root in sweet oil, and wash the marble with it, letting it lay on for some time. Dragon's-blood, dissolved in spirits of wine, gives a fine dark red color.

RED ENAMEL.

I. Sulphate of iron (calcined dark) 7 oz., flux 18 oz., colcothar 1 oz.

II. Red sulphate of iron 2 oz., flux 6 oz., white-lead 3 oz.

The former gives a dark, the latter a pale red.

RED INK.

I. This ink may be made by infusing, for three or four days in weak vinegar, Brazil wood chipped into small pieces; the infusion may be then boiled upon the wood for an hour, strained, and thickened slightly with gum arabic and water. A little alum improves the color. A decoction of cochineal with a little water of ammonia, forms a more beautiful red ink, but it is fugitive. An extemporaneous red ink of the same kind may be made by dissolving carmine in weak water of ammonia, and adding a little mucilage.

Red ink may likewise be prepared of white wine instead of vinegar, but it should be sour, or disposed to be so; otherwise, a third or fourth of vinegar should be added, in order to its taking the stronger tincture from the wood. Small beer has been sometimes used for the same purpose, but the ink will not be so bright, and when it is used, vinegar should be added, the quantity of gum arabic diminished and the sugar wholly omitted.

II. *From Vermillion*.—Take the glair of 4 eggs, a tea-spoonful of white sugar or

sugar candy, beaten to a powder, and as much spirit of wine; beat them together till they are of the consistence of oil. Then add such a proportion of vermilion as will produce a red color sufficiently strong; and keep the mixture in a small phial or well-stopped bottle for use. The composition should be well shaken together before it is used.

Instead of the glair of eggs, gum water is frequently used; but thin size, made of isinglass, with a little honey, is much better for the purpose. This ink is used by stationers to form the red letters of the alphabets of ledgers, &c.

III. Take of oil of lavender 120 grains, of copal in powder 17 grains, vermilion 60 grains. The oil of lavender being dissipated with a gentle heat, a color will be left on the paper surrounded with the copal; a substance insoluble in water, spirits, acids, or alkaline solutions.

This composition possesses a permanent color, and M.S.S. written with it may be exposed to the process commonly used for restoring the color of printed books, without injury to the writing. This is the illuminator's ink of the middle ages.

RED LEAD.

Fuse a quantity of lead upon a hearth, and work it about with an iron rod till the calx acquires a yellow color. Then grind it small with water at a mill, constructed for the purpose; and well wash it to deprive it of small lumps, which may remain uncalcined. Put this massicot, well dried, into stone pots, which are placed horizontally in the color furnace, fill them something more than a quarter full, and heat them till they acquire a red color; place a brick at the mouth of each pot to confine the heat, but remove it occasionally to work the matter about. By continuing this heat a sufficient time, the color will become finer till the minium is perfect.

RED STAINS FOR GLASS.

All the red, brown, and rose colors, for enamels, and for staining glass are formed from crocus or the peroxyde of iron—jeweller's rouge may therefore be used for this purpose, as may also red ochre, mixed with a flux of borax, sand, and red lead; but the best preparation of iron for the staining of glass is formed by throwing down the peroxyde from the nitrate by adding pearlshales while a precipitate falls down.

REECE'S REMEDY FOR FLATULENCE.

Take of carbonate of soda 1 drachm, compound tincture of rhatany 1 oz., compound tincture of ginger and camomile 3 drachms, camphorated julep 7 oz.; mix. Three table-spoonsful are to be taken twice a day.

REFRIGERANT MEDICINES.

Such medicines as cool the blood, among which the neutral salts hold pre-eminence. The following are cooling or refrigerant draughts:—

I. Carbonate of potass 20 grains, syrup of orange peel 1 fluid drachm, spirit of nutmeg $\frac{1}{2}$ fluid drachm, water $1\frac{1}{2}$ oz.

II. Nitre 12 grains, almond mixture $1\frac{1}{2}$ fluid oz., syrup of tolu 1 fluid drachm; mix. Both useful in fevers and inflammatory disorders.

REGENCY BUNS.

I. Made in the same way as Bath buns, (see *Bath*.) except that the caraway seeds are to be omitted, and a little candied orange peel, a few currants, and a little powdered allspice, are to be substituted. The following mixture will also make good regency buns:—

II. Take 3 lbs. of flour, 1 lb. of butter, 1 lb. of currants, spice and candied peel to flavor; mix up with milk, putting 3 eggs to each pint of the latter; lastly, wash over with yolk of egg, and bake in a pretty brisk oven.

REMBRANDT'S ETCHING GROUND VARNISH.

Take of white wax 1 oz., of mastic $\frac{1}{2}$ oz., of calcined asphaltum, or of amber, $\frac{1}{2}$ oz. Pound the mastic and asphaltum separately in a mortar; put the wax into a new earthenware pot, well glazed, and place it over a fire, till the wax be melted; then sprinkle in by little and little, the mastic and asphaltum, and stir the mixture well together till the whole be incorporated. Pour the melted matter afterwards into clean water, and form it into a ball, which must be kept for use.

In using this varnish, it is proper to take particular care of three things; the first, not to heat the plate too much when the varnish is put upon it; the second, to lay the first coat of varnish as thin as possible, in order to be able to spread the white varnish upon it, without rendering the whole of too great a thickness; the third, to omit blackening this varnish with smoke, as is done with the common; but when it is become entirely cold, take a piece of white-lead, and having ground it extremely fine, temper it with gum water, and then with a pencil, lay a coat of it very thinly and equally over the whole plate.

RENNET WHEY.

Milk 1 quart, rennet $\frac{1}{2}$ oz., infused in a little water previous to adding the milk. It changes the milk into curds, while the thin serum left is the whey, and which is a cooling drink, good for dyspeptic persons.

RESIN CERATE, (YELLOW BASILICON.)

I. Yellow resin and wax, of each 1 lb., melt, then add olive oil 1 pint; stir until cold. It is employed to dress foul and indolent ulcers; it is mildly stimulant, and cleansing.

II. Yellow resin 10 lbs., bees'-wax 2 lbs., linseed oil 7 lbs. Melt together, and stir until cold.

III. Yellow resin 14 lbs., bees'-wax 5 lbs. nut oil 1 gallon.

IV. Common lard and linseed oil, of each 3 lbs., yellow resin 9 lbs. Mix as before.

RESIN BUBBLES.

Dip the bowl of a tobacco-pipe into melted resin, hold the pipe in a vertical position, and blow through it, when bubbles of various sizes will be formed, of a brilliant silvery hue, and in a variety of colors.

This is the method pursued by the Italians to make the imitation bunches of grapes, which are sold by them at a few pence. These grapes are fastened together, and then dusted with powder blue.

REYNOLDS'S SPECIFIC FOR GOUT AND RHEUMATISM.

Take 8 oz. of the fresh bulb of colchicum, 16 oz. of sherry wine; macerate for eight or ten days in a gentle heat. Color it with syrup of poppies, and add rum to flavor it.

Reynolds is said to have killed himself by taking an over-dose of it.

RHATANY, EXTRACT OF.

Bruise the roots of rhatany, boil it for an hour or two in water, strain and evaporate by a gentle heat to a proper consistence.

This extract is tonic and astringent. It is much used by wine merchants to give a stronger flavor to port wine.

RHATANY ROOT, TINCTURE OF.

I. Rhatany root 2 oz., proof spirit 1 pint. Used in diarrhoea.

II. *Aromatic*.—Bruised rhatany root 3 oz. canella alba 2 oz., weak spirit 1 quart. Digest for ten days, and strain.

RHEUMATISM.

A painful disorder, very common in this country, which attacks chiefly the larger joints, the shoulders, knees, elbows, &c. It may be chronic or acute. It seems to arise from the inflammatory action induced by exposure to damp and cold upon a certain condition of the blood, and generally attacks persons of a plethoric habit of body at the middle period of life, and once begun with an acute attack, often continues at intermittent periods throughout the rest of life in a lasting or chronic form. In whatever form it occurs, the same or similar remedies are useful in its cure or alleviation, though applied in different cases, modified by the circumstances and symptoms most urgent. *Acute*, commonly called *Rheumatic fever*—this very painful disorder sometimes attacks a person so suddenly, that he goes to bed without pain, and wakes in agony with an attack of acute rheumatism; yet generally speaking, it gives notice of its approach some days previously, by general uneasiness, giddiness, head-ache, then succeed shiverings, alternating with flushes of heat, quickness of pulse, hot skin, thirst, and a sense of fatigue; afterwards is felt a gnawing pain in one or more of the large joints, progressively becoming more severe, until the slightest movement occasions the greatest pain. It shifts often from one joint to another, fever increases, and the patient cannot move or

bear the slightest touch. After a fortnight the fever subsides, and the joints either very gradually and slowly recover their tone, or the disease assumes the chronic or lasting form. *Remedies.*—In acute rheumatism, blood letting either generally by the lancet, or topically by the application of from 10 to 20 leeches to the most painful joint is a most valuable remedy in this disease. The patient may even be bled to the verge of fainting with great advantage. If the pulse regain after some hours its hardness and fullness, bleeding to the same degree may again be had recourse to. The bowels should be kept open by the mild laxative medicines, and the bleeding assisted by a mixture of emetic tartar 2 grains, tincture of henbane 2 drachms, water 6 oz. The whole to be taken in the course of the day, 1 or 2 table-spoonful at a time. The joints most affected may have fomentations of poppy-heads, henbane leaves, &c. applied; or a poultice of linseed meal and laudanum much alleviates the gnawing pain. If only one or two joints are affected, cold bathing, the application of cold cloths and cold lotions tend to moderate the pain and reduce the inflammation, but where the disease wanders from one joint to another, such is dangerous, as it may drive it to the heart, or other important organ. Rubbing the painful joints with camphor dissolved in ether rapidly alleviates the pain; also, moistening the joint two or three times a day with a feather dipped in a solution of the hydriodate of potass, has been found very serviceable. The following remedies have each their popular advocates:—

i. Take at bed-time, for some days, $\frac{1}{2}$ oz. or from that to 1 oz. of the volatile tincture of guaiacum, in a tea-cupful of water gruel.

ii. Take of raspings of guaiacum wood $\frac{1}{2}$ lb., liquorice root 1 oz., sassafras $\frac{1}{2}$ oz., coriander seeds 3 drachms, lime water 3 quarts. Infuse two days, without heat, and strain off the liquor. Take from 4 to 6 oz. twice a day.

iii. Take of flowers of sulphur and flour of mustard, of each $\frac{1}{2}$ oz., honey or treacle, a sufficient quantity to form an electuary. The size of a nutmeg to be taken several times a day, drinking after it $\frac{1}{4}$ pint of the decoction of lovage root.

iv. Take of guaiacum in powder and of soap, each 1 drachm, essential oil of juniper berries 4 drops. Make into 28 pills; take 2 four times a day.

v. Take of guaiacum and of scammony, each 15 grains, syrup of ginger, as much as is sufficient. Make into a bolus; to be taken early in the morning.

vi. A $\frac{1}{4}$ lb. of saltpetre, pounded fine, and put into 1 quart of vinegar, simmered in a pan close by the fire, until the nitre is dissolved, and then bottled. Rub the part

affected twice a day with the hand, till quite dry.

vii. In America, an ointment of stramonium, made by gently boiling 6 oz. of the recent leaves, bruised, in $1\frac{1}{2}$ lb. of fresh hog's-lard, till they become crisp, is in high repute as a remedy for this disease.

viii. Take of crystals of tartarized antimony, finely-powdered, 30 grains, rectified oil of turpentine 3 drachms, fresh hog's-lard 1 oz.; mix well together. The skin over the part affected should be well rubbed with this ointment every night till eruptions appear, when the part may be dressed with spermaceti cerate. When the irritation in some degree subsides, the unguent may be again used, and continued at intervals, till the rheumatic pain ceases, and the swelling has subsided, which it generally effects in the course of a week.

ix. Take of rectified oil of turpentine and vitriolic ether, of each 25 drops, mucilage of gum arabic 3 drachms, syrup of poppies 1 drachm, rose water $1\frac{1}{2}$ oz. Make into a draught, to be taken at bed-time.

RHODIUM, OIL OF.

This is extracted from the wood of the *Convolvulus scopraius*. It is very fluid, and has a yellow color, which in time becomes red. It has somewhat of the rose odour, and is used to adulterate the genuine *otto*. Its taste is bitter and aromatic, which it imparts to the otto as well as its fluidity.

RHUBARB, TO DISTINGUISH GOOD FROM BAD.

The general characters of good rhubarb are, its having a whitish or clear yellow color, being dry, solid, and compact; moderately heavy, and brittle; when recently broken, appearing marked with yellow or reddish veins, mixed with white; being easily pulverizable; forming a powder of a fine bright yellow, having the peculiar, nauseous, aromatic smell of rhubarb, and a sub-acrid, bitterish, somewhat astringent taste, and when chewed, feeling gritty under the teeth, speedily coloring the saliva, and not appearing very mucilaginous. The size and form of the pieces are of little consequence; only we must break the large ones to see that they are not decayed or rotten within, and also observe that they are not musty or worm-eaten. This is the more necessary, as damaged pieces are frequently so artfully dressed up, and colored with powdered rhubarb, as to impose on the buyer.

RHUBARB, EXTRACT OF.

i. Rhubarb, bruised or sliced, 15 oz., proof spirit 1 pint, water 7 pints. Macerate for four days with a gentle heat, strain, and evaporate. It should be evaporated as rapidly as possible, by means of a current of dry air. Dose as a stomachic, from 5 to

10 grains; as a purgative, from 10 grains to $\frac{1}{2}$ drachm. Good rhubarb yields about half its weight of extract.

II. *Compound*.—Extract of rhubarb 3 drachms, extract of aloes and soap of jalap, of each 1 drachm.

RHUBARB, INFUSION OF.

I. Put 1 drachm of the root, powdered, to $\frac{1}{2}$ pint of water. Take 4 oz. along with a little neutral salts as an aperient, and $\frac{1}{2}$ oz. with tincture of cinnamon as a stomachic.

II. *Alkaline*.—Rhubarb 3 parts, carbonate of potass 1 part, boiling water 48 parts.

RHUBARB MIXTURE.

Compound.—Rhubarb 1 drachm, sub-carbonate of soda 2 drachms, tincture of orange peel $1\frac{1}{2}$ oz., decoction of liquorice $10\frac{1}{2}$ oz. It may be taken in a dose of $\frac{1}{2}$ drachm to $1\frac{1}{2}$ drachm two or three times a day.

RHUBARB PILLS.

I. Rhubarb 1 oz., jalap and vitriolated tartar, of each $2\frac{1}{2}$ drachms, oil of nutmeg $\frac{1}{2}$ drachm, liquid extract of gentian to make into pills.

II. Take of rhubarb, in powder, 1 oz., Socotrine aloes 6 drachms, myrrh $\frac{1}{2}$ oz., volatile oil of peppermint $\frac{1}{2}$ drachm. Make them into a mass with a sufficient quantity of syrup of orange peel.

These pills are intended for moderately warming and strengthening the stomach, and are gently aperient. A scruple of the mass may be taken night and morning.

RHUBARB POWDER.

Magnesia 1 lb., rhubarb 4 oz., ginger 2 oz. All in fine powder—mix, and preserve in a corked bottle.

An excellent antacid, stomachic, and mild purgative.

RHUBARB, TINCTURE OF.

I. Rhubarb 2 oz., smaller cardamom seeds $\frac{1}{2}$ oz., saffron 2 drachms, proof spirit 2 lbs.

II. Rhubarb 2 lbs., cardamom seeds and grains of Paradise, of each 6 oz., saffron 3 oz., proof spirit 3 gallons.

III. Rhubarb root 1 lb., liquorice root 6 oz., ginger 2 oz., cardamoms 1 oz., saffron 3 drachms, spirits of wine 5 pints, water 3 pints.

IV. Rhubarb 2 oz., gentian root $\frac{1}{2}$ oz., proof spirit $2\frac{1}{2}$ lbs. by weight.

V. Rhubarb 10 drachms, Socotrine aloes 6 drachms, lesser cardamom seeds $\frac{1}{2}$ oz., proof spirit $2\frac{1}{2}$ lbs. by weight.

VI. Rhubarb, sliced, 3 oz., lesser cardamom seeds, bruised, $\frac{1}{2}$ oz., liquorice root, bruised, $\frac{1}{2}$ oz., saffron 2 drachms, proof spirit 2 pints. Digest for seven days, and strain. Dose $\frac{1}{2}$ oz. as a purge, or 2 drachms as a stomachic.

VII. *Compound*.—Rhubarb, sliced, 2 oz., liquorice root, bruised, $\frac{1}{2}$ oz., ginger powdered, and saffron, of each 2 drachms, distilled water 1 pint, proof spirit 12 oz. by measure. Digest for fourteen days, and strain. Dose $\frac{1}{2}$ oz. as an aperient, or 1 oz. in violent diarrhoea.

RHUBARB WINE.

I. Rhubarb $2\frac{1}{2}$ oz., lesser cardamoms $\frac{1}{2}$ oz., crocus 2 drachms, mountain wine 2 lbs.

II. Rhubarb 2 drachms, canella alba 1 drachm, proof spirit 2 oz., white wine 15 oz. Digest for seven days.

III. Take of sliced rhubarb $2\frac{1}{2}$ oz., lesser cardamom seeds, bruised and husked, $\frac{1}{2}$ oz., saffron 2 drachms, Spanish white wine 2 pints, proof spirit $\frac{1}{2}$ pint. Digest for ten days, and strain.

This is a warm, cordial, laxative medicine. It is used chiefly in weakness of the stomach and bowels, and some kinds of loosenesses, for evacuating the offending matter, and strengthening the tone of the viscera. It may be given in doses of from half a spoonful to three or four spoonfuls or more, according to the circumstances of the disorder, and strength of the patient.

RICE BISCUITS.

Mix together 3 lbs. of wheat flour and 1 lb. of rice flour. Put this in a pan, make a bay or hole in the middle, rub in by degrees 1 lb. 10 oz. of loaf-sugar, and $\frac{1}{2}$ lb. of butter; make the whole into a dough, $\frac{3}{4}$ pint of milk with an egg or two, dissolving first in the milk 1 oz. of volatile salt. Roll out the dough into a sheet, about the sixth of an inch thick, cut out the biscuits with a plain round cutter, about 3 inches in diameter; rub over the tops with milk, and throw them into rice flour, place them on buttered tins, so as not to touch, and bake in a moderate brisk oven.

RICE CAKES.

Beat the yolks of 15 eggs for nearly half an hour with a whisk, mix well with them 10 oz. of fine-sifted loaf-sugar, put in $\frac{1}{2}$ lb. of ground rice, a little of orange-flower water or brandy, and the rinds of 2 lemons, grated, then add the whites of 7 eggs, well beaten, and stir the whole together for a quarter of an hour, put them into a hoop, and set them in a quick oven for half an hour, when they will be properly done.

RICE GLUE.

Mix rice flour intimately with cold water, and gently simmer it over the fire, when it readily forms a delicate and durable cement, not only answering the purposes of common paste, but admirably adapted to join together paper, card, &c.

When made of the consistence of plastic clay, models, busts, basso-relievos, &c. may be formed; and the articles, when dry, are very like white marble, and will take a high polish, being very durable. In this manner the Chinese and Japanese make many of their domestic idols.

RICH PLUM CAKE.

Take 1 lb. of fresh butter, 1 lb. of sugar, 1½ lb. of flour, 2 lbs. of currants, a glass of brandy, 1 lb. of sweetmeats, 2 oz. of sweet almonds, 10 eggs, ½ oz. of allspice, and ¼ oz. of cinnamon. Melt the butter to a cream, and put in the sugar. Stir it till quite light, adding the allspice and pounded cinnamon; in a quarter of an hour take the yolks of the eggs, and work them in two or three at a time; and the whites of the same must by this time be beaten into a strong snow quite ready to work in; as the paste must not stand to chill the butter, or it will be heavy, work in the whites gradually; then add the orange-peel, lemon, and citron, cut in fine stripes, and the currants, which must be mixed in well with the sweet almonds. Then add the sifted flour and glass of brandy. Bake this cake in a tin hoop in a hot oven for three hours, and put 12 sheets of paper under it to keep it from burning.

RICH SEED CAKE.

Take 1½ lb. of flour, well dried, 1 lb. of butter, 1 lb. of loaf sugar, beat and sifted, 8 eggs and 2 oz. of carraway seeds, 1 grated nutmeg, and its weight in cinnamon. Beat the butter into a cream, put in the sugar, beat the whites of the eggs and the yolks separately, then mix them with the butter and sugar. Beat in the flour, spices, and seed, a little before sending it away. Bake it 2 hours in a quick oven.

RIGA BALSAM.

Mix together 4 oz. of spirit of wine, 1 drachm of friar's balsam, 2 drachms of tincture of saffron.

The balsam is used for sprains and bruises.

RING GOLD.

Melt together of Spanish copper 6 penny-weights and 12 grains, fine silver 3 penny-weights and 16 grains, to 1 oz. 5 penny-weights of gold coin.

This is worth about £3 per ounce.

RINGWOOD ALE, TO BREW.

This brewing produces 2½ barrels from the quarter. The best pale malt and pocket hops are used at the rate of 6 lbs. to the quarter. Turn on first mash at 180°, and second mash at 190°. Pitch the tun at 60°, and cleanse at 80°. Mash successively one hour, and three quarters of an hour, standing an hour and a half, and two hours. Add in the tun 2 lbs. of yeast for every barrel, and coat with salt and flour after the first skimming.

RINGWORM.

A disorder decidedly contagious, which attacks the head, and sometimes to a less degree the temples, face, and neck. It first appears on one of these parts as a round or

oval spot, which is slightly red, after a very short time other spots appear among or near to the hair. These spots at first not larger than a sixpence, soon become redder, and covered with a mass of very small pimples, which, after a few days, ripen and discharge a thin fluid. This fluid touching the neighbouring parts, communicates the irritating effect to them, and they in their turn break and spread, until the spot is much enlarged, while others appearing, the whole becomes confluent, and the scalp is covered with sores, constituting the virulent form of the disease, called *scald head*. The greatest remedy in this disorder is cleanliness, particularly to absorb and cleanse away by frequent washings of soap and warm water, all the lymph which settles upon the spots, and forms the usual scab upon them. The hair too must be cut very close, and where it is possible, the head must be shaved. If a hard crust has formed upon the spots, it must be softened by a linseed meal poultice, and then washed entirely away, before the curative lotion or ointment is applied. The ringworm generally attacks children, but not wholly so. It is so contagious, that another child sleeping with one thus afflicted, wearing his hat or cap, washing with the same towel, sitting next to him, or playing with him, will generally communicate the disease, so that once established, it frequently passes through a whole family, or school of children. Very numerous remedies have been proposed, among which are the following:—

I. Common soda and sulphuret of potass, of each 3 drachms, lard 3 oz.

II. Tobacco ointment, rubbed on once a day at bed-time.

III. Wash the place over frequently with common black writing ink.

IV. Anoint the places daily with the greenish oil which is found in the bearings of machinery, where bell-metal and iron work together. This oil is impregnated with copper, zinc, and iron.

V. Anoint the place frequently with an ointment made of gunpowder, rubbed up with lard, or wash it with the same dissolved in water.

ROCHELLE SALT.

I. Dissolve 20 oz. of subcarbonate of soda in 10 pints of water, add while boiling 24 oz. of cream of tartar, filter, evaporate to a pellicle, and set aside to crystallize.

II. Dissolve 3 lbs. of cream of tartar in water, add pearlash to saturate the superfluous acid, filter, and then add 9 oz. of common salt, evaporate, and crystallize.

This salt is a mild aperient, taken in ounce doses, and more agreeable than Epsom salts. It is called also tartarized soda, and the tartrate of potass and soda.

ROCHE'S EMBROCATION FOR HOOPING COUGH.

A nostrum, the basis of which is olive oil, with which is mixed, as stimulant ingredients, half the quantity of oil of amber and of cloves.

ROCKETS, COMPOSITIONS FOR FILLING.

It is an axiom among fire-work makers, that the smaller the case, so much quicker must be the composition to fill it, or in other words, the mixture that will do for a small case, will burn too rapidly when placed in one of larger cavity. Hence it follows, that the same composition will not do for large and also for small rockets. The following are some of the most approved receipts. To combine the ingredients of all fire-works well together, they should be first pounded separately. (Gunpowder, when pounded, is called *mealpowder*, and as it may be bought in this state, it is better to use it, as it saves much trouble.) When pounded separately, mix them well together by hand, and rub them through a very fine wire sieve, or in absence of this, a common sieve.

I. *For Rockets of 1 or 2 lbs.*—Mealpowder 2 lbs., saltpetre 8 oz., brimstone 4 oz., charcoal 2 oz., steel-filings 1½ oz.

II. *For Rockets of from 1 lb. to 4 oz.*—Mealpowder 1 lb., saltpetre 4 oz., brimstone 3 oz., charcoal 1½ oz.

III. *For Rockets under 4 oz.*—Mealpowder 1½ lb., saltpetre 4 oz., charcoal 2 oz.

ROCKETS, RAINS FOR.

These are often used instead of stars, and with a fine effect. They are made by substituting small cases, like squibs, for the stars. The cases may be made by rolling a few inches of paper round a pencil, and turning in the lower end, ramming it down on the table or otherwise. When dry, these cases, which may be from 2 to 3 inches long, are to be rammed with either of the following compositions, and primed with a little damp powder, and a piece of touch paper slightly pasted over it, taking care that paste never touches the part of the paper which is to burn. When ready, they are to be placed in the head of the rocket, with the mouth downwards, and gunpowder strewed among them, as among the stars.

Gold Rain.—(a) Sawdust 1, sulphur 2, mealpowder 2, glass dust 3, and nitre 8 oz.—(b) Mealpowder 4, nitre 16, sulphur 4, brass dust 1, sawdust 2½ oz., and glass dust 6 drachms.—(c) Mealpowder 6, nitre 1, and charcoal 2 oz.

Silver Rain.—(a) Mealpowder 2, nitre 4, sulphur 2, sulphuret of antimony 2, and sal prunella ½ oz.—(b) Nitre ½, sulphur 2, and charcoal 4 oz.

Any of the compositions for stars may be used in cases to form rains of different colors; they must not be rammed very hard.

Chinese Fire.—Mealpowder 1 lb., sulphur 2 lb., and sulphuret of iron 2 oz. (Made by throwing iron filings into melted sulphur, stirring them about, and when cold, powdering and sifting them.)

Ancient Fire.—Mealpowder 1 lb., and charcoal 2 oz.

Brilliant.—Mealpowder 1 lb., sulphuret of iron 4 oz.

Red Shower.—Take deal sawdust, and boil it in water in which saltpetre has been dissolved. Take it out, and when dry, spread it out on a table, and sprinkle it with equal parts of mealpowder and sulphur.

White.—Pulverize and mix intimately together 24 parts of saltpetre, 7 of sulphur, and 2 of realgar. This burns with a beautiful white light.

ROCKET STARS.

To make them it is requisite to mix and incorporate the compositions well together, those containing the chlorate of potass with the hand only, (because if ground, such may explode,) and form the composition into a paste with spirits of wine, brandy, or vinegar, so that it shall resemble dough in stiffness; then cut it into pieces about the size of small marbles, roll them round in the hand, dust them over with mealpowder, and set them aside to dry. To charge the rocket, 20 or more may be placed in the head of the rocket, and a dram full of grained gunpowder being sprinkled between them; the top is to be closed by the conical cap, and the rocket will be finished; and provided the gunpowder has free communication with the charging composition, it will explode when the rocket has reached its proper altitude.

Common.—Nitre 1 lb., sulphur 4½ oz., antimony 4 oz., isinglass ½ oz., camphor ½ oz., spirits of wine ¾ oz.

White.—(a) Mealpowder 4 oz., saltpetre 12 oz., sulphur 6½ oz., camphor 5 oz.—(b) Mealpowder 4 oz., nitre 16 oz., sulphur 7 oz.—(c) Mealpowder 3 oz., nitre 16 oz., sulphur 8 oz.

Blue.—Mealpowder 8 oz., nitre 4 oz., and sulphur 2½ oz.

Amber.—Nitre 8 oz., sulphur 2 oz., yellow amber 1 oz., sulphuret of antimony 1 oz. and mealpowder 3 oz.

Crimson.—Sulphur 1 oz., sulphuret of antimony 1 oz., chlorate of potass 1 oz., and nitrate of strontian 5 oz.

Green.—Chlorate of potass 1, sulphuret of antimony 4, sulphur 13, nitrate of barytes 80 parts.

Purple.—Lamp black 1, realgar, or red arsenic, 1 oz., nitre 1, sulphur 2, nitrate of strontian 16, and chlorate of potass 5 parts.

Tailed.—Nitre 4, sulphur 6, sulphuret of antimony 2, and rosin 4 parts.

Tailed with Sparks.—Mealpowder 1 oz., nitre 1 oz., and camphor 2 oz.

ROCKET STICKS, LENGTH OF.

The smaller ones are easily and best made of those laths, called by bricklayer's double laths, and the larger ones pantile laths, but any slip of dry deal will answer the purpose. Two lb. rockets require sticks 9 feet 4 inches long, 1 inch square at top, and rather more than $\frac{1}{2}$ inch square at bottom—1 lb. rocket sticks are 8 feet 2 inches long, $\frac{3}{4}$ inch square at top, and $\frac{3}{8}$ at bottom—8 oz. rocket sticks, 6 feet 2 inches long, $\frac{3}{8}$ inch square at top, and $\frac{3}{8}$ at bottom—4 oz. rocket sticks, 5 feet 3 inches long, $\frac{3}{8}$ by $\frac{1}{2}$ inch at top, and $\frac{1}{2}$ inch square at bottom—2 oz. rocket sticks are 5 feet 1 inch long, $\frac{3}{10}$ by $\frac{1}{2}$ inch at top, and $\frac{2}{10}$ at bottom—1 oz. rocket sticks are 3 feet 6 inches long, and so on for others of various sizes. The weight and the length of the stick must be such, as that when tied on the rocket, shall balance on the finger, at a point about an inch from the point choked.

Rockets with small heads, and such as are not charged with a report, and also small signal rockets do not require sticks so heavy as the above; so also petard rockets, and others with large heavy heads, require them still longer. The beauty, steadiness, and lofty flight of a rocket, depends much upon the right adjustment of the stick. If this be too heavy, the rocket will move slowly, and not ascend to a sufficient height, if too light, its course will be unsteady and irregular, so that the majesty of it will be lost.

ROCK-WORK AND RESERVOIRS, CEMENT FOR.

Where a great quantity of cement is wanted for coarse uses, coal-ash mortar (or Welsh tarras) is the cheapest and best, and will hold extremely well, not only where it is constantly kept wet or dry, but even where it is sometimes dry, and at others wet; but where it is liable to be exposed to wet and frost, this cement should, at its being laid on, be suffered to dry thoroughly before any moisture has access to it; and, in that case, it will likewise be a great improvement to temper it with the blood of any beast. The mortar must be formed of 1 part lime and 2 parts of well-sifted coal-ashes, and they must be thoroughly mixed by being beaten together; for on the perfect commixture of the ingredients the goodness of the composition depends.

ROMAN CANDLES.

Roman candles are constructed nearly after the manner of gerbes; their cases are made perfectly cylindrical, as above described, and between the layers of composition, are interposed balls, or stars, which are prepared as directed for rockets, but larger and rolled round by the fingers. In filling and ramming Roman candles, especial care must be taken that the stars are not broken in the operation. When the cases have been properly rolled and dried, and their bottoms firmly secured by tying them with some strong twine, it is

best, previous to putting in the composition, to ram a little dry clay, which will fill up the hollow, and leave a better bottom to the case. This being properly done, put in a small quantity of corn powder, and over this a small piece of paper, just to prevent the composition from mixing with the powder; then as much of the composition is to be put in as will, when rammed hard down, fill the case about one-sixth of its height; then over this a small piece of paper, (covering about two-thirds of the diameter,) as before, then a little corn powder, and upon that a ball is to be placed, observing to let the ball be somewhat less than the diameter of the case. Over this first ball more of the composition is to be introduced, and pressed lightly down, till the case is about one-third full, when it may be rammed, but with some gentle strokes, lest the ball be broken by it; then a piece of paper, a little corn powder, and upon it another ball, as before; so that the case after this manner will contain five or six balls with regular beds of composition between them, and have about the same length of composition above the highest ball. When the case is thus filled, it is to be capped with touch-paper by pasting it round the orifice, and a little priming of mealed powder being added, the piece is rendered complete. In regard to the stars or balls, it is best that their form be flat and circular, or even square, rather than spherical, as they will be less liable to be injured in the filling. They should also be somewhat different in size, which is found to add much to their effect; that is, let the first star be about two-thirds the diameter of the case, let the next be a little larger, and so on increasing to the fourth, fifth, or sixth, which last should fit tight into the case. Observe also to let the quantity of powder at the bottom of each ball increase as the balls increase in diameter, or as they come nearer the top of the case; not on account of the additional weight of the ball, but, as on those balls situate near the top, the force of the powder ceases to act on the ball, sooner than on those situate lower in the case, consequently the force to throw the ball to the same distance must increase proportionably; another reason for decreasing the quantity of powder towards the bottom is, that the same quantity used with the bottom as with the top ball, would cause the case to burst, and destroy all the effect which they are intended to produce. The composition for filling is meal powder $\frac{1}{2}$ lb., saltpetre $2\frac{1}{2}$ lbs., sulphur $\frac{1}{2}$ lb., glass dust $\frac{1}{2}$ lb.

ROMAN CEMENT.

1. A sort of plaster so called, which well withstands our soft climate, is made by mixing 1 bushel of lime, slaked, with $3\frac{1}{2}$ lbs. of green copperas, 15 gallons of water, and

$\frac{1}{2}$ bushel of fine gravel sand. The copperas should be dissolved in hot water; it must be stirred with a stick, and kept stirring continually while in use. Care should be taken to mix at once as much as may be requisite for one entire front, as it is very difficult to match the color again; and it ought to be mixed the same day it is used.

II. *Genuine*.—This consists of the *pulvis Buteolanus*, or *Puzzolene*, a ferruginous clay from Puteoli, (calcined by the fires of Vesuvius,) lime, and sand, mixed up with soft water. The only preparation which the *Puzzolene* undergoes is that of pounding and sifting; but the ingredients are occasionally mixed up with bullock's blood, and fat of animals, to give the composition more tenacity.

ROSEATE POWDER.

Lime 12 oz., starch 10 oz., orpiment 1 oz. Mix them together. This is used to take off superfluous hair.

ROSE CERATE, (LIP SALVE.)

Oil of almonds 1 lb., white wax $\frac{1}{2}$ lb., alkanet root 1 oz.; melt and digest until sufficiently colored, strain, and when cool, add a little otto of roses.

ROSE HAIR POWDER.

I. Mix well 12 lbs. of starch-powder with 3 lbs. of rose perfume. Sift, put it up in a cedar box, or glass bottle.

II. A second sort of this powder may be made by using half the quantity of the perfume to 12 lbs. of powder, and adding 2 drops of otto of roses, previously dropped on sugar, and well triturated in a glass mortar.

ROSE LOZENGES AND DROPS.

To 1 lb. of finely-sifted loaf-sugar, put 1 oz. of powdered gum arabic, or tragacanth; mix it into a stiff paste with rose-water, and to which may be added a drop or two of the otto of roses; or still better, grind up with the paste a little of the conserve of roses, this gives both flavor and color; punch into round lozenges, about 15 grains each, and dry in a stove. Rose drops are made of the same preparation, without the gum, boiled and dropped on paper or tin.

ROSE OIL, FOR THE HAIR.

I. Olive oil 1 pint, otto of roses $\frac{1}{2}$ to 1 drachm; color it red by steeping a little alkanet root in the oil first.

II. Put any quantity of dried rose leaves in an earthenware pipkin, cover them with olive oil, and keep hot for some hours. The oil will extract both odour and color. A little oil of rosemary is frequently added.

ROSE PEARLS, OR ROSE BEADS.

Beat the petals of the red rose in an iron mortar for some time, till they form a black paste, which are to be rolled into beads and dried. They become very hard, take a fine polish, and retain all the odour of the flower.

ROSE PINK.

Boil logwood in water with a little alum, and pour the solution after being filtered on to powdered chalk. The chalk will absorb the coloring matter, and the pigment called rose pink be formed.

ROSE SOAP.

This is made of the following ingredients:—30 lbs. of olive-oil soap, and 20 lbs. of good tallow soap. Toilet soaps must be reduced to thin shavings, by means of a plane, with its under face turned up, so that the bars may be slid along it. These shavings must be put into an untinned copper pan, which is surrounded by a water-bath, or steam. If the soap be old and hard, 5 lbs. of water must be added to them; but it is preferable to take fresh-made soaps, which may melt without addition, as soap some time kept does not readily form a homogeneous paste. The fusion is commonly completed in an hour, or thereby, the heat being applied at 212° Fah., to accelerate the process, and prevent the dissolution of the constituent water of the soap. For this purpose the interior pan may be covered. Whenever the mass is sufficiently liquefied, $1\frac{1}{2}$ oz. of finely-ground vermilion is to be introduced, and thoroughly mixed, after which the heat may be taken off the pan; when the following perfumes may be added with due trituration; 3 oz. of essence of rose, 1 oz. of cloves, 1 oz. cinnamon, and $2\frac{1}{2}$ oz. of bergamot.

ROSE WATER.

Take of the leaves of fresh damask roses, 6 lbs., water as much as to prevent burning. Distil off a gallon.

ROSE WINE.

Put into a well-glazed earthen vessel, 3 quarts of rose water, put into it a quantity of rose leaves, cover it close, and set it for an hour in a kettle or copper of hot water, to extract the whole strength and flavor of the roses. When it is cold, squeeze the rose leaves into the liquor, and steep fresh ones in it, to increase the flavor. To every gallon of liquor put 3 lbs. of loaf-sugar, and stir it well, that it may dissolve, then put it into a brandy cask, or other convenient vessel, to ferment, and throw into it a piece of bread, toasted hard and covered with yeast; let it stand a month, when it will be ripe, and have the flavor and scent of roses; by adding some wine and spices it will be much improved.

ROSE'S GLAZE FOR EARTHENWARE.

Mix 27 parts of felspar, 18 of borax, 4 of Lynn sand, 3 of nitre, 3 of soda, and 3 of the china clay of Cornwall. The materials are calcined together, and ground to a fine powder. It is used as a glaze for the ordinary printed blue earthenware.

ROSES, CONSERVE OF.

Pound up in a mortar, 3 lbs. of sugar with 1 lb. of rose leaves.

The conserve or confection of the Dog Rose is made from the pulp of the fruit, hence called confection of hips—1½ lb. of sugar being allowed to 1 lb. of the fruit pulp, pound them together in a marble mortar.

ROSES, ESSENCE OF.

I. Otto of roses 1 oz., spirits of wine 1 gallon. Mix in a close vessel, and put in a pan of hot water, to assist the union. As soon as the spirits get weaker, take it from the heat, and shake till cold. The next day filter through blotting paper.

The spirits of wine must be as strong as possible, or some of the otto of roses will be deposited and lost.

II. Petals of red roses 3 lbs.; digest in 5 quarts of spirits of wine for twenty-four hours, then filter. Soak more rose leaves for the same time, and thus continue the operation for four or five times.

III. Rose leaves 1 lb., spirits of wine and water, of each 2 quarts; digest for fourteen days, press, strain, add 2 drachms of diluted sulphuric acid. Mix well, and the next day filter. Used for coloring medicines, &c.

ROSES, HONEY OF.

Take of dried rose-buds 4 oz., boiling distilled water 3 pints, clarified honey 5 lbs. Macerate the rose leaves in the water for six hours; then mix the honey with the strained liquor, and boil the mixture to the thickness of a syrup.

This preparation is not unfrequently used as a mild, cooling detergent, particularly in gargles for ulcerations and inflammation of the mouth and tonsils. The rose-buds here used should be hastily dried, that they may the better preserve their astringency.

ROSES, INFUSION OF.

I. *Simple*.—Infuse for some hours 1 oz. of the dried petals in a pint of boiling water.

II. *Compound*.—Dried petals of the red rose 3 drachms, diluted sulphuric acid 1½ fluid oz., boiling distilled water 1 pint, white sugar 6 oz.

III. Take of dried red roses ½ oz., diluted vitriolic acid 3 drachms, boiling distilled water 2½ pints, double-refined sugar 1½ oz. First pour the water on the petals, in a close vessel, then add the diluted vitriolic acid, and macerate for half an hour. Strain the liquor when cold, and add the sugar.

The differences in the directions for preparing this infusion are very material. In fact, the rose leaves have very little effect, except in giving the mixture an elegant red color. Its sub-acid and astringent virtues depend entirely on the sulphuric acid. Altogether, however, it is an elegant medicine, and forms a very grateful addition to juleps in hæmorrhages, and in all cases which require mild coolers and sub-astringents. It is sometimes taken with boluses or electuaries of bark, and likewise makes a good gargle.

ROSES, LINCTUS OF.

Confection or conserve of red roses 3 oz., diluted sulphuric acid 1 drachm, compound tincture of camphor 1½ oz. Dose a teaspoonful occasionally as an excellent fever remedy, tonic, and cooling.

ROSEMARY, OIL OF.

This is extracted from the *rosmarinus officinalis*. It is as limpid as water, has the smell of the plant, and in other respects resembles oil of turpentine. The oil found in commerce has a specific gravity of 0.911, which becomes 0.8886 by rectification. It boils at 320 F. (occasionally at 329°.) It is soluble in all portions in alcohol of 0.830. When kept in imperfectly closed vessels, it deposits a stearessence to the amount of $\frac{1}{10}$ of its weight, resembling camphor. It is sometimes adulterated with oil of turpentine, a fraud easily detected by adding anhydrous alcohol, which dissolves only the oil of rosemary.

ROSEMARY, SPIRIT OR ESSENCE OF.

I. Soak for fourteen days 2 lbs. of the dried herb in 1 gallon of proof spirit.

II. Dissolve 1 oz. of the oil of rosemary in 1 gallon of proof spirit.

III. Oil of rosemary 6 oz., foreign oil of lavender 1 oz., cassia berries 6 oz., allspice 4 oz., spirits of wine 2 gallons, water 2 gallons. Distil off 3 gallons.

IV. Oil of rosemary 1½ oz., English oil of lavender 2 drachms, oil of cinnamon 1 drop, proof spirit 10 pints.

V. Oil of rosemary 4 drachms, foreign oil of lavender 1 oz., spirits of wine 3 pints.

ROSEMARY WATER.

As the method of performing the operation by the cold still is the very same, whatever plant or flower is used, the following instance of procuring a water from rosemary will be abundantly sufficient to instruct the young practitioner in the manner of conducting the process in all cases whatever. Take rosemary, fresh gathered in its perfection, with the morning dew upon it, and lay it lightly and unbruised upon the plate or bottom of the still; cover the plate with its conical head, and apply a glass receiver to the nose of it. Make a small fire of charcoal under the plate, continuing it as long as any liquor comes over into the receiver. When nothing more comes over, take off the still head, and remove the plant, putting fresh in its stead, and proceed as before; continue to repeat the operation successively, till a sufficient quantity of water is procured. Let this distilled water be kept at rest in clean bottles, close stopped, for some days in a cold place; by this means it will become limpid, and powerfully impregnated with the taste and smell of the plant.

ROSE-WOOD, TO IMITATE.

Boil $\frac{1}{2}$ lb. of logwood in 3 pints of water, till it is of a very dark red; add $\frac{1}{2}$ oz. of salt of tartar. While boiling hot, stain the wood with 2 or 3 coats, taking care that it is nearly dry between each; then with a stiff flat brush, such as is used by the painters for graining, form streaks with a black stain, which, if carefully executed, will be very nearly the appearance of dark rose-wood.

ROUGE.

I. Wash safflower till the water comes off colorless, dry the washed petals, and soak them in sub-carbonate of soda water; pour the yellow liquor upon fine white carded cotton, add lemon juice, citric acid, or acetic acid; the cotton takes a yellowish red tinge, wash the cotton to take away the yellow, then soak it in fresh carbonate of soda, decant the liquor upon some French chalk, very finely powdered, again add acid to throw down the coloring matter, dry the colored chalk, and grind it with a few drops of olive oil.

The sediment, when dried, looks of a dull bronze color, but becomes bright upon being ground with the oil, or when wetted with water.

II. Carmine united to talc, in different proportions, forms rouge employed for the toilette. Talc is distinguished also by the name of Briançon chalk. It is a substance composed, in a great measure, of clay, combined naturally with silex.

Carmine, as well as carminated lakes, (the coloring part of which is borrowed from cochineal,) are the most esteemed of all the compositions of this kind, because their coloring part maintains itself without degradation. There are even cases where the addition of caustic ammonia, which alters so many coloring matters, is employed to heighten its color. It is for this purpose that those who color prints employ it.

ROUT CAKES.

Mix together flour 2 lbs., butter, sugar, and currants, of each 1 lb.; wet them up with 3 eggs, well beaten, $\frac{1}{2}$ pint of milk, 2 glasses of white wine, and 1 glass of brandy; drop on a tin plate, and bake them. Some persons flavor them by adding almonds.

ROUT BISCUITS.

Take 3 lbs. of flour, 6 oz. of butter, $1\frac{1}{4}$ lb. of loaf sugar, $\frac{1}{2}$ pint of milk, $\frac{1}{4}$ lb. of volatile salts, pounded fine, and a little essence of lemon. Put the sugar and volatile salts in the milk, let them stand for an hour or two, stirring them occasionally. Work it as little as possible, press it into square moulds, cut off the dough at the back that it may be of the proper thickness, then bake in a moderate oven.

ROUSSEAU'S DROPS.

Take 12 oz. of white honey, 3 pints of hot water; dissolve the honey in the water, put the mixture in a matrass, and set it in a warm place. As soon as the fermentation begins, add 4 oz. of opium dissolved in 12 oz. of

water. Ferment for a month in a warm place, then strain and filter the liquor; evaporate till there remains only 10 oz., strain again, and add $4\frac{1}{2}$ oz. of alcohol.

ROWLAND'S KALYDOR.

This is made by bruising 1 oz. of blanched bitter almonds with 5 grains of bichloride of mercury, and adding by degrees $\frac{1}{2}$ pint of rose-water, triturating well, and straining through fine muslin.

It is by no means a safe preparation.

ROWLAND'S MACASSAR OIL.

This is made by boiling castor oil, scenting it with oil of roses, and coloring it, while warm, with alkanet root.

ROYAL ESSENCE.

Ambergris 2 scruples, musk 1 scruple, civet and sub-carbonate of potass, of each 10 grains, oil of cinnamon 6 drops, oil of rhodium and otto of roses, of each 4 drops, rectified spirits of wine 4 fluid oz. Soak for ten or fourteen days, then filter. A few drops on sugar is a fine anti-spasmodic.

Pour faire la barbe.—Castile soap in shavings 4 oz., dissolved in 1 pint of proof spirit.

RUBY, TO IMITATE.

To 16 oz. of paste for gems, add a mixture of 2 drachms and 48 grains of the purple precipitate of cassius, the same quantity of peroxide of iron, prepared by decomposing the nitrate of iron by potass, the same quantity of yellow sulphuret of antimony and of manganese, calcined with nitre, and 2 oz. of rock crystal, previously calcined and reduced to powder or paste, 40 grains, oxyde of manganese 1 grain.

RUDIUS'S PILLS.

Pulp of colocynth 6 drachms, agaric, root of the black hellebore, and turbetum root, of each $\frac{1}{2}$ oz., cinnamon, mace, and cloves, of each 2 scruples, rectified spirit 8 oz. Digest for four days, strain, and evaporate to a proper consistence. Formerly esteemed as one of the most certain cathartics in obstinate constipation. Dose from 5 to 30 grains, taken two or three times a day.

RUE, CONFECTION OF.

Dried rue, carraway, and laurel berries, of each $1\frac{1}{2}$ oz., sagapenum $\frac{1}{2}$ oz., black pepper 2 drachms, honey 16 oz. Reduce the dry ingredients to very fine powder, and, when wanted for use, make them into a confection with the honey. This is anti-spasmodic, and is chiefly used in enemas. From 30 to 60 grains being added to $\frac{1}{2}$ pint of gruel, for flatulent colic, &c.

RUE OINTMENT.

Leaves of rue, wormwood, and peppermint, of each 2 oz., lard 16 oz.; boil and strain.

RUFUS'S PILLS.

I. Socotrine aloes 2 oz., myrrh 1 oz., saffron $\frac{1}{2}$ oz.; make into pills with syrup of wormwood.

II. Aloes 1 lb., myrrh 8 oz., saffron in shreds 2 oz., syrup of saffron $1\frac{1}{2}$ lb.

III. Hepatic aloes 1 oz., myrrh $\frac{1}{2}$ oz., saffron 2 drachms, oil of carraway $\frac{1}{2}$ drachm, simple syrup to make into pills. These pills are stomachic and purgative, of very common use, but are to be avoided by those who are subject to the piles.

RUM SHRUB.

I. Take 60 gallons of rum, from 7 to 8 gallons of lemon juice, from 6 to 7 gallons of orange juice, both fresh expressed from the fruit, orange wine 30 gallons, 2 lbs. of the rind of fresh lemon peel, and 1 lb. of fresh orange peel, both pared off from the fruit as thin as possible, and previously steeped for a few days in the rum, 100 lbs. of loaf sugar, fill up the cask to 130 gallons with water; rouse them well together, if not sweet enough, sweeten to your palate; if too sweet, add more lemon juice. Dissolve the sugar in the water used for making up the quantity required. Let it stand till fine.

II. Concrete acid of lemons 8 oz., water 5 gallons, raisin wine 4 gallons, rum 10 gallons, orange-flower water 4 pints, honey 6 lbs.

SACK WINE, IMITATION OF.

To every quart of water put a sprig of rue, and to every gallon a handful of fennel roots; boil these half an hour, then strain it out, and to every gallon of this liquor put 3 lbs. of honey, after which boil it two hours, skimming it well; when cold, pour it off, and turn it into a clean cask; keep it a year in the cask, and then bottle it off.

SADILLOT'S FEBRIFUGE PILLS.

Disulphate of quinine 12 grains, powdered opium 3 grains, confection of opium 10 grains. make up into 12 pills, of which 1 may be taken every hour, between the fits of an ague.

SAFFRON LOZENGES.

Powdered hay saffron 1 oz., powdered white sugar 1 lb., mucilage of gum tragacanth to mix. Roll into a cake, stamp into lozenges, and dry.

SAFFRON, TINCTURE OF.

Hay saffron 2 oz., proof spirit 1 quart;

III. Orange juice 2 pints, rum 8 pints, sugar $1\frac{1}{2}$ lb. (See *Shrub*.)

RUSKS.

Make a light paste of 7 eggs, well beaten with $\frac{1}{2}$ pint of new milk, $\frac{1}{4}$ lb. of melted butter, 3 oz. of sugar, $\frac{1}{4}$ pint of yeast, with as much flour as the whole together, or about $1\frac{1}{2}$ lb.; let it rise before the fire for half an hour, then add a little more flour, form into small loaves or cakes, bake moderately, and when cold, cut them into slices the size of rusks, and put them in the oven to brown a little.

RUSPINI'S TOOTH-POWDER.

Cuttle fish-bone 8 oz., pounded alum 1 oz., cream of tartar 2 oz., Florentine iris root 1 oz., burnt crab's claws 2 oz., oil of rhodium 6 drops.

RUSPINI'S TINCTURE FOR THE TEETH.

Take 8 oz. of Florentine iris root and rhatany root, 1 oz. of cloves, 1 scruple of ambergris, 2 grains of musk, 2 pints of spirits of wine; make a tincture, and apply it with a bit of sponge or cotton.

It is not so good as tincture of myrrh.

RYMER'S CARDIAC TINCTURE.

A nostrum, which is composed, according to Dr. Paris, of an infusion of capsicum, camphor, cardamom seeds, rhubarb, aloes, and castor, in proof spirit, with a very small quantity of sulphuric acid.

digest for some days, and strain. It is rather stimulant in doses of 1 to 2 drachms, but is chiefly used to flavor and color other medicines.

SAGAPENUM PILLS.

Sagapenum 1 oz., aloes $\frac{1}{2}$ drachm; make up with syrup of ginger. Dose from 5 to 20 grains as a stimulant purgative in indigestion with flatulence.

SAGE WINE.

Boil 26 quarts of spring water a quarter of an hour, and when it is blood-warm, put 25 lbs. of Malaga raisins, picked, rubbed, and shred, into it, with almost $\frac{1}{2}$ bushel of red sage shred, and $\frac{1}{2}$ pint of ale yeast; stir all well together, and let it stand in a tub, covered warm, six or seven days, stirring it once a day; then strain it off, and put it in a cask. Let it work three or four days, and then stop it up; when it has stood six or seven days, put in a quart or two of Malaga sack, and when it is fine, bottle it.

SAILOR'S FLIP.

Take 3 eggs, 6 oz. of sugar, $\frac{1}{2}$ pint of rum, and 1 pint of water. Mix the sugar with the eggs, then add the rum. When the water is very near, but not quite, at the boiling point, pour in the previously-prepared mixture.

SALBERG WASH.

Dissolve 1 oz. of bichloride of mercury in a pint of rectified spirits of wine, and add 4 oz. each of castor oil and spirits of turpentine.

It is used as a poison for bugs, bedsteads and other furniture being washed with it.

SAL ENIXUM.

Boil the residuum left in the distillation of saltpetre with green vitriol, strain, and evaporate to dryness. It is used as a flux by silversmiths; also to adulterate cream of tartar.

SALINE DRAUGHT.

I. Take 1 scruple of bicarbonate of potass, 15 grains of citric or tartaric acid, or $\frac{1}{2}$ oz. of fresh lemon juice, 2 drachms of cinnamon water, 8 oz. of soft water, 1 drachm of syrup of orange; mix as a refrigerant.

II. Triturate in a mortar 15 grains of borax, and $\frac{1}{4}$ drachm of cream of tartar, with 10 drachms of almond milk; then add a drachm of syrup, and the same quantity of cinnamon water. This mixture will be found useful in fever and irritation of the stomach; and in almost all cases where saline draughts are prescribed, and when the stomach is so irritable as to eject other medicines.

The above mode of preparing a saline draught will be found to produce one as agreeable, and in some cases more efficacious than the one in general use, composed of the carbonate of potass and citric acid. The citric acid is often scarce; sometimes impure and expensive; the ingredients of the other are cheap, and never vary in quality.

SALMON'S DROPS OF LIFE.

Tincture of castor 8 oz., antimonial wine and water, of each 1 lb., opium 3 oz., saffron $\frac{1}{2}$ oz., cochineal, camphor, and nutmegs, of each 2 drachms; digest for ten days. In doses of 20 to 60 drops. This is a good anodyne and diaphoretic.

SALOOP.

The chips of the sassafras wood, boiled in water, the tea poured off and flavored with milk and sugar. Sold very early in the morning in London to persons attending markets, or going to their work, by vendors in the streets, who have a kettle full ready-boiled for this purpose.

Salop, or Salep, is a very different article, this being a starch made from the roots of the *orchis morio* and *mascula*—it forms a nutritious jelly. A third kind of Salep, called *French Salep*, is potatoes cut in slices, baked till brittle, and then ground up into a fine powder.

SAL VOLATILE DROPS.

I. Cinnamon 2 oz., mace $\frac{1}{2}$ oz., cloves 1 drachm, lemon peel $\frac{1}{2}$ oz., sal ammoniac $1\frac{1}{2}$ oz., prepared kali 4 oz., spirits of wine 12 oz.

II. Sweet spirits of ammonia 2 lb., essence of lemons, distilled oil of nutmegs, of each 2 drachms, distilled oil of cloves, $\frac{1}{2}$ drachm.

III. Oily mixture 2 oz., bicarbonate of ammonia 20 oz., spirits of wine 2 gallons. Draw off by distillation 18 or 19 pints.

SAMPHIRE, TO PICKLE.

Let the samphire be put in a pan and sprinkled with salt, then cover it with water for twenty-four hours; next put it into a clean saucepan, throw in a handful of salt, and cover it with good vinegar. Close the pan tight, set it over a slow fire, and let it stand till the samphire is green and crisp; then take it off instantly, for should it remain till it is soft, it will be totally spoiled. Put it into the pickling pot and cover it close, when it is quite cold, tie it down with a bladder and leather, and set it by for use. Samphire may be preserved all the year by keeping it in a very strong brine of salt and water, and just before using it put it for a few minutes into some of the best vinegar.

SANDARAC VARNISH.

I. Take of gum sandarac 8 oz., pounded mastic 2 oz., clear turpentine 4 oz., pounded glass 4 oz., alcohol 1 quart. Mix, and dissolve with frequent agitation.

II. *Compound*.—Take of pounded copal of an amber color, once liquefied, 3 oz., gum sandarac 6 oz., mastic, cleaned, 3 oz., clear turpentine $2\frac{1}{2}$ oz., pounded glass 4 oz., pure alcohol 1 quart. Mix these ingredients, and dissolve with frequent agitation.

This varnish is destined for articles subject to friction, such as furniture, chairs, fan-sticks, mouldings, &c., and even metals, to which it may be applied with success. The sandarac gives it great durability.

III. *Camphorated*.—Take of gum sandarac 6 oz., gum elemi 4 oz., gum animi 1 oz., camphor $\frac{1}{2}$ oz., pounded glass 4 oz., pure alcohol 1 quart. The soft resins must be pounded with the dry bodies. The camphor is to be added in pieces.

IV. Take of gallipot, or white incense, 6 oz., gum animi and gum elemi, of each 2 oz., pounded glass 4 oz., alcohol 1 quart.

SAP GREEN, PREPARATION OF.

Make a strong solution or extract, from the unripe berries of a shrub called *Rhamnus tinctorius*; or from any other plant which yields a green juice, such as unripe blackberries; inspissate this extract by evaporation at a very low heat, like that produced by a water bath or steam bath. When the liquid has become thick as treacle, pour it into a mould, and expose it to the heat of the sun,

or of a slow oven; the rest of the watery particles will slowly evaporate, and leave a cake of sap green. With other plants, lakes, madders, carmines, Indian yellows, &c., may be produced in the same manner.

It must be observed, that it is not all vegetable colors that are thus useful, as many of them lose their color almost immediately after they are used, this is the case with litmus, saffron, safflower, &c.

SAPPHIRE, ARTIFICIAL.

The paste to imitate the Oriental sapphire is to take the transparent or diamond paste 4608 parts, oxyde of cobalt 68 parts; fuse in a crucible thirty hours. Or, paste 8 oz., oxyde of cobalt 49 grains.

SARSAPARILLA, DECOCTION OF.

I. Take of sarsaparilla root, cut, 6 oz., distilled water 8 pints. After macerating for two hours, with a heat about 195 degrees, take out the root, and bruise it; add it again to the liquor, and macerate it for two hours longer; then boil down the liquor to 4 pints, and strain it. The dose is from 4 oz. to $\frac{1}{2}$ pint, or more, daily.

II. *Compound*.—Take of sarsaparilla root, cut and bruised, 6 oz., the bark of sassafras root, the shavings of guaiacum wood, and liquorice root, of each 1 oz., the bark of mezereon root 3 drachms, distilled water 10 pints. Digest with a gentle heat for six hours, then boil down the liquor to one-half, (or 5 pints,) adding the bark of the mezereon root towards the end of boiling. Strain off the liquor. The dose is the same as the last, and for the same purposes.

These decoctions are of very great use in purifying the blood, and removing obstruction in scorbutic and scrofulous cases, also in cutaneous eruptions, and many other diseases.

SATINS AND SARSENETS, WHITE, TO CLEAN.

I. Lay these smooth and even upon a board, spread a little soap over the dirty places; then make a lather with Castile soap, and with a common brush dip it in, pass it over the long way, and repeat it in this manner, till one side is sufficiently scoured; use the other in the same manner, then put it into hot water, and there let it lie, till you have prepared some cold water, wherein a small quantity of gum arabic has been dissolved. Now rinse them well, take them out and fold them, pressing out the water with the hands on the board, and keeping them under the hands till they are dry; at which time have brimstone ready burning to dry them over till they are ready for ironing.

II. Mix sifted stale bread crumbs with powder-blue, and rub it thoroughly all over, then shake it well, and dust it with clean soft cloths. Afterwards, where there are any gold or silver flowers, take a piece of crimson ingrain velvet, rub the flowers with it, which will restore them to their original lustre.

III. Pass them through a solution of fine hard soap, at a hand heat, drawing them through the hand. Rinse in lukewarm water, dry and finish by pinning out. Brush the flossy or bright side with a clean clothes brush, the way of the nap. Finish them by dipping a sponge into a size, made by boiling isinglass in water, and rub the wrong side. Rinse out a second time, and brush and dry near a fire, or in a warm room. Silks may be treated in the same way, but not brushed. If the silks are for dyeing, instead of passing them through a solution of soap and water, they must be boiled off; but if the silks are very stout, the water must only be of heat sufficient to extract the dirt, and when rinsed in warm water they are in a state for the dye.

IV. Strew French chalk over them, and brush it off with a hard brush once or twice.

SAUCE PIQUANTE.

Put a bit of butter, with 2 sliced onions, into a stew-pan, with a carrot, a parsnip, a little thyme, laurel, basil, 2 cloves, 2 shalots, a clove of garlic, and some parsley; turn the whole over the fire until it be well colored; then shake in some flour, and moisten it with some broth, and a spoonful of vinegar. Let it boil over a slow fire; skim, and strain it through a sieve. Season it with salt and pepper, and serve it with any dish required to be heightened.

SAUCE, SUPERLATIVE.

Port wine and mushroom ketchup, of each 2 pints, walnut pickle 1 pint, anchovies, pounded, $\frac{1}{2}$ lb., lemon peel, minced shalots, scraped horse radish, of each 2 oz., allspice, black pepper, pounded, of each 1 oz., cayenne pepper, 2 avoirdupois drachms, or curry powder 6 avoirdupois drachms, bruised celery seed 2 avoirdupois drachms. Steep for 14 days, and strain. (For other sauces, see *Kitchener, Ketchup, Tomata, Coratch, Quin's Sauce, &c.*)

SAUR KRAUT.

Clean white cabbages, cut them into small pieces, put them in a cask or jar in layers, along with salt; sprinkle over them occasionally a few juniper berries and caraway seeds, observing to pack them down as hard as possible with a wooden rammer, and to cover them with a lid pressed down with a heavy weight. The cask should be placed in a cool situation as soon as a sour smell is perceived.

SAUSAGE SPICE, FRENCH.

Black pepper 5 lbs., cloves and nutmegs, each $1\frac{1}{2}$ lb., ginger $2\frac{1}{2}$ lbs., anniseed and coriander seeds, of each $\frac{3}{4}$ lb.; powder and mix.

SAVIN OINTMENT.

Take of fresh savin leaves, separated from the stalks and bruised, $\frac{1}{2}$ lb., prepared hog's

lard 2 lbs., yellow wax $\frac{1}{2}$ lb. Boil the leaves in the lard, until they become crisp; then filter with expression; lastly, add the wax, and melt them together.

This is an excellent issue ointment, being, in many respects, preferable to those of cantharides. It is mixed with equal parts of blistering ointment, in order to keep up a discharge.

SAVON, ESPRIT DE.

Venetian soap $\frac{3}{4}$ lb., subcarbonate of potass 1 oz., benzoin $\frac{1}{2}$ oz., spirits of wine 1 gallon. Digest for a week, or until the whole is dissolved, and then filter.

Called also Essence of Soap, Shaving Fluid, Spirit of Soap, &c. (For another receipt, see *Shaving Fluid*.)

SAVORY SPICES, ESSENCE OF.

Black pepper 2 oz., allspice 1 oz., nutmegs $\frac{1}{2}$ oz., cloves, cassia, coriander, and carraway seeds, of each 1 drachm, all bruised, rectified spirits of wine 1 quart; then press and filter.

SAVOY CAKES.

To 1 lb. of fine-sifted sugar, put the yolks of 10 eggs, (have the whites in a separate pan,) and set it, if in summer, in cold water; if there is any ice, set the pan on it, as it will cause the eggs to beat finer. Then beat the yolks and sugar well with a wooden spoon for twenty minutes, and put in the rind of a lemon, grated; beat up the whites with a whisk, until they become quite stiff and white as snow. Stir them into the batter by degrees, then add $\frac{3}{4}$ lb. of well-dried flour; finally, put it in a mould in a slack oven to bake.

SAXON BLUE, LIQUID.

Indigo 1 lb., oil of vitriol 4 lbs. Dissolved by keeping the bottle in boiling water, then add water 12 pints.

SCALD HEAD, OINTMENT FOR.

I. Take of sulphur 1 oz., lard 1 oz., sal ammoniac 2 drachms. Mix, and rub on the part affected two or three times a day.

II. Take of sub-acetate of copper, in very fine powder, $\frac{1}{2}$ drachm, prepared calomel 1 drachm, fresh spermaceti ointment 1 oz. Mix well together. To be rubbed over the parts affected every night and morning. This ointment is also very efficacious in cases of foul and languid ulcers. (See *Ringworm*.)

SCAMMONY, ARTIFICIAL.

Aleppo scammony 1 lb., jalap 7 lbs., senna and charcoal, of each 2 lbs., manna 6 lbs., gamboge 4 lbs., ginger $\frac{1}{2}$ lb., syrup of buckthorn, enough to make the whole into a paste, which is then to be dried.

SCAMMONY, ELECTUARY OF.

Powdered scammony $1\frac{1}{2}$ oz., cloves bruised and ginger in powder, of each 6 drachms, oil of carraway $\frac{1}{2}$ drachm, syrup of roses to mix. This is a stimulant cathartic, in doses of 10 grains to $\frac{1}{2}$ drachm.

SCAMMONY MIXTURE.

I. Resin of scammony 7 grains, unskimmed milk 3 fluid oz.; gradually mix, stirring all the time, so as to form an emulsion.

II. To the above add 2 drachms of sugar, and 4 drops of bitter almond or cherry water.

SCAMMONY POWDER.

I. Scammony and hard extract of jalap, of each 2 oz., ginger $\frac{1}{2}$ oz.; powder and mix. Dose from 10 to 20 grains.

II. Scammony and bitartrate of potass, equal parts; triturate together to a very fine powder. Dose from 15 to 30 grains; a good remedy for worms, especially with children.

SCARBOROUGH WATER CAKES.

Mix 8 eggs, 1 lb. of sugar, 1 lb. of flour, and sufficient ground cinnamon to flavor it. Roll out the paste into a sheet $\frac{1}{4}$ inch thick, cut out the cakes with a tin ring, 3 inches in diameter, dust the tops with sugar, and bake them in a brisk oven; when baked, stick 2 together.

SCARLET, TO DYE CLOTH.

This is usually done by two operations. First, for 100 lbs. of cloth, put into the water when luke-warm, 6 lbs. of crude tartar, and stir it well. Heat the water, and when too hot for the hand, throw in 1 lb. of cochineal in fine powder; stir it up well immediately, throw in 5 lbs. of the tin mordant. When the liquor boils put in the cloth, and boil it for two hours, stirring it about occasionally; then take it out, and wash it in pure water. The cloth is afterwards boiled for an hour in a second bath, made, without tartar, of $5\frac{1}{2}$ lbs. of cochineal and 14 lbs. of the tin mordant. Some dyers add cream of tartar to the second process also; others use sea salt in the proportion of 2 oz. to 1 lb. of cloth.

SCARLETINA, OR SCARLET FEVER.

This disorder seldom attacks a person more than once in his life, and then before the age of manhood. It exists with very great difference of intensity, and is often complicated with inflammation of the lungs, or disorders of the stomach and bowels. It is, like other fevers, most prevalent in low, damp, confined situations, and with those children who are badly clothed and fed. It is extremely contagious and is always attended with a sore throat, except in its very mildest form. Its symptoms are loss of appetite, a dull pain in the loins, and shiverings, with thirst, then hot skin, and a rapid pulse. On the second or three day a red rash appears on the skin, generally first about the head, face, and neck. The skin feels rough and is hot and itching; the inner parts of the mouth and throat are covered with the rash, and there is a difficulty in swallow-

In five or six days the redness disappears, and the fever subsides. In the second form of scarletina there is a very severe sore throat, and difficulty of swallowing, which comes on before the fever; after two or three days the throat is covered with dark scales, or patches, and sometimes the tongue and lips also. Scarlet fever in its mild state is not dangerous, and the treatment required will be to sponge or wash the body with cold water as soon as the skin is hot and dry, or still better to give a cold bath frequently. If the shiverings come on, or if the pulse is feeble, and the patient languid, the chill may be taken off the water, or vinegar and water, in equal parts, may be used in preference. This must be attended with acid and cooling drinks, fresh air, and gentle aperient medicines, such as the saline draught. In more severe cases the throat must be relieved, by first clearing it by a slight emetic, and at the same time to promote perspiration. For this purpose, let the patient take tartarized antimony 1 grain, syrup of orange peel 6 drachms; take $\frac{1}{8}$ part every four hours. The patient may use with advantage an acid gargle, particularly that made with muriatic acid. This will generally keep off malignant or putrid symptoms. Calomel 3 grains, jalap 6 grains, may be taken as a medicine. Cold water washing, or bathing, must be used to keep down the fever of the skin. If the throat be very bad, if purple spots appear, or breathing is very difficult, apply a blister to the throat—this is the part that requires the greatest attention.

SCENT POWDER.

I. Coriander seeds, orris root, rose leaves, and *calamus aromaticus*, of each 4 oz., lavender flowers 8 oz., rhodium wood 1 drachm, musk 20 grains. Mix, and reduce to coarse powder.

II. Coriander seeds, orris root, *calamus aromaticus*, and red roses, of each 1 oz., lavender flowers 2 oz., mace and cloves, of each 1 drachm, essential oil of almonds 10 drops. Mix as the last.

III. As the last, but substitute musk 3 grains for the oil of almonds. Used to fill scent bags, and for boxes, &c.

SCHEELE'S BENZOIC ACID.

Gum benjamin $1\frac{1}{2}$ lb., lime 4 oz.—rub together. Boil in water 1 gallon, decant, boil the sediment in water 2 quarts, decant again, mix the two liquors, and boil down to a half—filter, add muriatic acid as long as any thing is thrown down, decant, dry, and sublime the flowers.

SCHEELE'S GREEN.

Make a solution of 2 lbs. of blue stone in 6 gallons of water; make a second solution of 11 oz. of white arsenic and 2 lbs. of pearl-ash in 2 gallons of water—add these two

solutions together. The precipitate will be the arsenite of copper or Scheele's green. Pour off the liquid, wash the precipitate well with fresh water, and dry. There will be from the above quantity of ingredients about $1\frac{1}{2}$ lb. of the green.

Scheele's green is also called emerald green—it is a violent poison.

SCHEELE'S PRUSSIC ACID.

I. Prussian blue 2 oz., calcined mercury 6 oz., distilled water 6 oz. Boil till the blue color is changed to a yellowish green; filter, add hot water 10 oz. To wash the sediment perfectly, pour the liquor upon clean iron filings 3 drachms, and add oil of vitriol 1 drachm. Pour the liquor on the quick-silver that has separated, and distil till $\frac{1}{4}$ part has passed.

II. As prepared by the Paris apothecaries. —Gay Lussac's prussic acid 1 drachm, water 40 drachms.

III. As prepared by Robiquet. —Gay Lussac's acid 1 drachm, water 2 drachms.

IV. As ordered by the Paris Codex of Medicine. —Gay Lussac's acid 1 drachm, water 1 drachm.

SCHWARTZ'S DROPS.

Barbadoes tar 1 fluid oz., tincture of assafoetida $1\frac{1}{2}$ fluid oz.; mix together. Take 40 drops three times a day as a remedy for tape-worm.

SCHWEINFURT GREEN.

Dissolve 1 lb. of verdigris in vinegar, and pour into it a solution of 1 lb. of white arsenic in water; add more vinegar to dissolve the sediment, evaporate, and crystallize. Boil 10 lbs. of the crystals with a solution of 1 lb. of potash. This will take off the blue tinge.

SCOTCH ALE.

Use 1 quarter of the finest pale malt, and 4 lbs. of the best pale hops. Only 1 mash is made, and that, with about $\frac{1}{3}$ the liquor, wanted for the whole brewing, at a heat of 180° . After mashing half an hour, it rests three hours, and is then drawn off. After this wort is run off, a quantity of water is poured into a kind of sieve, like a shower bath, whence it runs in small streams upon the malt, and flowing through it, passes away by 3 or 4 very small taps at different parts of the bottom of the underback. This sprinkling is called a *sparge*, and consists for the above quantity of malt of about 4 gallons. In about twenty minutes this is let off, and a second sparge poured on, and this is repeated for 8 or 10 times, until all the goodness of the malt is extracted. It is boiled like other ales, and set to work at the low temperature of 51° . It continues in a state of fermentation for a fortnight or three weeks, and is not barrelled until perfectly fine. In some breweries, honey is added in the boiling process.

SCOTCH BUNS.

Take 5 lbs. of washed and picked currants, or 2 lbs. of stoned raisins and 3 lbs. of currants, 12 oz. of butter, 1 lb. of blanched almonds, and 1 lb. of candied peel. Mix these well together with 2½ lbs. of plain bun dough, or the same quantity of bread dough, and 4 oz. of moist sugar; add a little ground ginger, allspice, and cinnamon, to make the whole a rich flavor. Make up the dough along with the butter, roll it out into a cake, put the fruit in the middle to the thickness of nearly an inch, fold the dough round it, flatten the top, then dock it, and bake in a moderate oven, having just previously washed over the top with white of egg and milk.

SCOTCH CREAM.

Put skim milk over-night in a wooden tub which has a plug at the bottom, and put this tub into another filled with hot water. In the morning take out the small tub, and draw off the thin part of the milk, until the thick sour cream begins to come. This process requires practice as to the heat of the water; when it succeeds skimmed milk yields nearly ½ of this cream, which is eaten with sugar as a delicacy. It is only distinguishable from cream by its taste.

SCOTCH MARMALADE.

I. Seville orange-juice 1 quart, yellow peel of the fruit grated, according to the desired flavor, honey 2 lbs.; boil to a proper consistence.

II. Seville oranges 8 lbs.; peel them as thinly as possible, then squeeze out the juice and boil it on the yellow peels for one hour, strain, add white sugar 7 lbs., and boil to a proper consistence.

SCOTCH SALT.

The Scotch salt is made by the quick boiling of sea water: it is in small crystals. That called Scotch Sunday salt is in larger crystals, occasioned by the fires being made up on Saturday night, the boiling left to itself all Sunday, and the crystals being taken out on Monday morning.

SCOTCH SEED CAKE.

Take 9 eggs, sugar and butter of each ½ lb.; mix well together, then add a little cinnamon, grated nutmegs, and cloves, ¼ oz. of caraway seeds, 1 lb. of candied citron, ¾ lb. of candied orange peel, ½ lb. of blanched almonds, pounded fine. Mix well together, then add flour 3 lbs., and brandy ¼ pint; work well, and bake it in a brisk oven.

SCOTCH SHORT BREAD.

Rub together into a stiff short paste 2 lbs. of flour, 1 lb. of butter, and 6 oz. of loaf-sugar. Make it into square cakes, about ½ inch thick, pinch them all along the edge at the top, dock over the whole surface of the cake, put them on tins so as to touch each other by their edges, and bake in a moderate oven.

SCOTT'S PILLS.

I. A nostrum composed of ½ lb. of extract of aloes, and 1 oz. each of gamboge and powder of jalap; make a mass with tincture of senna, and divide in 4 grain pills.

II. Aloes 9 lbs., jalap 3 lbs., ginger ½ lb., oil of anniseed 1 oz., treacle 21 oz. Mix together.

III. Aloes 1 lb., colocynth 4 oz., scammony and gamboge, of each ½ oz., oil of anniseed 2 drachms; mix with syrup, and divide into 5 grain pills. A good purgative medicine. (See *Anderson*.)

SCOURING DROPS.

Take 1 oz. of rectified oil of turpentine, and add to it as much oil of lemon peel, as will neutralize or overpower the smell.

These drops do not affect the color of any article; they should be rubbed on any stain with a piece of silk wetted with them.

SCROFULA.

This disease first shows itself by inflammation and soreness of the eyes and eyelids, and by chaps, or excoriations of the skin, particularly about the mouth, or by thickness of the lips; afterwards by a swelling of the glands of the neck, behind the ears, and in various parts of the body. These tumours at length break out and discharge a white curdy matter. It most commonly attacks children and young persons, particularly those children who are ricketty. These affections are not frequently attended with pain, though they often eventually prove fatal, from their attacking and injuring vital parts. Children inherit this disease from their parents, but in many cases it would not make its appearance at all, were it not that the subjects of it are exposed to damp or unwholesome air, bad diet or insufficient clothing, and want of personal cleanliness. For a person thus afflicted, a dry and airy situation, sea air, bathing, and sometimes the drinking of sea water is beneficial. His food should be light and nourishing, with little meat or vegetables, plenty of light puddings, jellies, arrow-root, &c., using milk or toast and water as a beverage. He should also eat frequently and but a little at a time. The bowels are to be kept open by a daily draught of sea-water, or a small portion of Epsom salts. Sea-water is chiefly serviceable where the obstructions of the glands of the neck and viscera are recent; also in obstructions of the liver, and in tumours of the joints in general, not supplicated. When the glands become softened by the internal use of the water, then bathing, with a course of Peruvian bark, will prove efficacious. When the swellings commence, they ought to be dispersed as speedily as possible by the application of opodeldoc, soap plaisters, acetated water of ammonia, or sea-water, with either of which, repeated

alternate frictions with the hand will be of great service. But when matter is formed in the swelling, it is to be immediately evacuated by the gentle puncture of a lancet; for if the opening be made large, a disfigurement of the part for life will be the consequence; also, in recent cases of scrofulous swellings, mix together from 6 to 12 grains of calomel, (according to the age of the patient,) 2 drachms of prepared chalk, and 4 grains of tartar emetic. Divide into 24 parts, of which let the patient take 1 every morning and evening, in a little sugar or treacle. The following *Ointment* may be applied to those that are broken:—Rub 2 drachms of borax in a mortar, with 2 oz. of spermaceti ointment or calamine cerate. This will be found to be a most efficacious application to scrofulous ulcers of all kinds. As a general medicine, the patient is advised to take the following *Tonic Electuary*:—Mix with a sufficient quantity of gum-water, 6 drachms of powder of Peruvian bark, and $1\frac{1}{2}$ drachm of carbonate of soda. Let the patient take the bulk of a hazel-nut twice or thrice a day, or the following *Mixture*:—Take 2 table-spoonsful four times a day, viz.—infusion of Peruvian bark 10 oz., compound tincture of cardamoms 1 oz., carbonate of soda and syrup of orange peel, each $\frac{1}{2}$ oz. Peruvian bark alone will likewise be of great use, if the bowels have previously been well cleansed. Mineral waters, preparations of iron, and very diluted nitric acid, have also been of great service to scrofulous persons.

SCROPHULARIA OINTMENT.

Green leaves of the knotted-rooted figwort (*Scrophularia nodosa*) and lard, of each 2 lbs., prepared suet 1 lb. Boil till crisp, and strain with pressure. Used in country places as a remedy for ringworm, and some other cutaneous disorders.

SCUDAMORE'S GOUT LOTION.

Camphor mixture 9 oz., alcohol 3 oz. Applied on the swelled or painful joints, mixed with warm poultices, or poured upon rags, wrung out with warm water.

SCULPTORS' MODELS, COMPOSITION FOR.

A composition, of which sculptors form their best models, consists of 16 parts wax, 2 parts Burgundy pitch, or shoemaker's wax, and 1 part hog's lard. Or, 10 parts wax, 1 of turpentine, as much shoemaker's wax, and as much hog's lard. This is melted by a slow fire, and afterwards well stirred and strained.

SCURVY-GRASS, CONSERVE OF.

Beat up 1 lb. of the leaves with 3 lbs. of lump-sugar. It is stimulant and anti-scorbutic.

SCURVY-GRASS, SPIRIT OF.

Take of scurvy-grass, fresh gathered and bruised, 15 lbs., horse-radish root 6 lbs., rectified spirits of wine 1 gallon, and water 3 pints. Digest the whole in a close vessel two days, and draw off a gallon with a gentle fire.

SEAL ENGRAVERS' CEMENT.

Common rosin and brick-dust melted together. It is the better the oftener it is remelted. It is used to hold stones, &c. while being cut or polished, and to secure tools in their handles. A little wax adds toughness.

SEALING WAX.

Take 4 oz. of shell-lac, 1 oz. of Venice turpentine, (some say $1\frac{1}{2}$ oz.) and 3 oz. of vermilion. Melt the lac in a copper pan suspended over a clear charcoal fire, then pour the turpentine slowly into it, and soon afterwards add the vermilion, stirring briskly all the time of the mixture with a rod in either hand. In forming the round sticks of sealing-wax, a certain portion of the mass should be weighed while it is ductile, divided into the desired number of pieces, and then rolled out upon a warm marble slab, by means of a smooth wooden block, like that used by apothecaries for rolling a mass of pills. The oval sticks of sealing-wax are cast in moulds, with the above compound in a state of fusion. The marks of the lines of junction of the mould-box may be afterwards removed by holding the sticks over a clear fire, or passing them over a blue gas-flame. Marbled sealing-wax is made by mixing two, three, or more colored kinds of it, while they are in a semi-fluid state. From the viscosity of the several masses, their incorporation is left incomplete, so as to produce the appearance of marbling. Gold sealing-wax is made simply by stirring gold-colored mica spangles into the musk, or other perfume. If 1 part of balsam of Peru be melted along with 99 parts of the sealing-wax composition, an agreeable fragrance will be exhaled in the act of sealing with it. Either lamp black or ivory black serves for the coloring matter of black wax. Sealing-wax is often adulterated with rosin, in which case it runs into thin drops at the flame of a candle.

SEALS, TO TAKE WAX IMPRESSIONS FROM.

Warm the seal a little, and rub over it the end of a wax candle, then sprinkle it with the best vermilion. Melt the sealing-wax by holding it over a candle, so that it does not catch fire, suffering it to drop upon the paper; impress the prepared seal upon it, and if done carefully, a fine impression will be made. If several seals are to be made at once, or even one of a large size, it is customary to melt the sealing-wax in a small ladle, or crucible, from which it may be

poured as wanted. Sometimes seals of different colors are seen. These are made by merely dusting the seal with a powder of one color, and stamping it upon wax of another; thus, dust the seal with lamp black, and impress it upon red wax; the impression will have a black centre and red edge.

SEA SICKNESS.

I. The best position is that which is horizontal. The best remedy, in addition to, or in absence of the above, is a glass of weak brandy and water, with about 15 or 20 drops of laudanum in it. A glass of soda water with 1 or 2 drops of creosote in it, though not pleasant, is an excellent remedy.

II. A girdle worn round the body, above the bowels, that is, over the epigastrium, will prevent sea-sickness. It is said to operate by keeping the intestines from pressing upwards against the diaphragm, when the ship descends from the top of a wave. The upward motion of the vessel does not cause the disgusting and painful sensation of sea-sickness, but affords instantaneous relief.

SEDATIVES.

Those medicines are called sedative, which tend to diminish irritability, and the rapidity of the pulse, without destroying life, though applied in greater quantities, this would be their effect. These medicines are often more valuable in cases of unwonted excitement and long-continued energy, as after parturition, or a surgical operation, in cases of inflammation, breaking a blood-vessel, &c. The sedative medicines mostly are soporific also, as laudanum and henbane. Digitalis has also the effect of wonderfully diminishing the action of the heart.

SEDATIVE MIXTURE.

Aromatic confection 3 drachms, mucilage and spirit of sal volatile, of each 2 drachms, tincture of assafoetida and syrup of poppies, of each $\frac{1}{2}$ oz., laudanum and tincture of henbane, of each $1\frac{1}{2}$ drachm, water $3\frac{1}{2}$ oz. Dose 1 to 2 table-spoonsful two or three times a day.

SEED BISCUITS.

Take 7 lbs. of flour, 1 lb. of moist sugar, 1 lb. of butter, 4 oz. of volatile salt, $\frac{1}{2}$ oz. of caraway seeds, 1 quart of milk or water. Do not work the dough more than necessary to combine the ingredients well together, roll it into thin sheets $\frac{1}{16}$ inch in thickness, cut them into form with a large round docker, dock them with holes on both sides, wash over the tops with egg or milk, and bake on buttered tins in a quick oven.

SEEDS, PACKING GARDEN.

Seeds sent in paper cases go very well to India by the overland mail, without any other care than that of drying them properly. When too bulky for that conveyance, they

will go very well by sea, if packed loosely in coarse canvas bags, and kept in a cabin, or some thoroughly ventilated place. To put them in boxes of tin, or to send them into the hold, is to kill them. Ripe cuttings taken off in November, with their ends stuck into a potato, and well covered with an India-rubber or other waterproof envelope, sometimes reach India alive by the overland mail; but they more frequently fail.

SEIDLITZ POWDERS.

Take 2 drams of potassio-tartrate of soda, and 2 scruples of sesqui-carbonate of soda; mix, and dissolve in $\frac{1}{2}$ pint of soft water. Then dissolve 35 grains of tartaric acid in a sufficient quantity of water, and add this to the former solution. It must be drank in a state of effervescence. It is a mild cooling purgative; but it is not at all like the genuine Seidlitz Water.

SEIDLITZ WATER.

Take $20\frac{1}{2}$ oz. of water, acidulated in the usual apparatus with thrice its volume of carbonic acid gas, about 2 drams of sulphate of magnesia, 18 grains of hydrochlorate of magnesia; dissolve, and bottle for use. If it be wanted stronger, double the quantity of the sulphate and hydrochlorate of magnesia.

SELTZER WATER.

Take $20\frac{1}{2}$ oz. of water impregnated by the usual apparatus with carbonic acid gas, and dissolve in it 4 grains of carbonate of soda, 2 grains of carbonate of magnesia, 20 grains of common salt. It is a mild purgative.

SELWAY'S ESSENCE OF SENNA.

A concentrated infusion of senna, made with 20 oz. of senna leaves, 7 drachms of sliced ginger, $\frac{1}{2}$ oz. of bruised cloves, and 7 pints of boiling water. Macerate, strain, and evaporate down to 1 pint, then add a wine-glassful of sherry.

SEMOLINA.

Make a stiff paste of common wheat-flour and cold water. Rub this paste through a metal perforated sieve, and dry the grains thus produced on hot plates, turning them about till hard.

SENEGA, INFUSION OF.

Senega, or rattle-snake root, 2 drachms, boiling water 1 pint. Infuse for four hours.

SENNA, ELECTUARY OF.

Take of senna 8 oz., coriander seeds 4 oz., liquorice 3 oz., figs 1 lb., pulp of tamarinds, cassia fistula, and prunes, of each $\frac{1}{2}$ lb., double-refined sugar $2\frac{1}{2}$ lbs. Powder the senna with the coriander seeds, and sift out 10 oz. of the mixed powder; boil the remainder with the figs and liquorice in 4 lbs. of water, to one-half; express, and strain the liquor, which is then to be evaporated to the weight of about $1\frac{1}{2}$ lb.; dissolve the

sugar in it, add this syrup by degrees to the pulps, and lastly, mix in the powder.

This electuary is a very convenient laxative, and has long been in common use among practitioners. Taken to the size of a nutmeg, or more, as occasion may require, it is an excellent laxative for loosening the bowels in costive habits.

SENNA, INFUSION OF.

I. *Simple*.—Senna leaves $1\frac{1}{2}$ oz., boiling water 1 pint. Macerate for two hours. Dose 1 oz., combined with 2 or 3 drachms of Epsom salts, as a brisk aperient medicine.

II. *Compound*.—Senna 3 drachms, tamarinds 1 oz., coriander seeds 1 drachm, sugar $\frac{1}{2}$ oz., boiling water $\frac{1}{2}$ pint. Infuse for four hours, and strain through calico.

III. Senna $1\frac{1}{2}$ oz., fresh lemon peel 1 oz., lemon juice 1 oz., boiling water 1 pint.

IV. Senna 3 drachms, lesser cardamom seeds, husked and bruised, $\frac{1}{2}$ drachm, boiling water, as much as will yield a filtered infusion of 6 oz. Digest for an hour, and filter when cold.

This is a well contrived purgative infusion, the aromatic correcting the drastic effects of the senna. It is of advantage that it should be used fresh prepared, as it is apt to spoil very quickly.

V. *Tartarized*.—Senna $1\frac{1}{2}$ oz., coriander seeds, bruised, $\frac{1}{2}$ oz., crystals of tartar 2 drachms, distilled water 1 pint. Dissolve the crystals of tartar by boiling in the water, then pour the liquor, as yet boiling, on the senna and seeds. Macerate for an hour, in a covered vessel, and strain when cold.

The addition of the crystals of tartar renders the taste of the senna less unpleasant, and also promotes its action. The quantity to take as a purge is from $\frac{1}{2}$ oz. to 1 oz. early in the morning.

SENNA MIXTURE, (BLACK DRAUGHT.)

Senna and mint, of each 1 oz., boiling water 1 quart. Infuse for two hours, strain, and add Epsom salts 6 oz.; shake till dissolved. Dose 1 to 2 oz. A brisk and useful purgative. (See *Black Draught*.)

SENNA POWDER, (BATTLE'S GREEN.)

Senna leaves dried and heated till they turn yellow, then powdered along with charcoal or powder blue, till they assume a greenish color.

SENNA, SYRUP OF.

I. Senna $\frac{1}{2}$ oz., boiling water 1 lb.; infuse, strain, and add manna and sugar, of each 1 lb.

II. Senna 1 oz., seeds of sweet fennel 1 drachm, boiling water 1 lb. Infuse, strain, add sugar and manna, of each 1 lb.

SENNA, TINCTURE OF.

I. Take senna $3\frac{1}{2}$ oz., carraway seeds 3 $\frac{1}{2}$ drachms, cardamom seeds 1 drachm, raisins 5 oz., proof spirit 1 quart. Macerate for fourteen days, then filter.

II. Sugar $2\frac{1}{2}$ oz., coriander seeds 1 oz., jalap 6 drachms, raisins and senna, of each 4 oz., carraway and cardamom seeds, of each 5 drachms, proof spirit 1 quart. Dose from $\frac{1}{2}$ to 1 oz.

III. *Compound*.—Senna leaves 2 oz., jalap root 1 oz., coriander seeds $\frac{1}{2}$ oz., proof spirit $2\frac{1}{2}$ pints. Digest for seven days, and to the strained liquor add 4 oz. of sugar-candy.

This tincture is a useful carminative and cathartic, especially to those who have accustomed themselves to the use of spirituous liquors; it often relieves flatulent complaints and colics, where the common cordials have little effect; the dose is from 1 to 2 oz. It is a very useful addition to the castor oil, in order to take off its mawkish taste; and coinciding with the virtues of the oil, it is much preferable to brandy, shrub, and such like liquors, which otherwise are often found necessary to make the oil remain on the stomach.

SEPIA.

This fine water color is the produce of the cuttle fish, and is that brown liquid which the animal ejects to darken the water when pursued by enemies. One part of it is capable of making 1000 parts of water nearly opaque. The *sepia officinalis* is sought for in the Mediterranean, where it is abundant. Its bag of liquid is extracted, the liquid poured out, and dried as quickly as possible. The dried native sepia is prepared for the painter by first triturating it with a little caustic lye; then adding more lye, boiling the liquid for half an hour, filtering, next saturating the alkali with an acid, separating the precipitate, washing it with water, and finally drying it by a gentle heat.

SERPENTARY, INFUSION OF.

Take of serpentaria, or Virginia snake root 4 drachms, water 1 pint. Soak for four hours, and strain.

SERPENTARY, TINCTURE OF.

Serpentary root $3\frac{1}{2}$ oz., proof spirit 1 quart. Macerate for fourteen days, and filter. This is used as a tonic, and also to promote perspiration.

SHAVING OIL.

Soft soap 6 lbs., rectified spirits of wine 1 gallon. (See also *Soap Liquid*.)

SHAVING PASTE.

White wax, spermaceti and almond oil, of each $\frac{1}{2}$ oz.; melt, and while warm, beat in 2 squares of Windsor soap, previously reduced to a paste with rose-water.

SHEEP-SKIN RUGS.

The skins with the wool on are thoroughly cleansed from all impurities and foreign matter that may adhere to them by washing in running water, and by scraping the flesh side in the usual manner by the knife. The skins are then rounded, as it is termed, by cutting off all the extraneous and ragged parts, when they are ready to be tanned; the skins are for that purpose stretched upon frames, and laid upon tressels with the flesh side of the skin upwards; an infusion of sumach in the proportion of 1 lb. to a gallon of water is then poured over the skin, and the tanning matter is well rubbed into the pores of the

skin by the aid of the knife. When dry, the reverse, or wool side of the skin, is next placed upwards, and thoroughly washed with a strong alkaline soap and water, and afterwards in fair water, by which means the grease and filth are removed; when this is dry, the skin undergoes a second operation of tanning with the sumach as before-mentioned, and after being dried, its harsh and rigid surface is rendered smooth and soft by rubbing it over with pumice stone. In order to dye it of any color, before it is taken off the frame, its face or woolly part is dipped into a bath of the required tint, prepared in the ordinary manner for dyeing wool; the washing must now again be repeated to get rid of the excess of coloring matter which adheres to it. The skins being then dried and trimmed to the proper shape are considered complete rugs, and are ready for sale.

SHELDRAKE'S OIL.

Nut oil 1 pint, ceruse 2 oz.; boil, when dissolved, add copal varnish 1 pint, and stir till the oil of turpentine has evaporated. Used to grind colors in and to brighten them.

SHELLS, MENDING AND CLEANING OF.

When shells are perforated by sea-worms, or when any other accidental circumstance occurs to deform a good specimen, it is certainly desirable to use some means to improve it; and for this purpose a cement may be made of fine whiting, flour, and gum; the holes or cranks may be filled up with this composition, and allowed to dry; it should always be a little above the surface, and cautiously scraped down with a knife; when ridges or striæ can easily be imitated, if necessary, with a file or graver. The parts thus mended may be colored with common water colors, and then brushed; or if on a smooth shell, polished with the palm of the hand, and afterwards rubbed over with Florence oil, which should be well dried off with a piece of flannel. If this mode is judiciously managed, the specimen may be examined, and the blemish never discovered. Many shells, even when obtained alive, are incrustated with extraneous matter; the best and safest means of removing this is, first to steep them in warm water, and then to scrape them with a knife, or start them off with a graver. A little sand-paper may also be used, but care must be taken not to injure the shell. When as much of the crust is in this way removed, as can with safety be done, recourse should be had to muriatic acid, very much diluted with water; by applying this cautiously with a feather, to the places you wish removed, for a very short period, it will soon decompose the extraneous matter. Two minutes at a time is as long as it can with safety be applied, but one minute's applica-

tion often has the desired effect. It should then be immersed in cold water, and the parts well scrubbed with a nail-brush and soap. Should the crust not be entirely removed, this process may be repeated, but the greatest care is to be used not to allow the acid to touch the inside, as it will instantly remove the fine enamelled surface. Some are so cautious as to melt bees'-wax, and coat the parts of the shell they do not wish touched with the acid. When water is used too hot in the first process, it often makes the fine polished surface crack in a thousand directions. After the process of corrosion, some make use of flannel, or a brush, and emery or tripoli, to polish the shell. This may be done in cases where the polished insides happen to be touched with the corrosive fluid; but in all instances where the places cleared by the acid are of a white or chalky appearance, they should be washed over with Florence oil, and then rubbed hard with flannel or a nail-brush. This mode gives the shell the appearance of nature, and at the same time stops the action of the acid, should any remain in the shell, and is of great use in preserving it from decay. It is of infinite use in preserving the epidermis, which often, when it becomes dry from lying in a cabinet, cracks and quits the external surface of the shell. It would not be amiss to rub them over with oil once a year.

SHERBET.

A general name given in the East to all drinks prepared with the juice of fruits, sugar, and water, more particularly applied to orangeade, or a liquor formed of water, flavored with orange juice, a few scraps of orange peel, and sweetened with sugar.

SHERRY, TO FINE A BUTT OF.

Take 2 oz. of isinglass, beat it soft, and add to it 1 gallon of the wine, let it remain for a day or two, till it becomes a jelly, then add $\frac{1}{2}$ gallon more of wine, and whisk it well up with the whites and shells of 8 eggs, then draw off 4 gallons, and put it in the finings; rummage it well up, clean out your tubs with the wine drawn off, whisking it well up, putting it into the butt, and leave out the shive or bung three or four hours, then drive this in tight, and make a vent-hole. In a week it will be fit for bottling.

SHERRY, TO IMPROVE.

If the sherry be new and hot, rack it off into a sweet cask, add 5 gallons of mellow Lisbon, which will take off the hot taste, then give it a head; take 1 quart of honey, mix it with a can of wine, and put it into the cask when racking.

By this method sherry for present use will be greatly improved, having much the same effect upon it as age.

SHIP BISCUITS.

These, perhaps the oldest kind of bread known, and still the only kind used by numerous savage nations, is an unfermented cake, formed of nothing but wheat-flour and water; the kind of flour used chiefly in this country is that called *middlings*. In France and Russia a far inferior kind is used—in Russia chiefly of rye, in France with the pollard remaining. The only process is mixing flour and water into a stiff dough, taking a small piece of this, driving it out into a proper form with the hand, throwing it into a quick oven, and after a few minutes taking it out again. A little yeast is a great improvement to these biscuits, as they are then more digestible, eat crisper, and keep better.

SHOEMAKER'S BLACK.

Green vitriol, or copperas dissolved in water, to the amount of 1 oz. to the pint. Applied to leather, it dyes it immediately black.

SHORT BREAD.

Take $1\frac{1}{2}$ lb. of flour, $\frac{1}{2}$ lb. of sugar, $\frac{1}{2}$ lb. of butter, 3 eggs, $\frac{1}{4}$ oz. of volatile salts, and a little essence of lemon. Make 4 cakes out of 5 oz. of dough, mould into a round form, then roll them out into an oval shape, pinch them round the edges, put a piece of candied lemon peel at the top, and bake slowly.

SHOT METAL.

Lead 1000 parts, arsenic 3 parts or more.

SHREWSBURY CAKES.

Mix $\frac{1}{2}$ lb. of butter, well beat like cream, and the same weight of flour, 1 egg, 6 oz. of beaten and sifted loaf-sugar, and $\frac{1}{2}$ oz. of caraway seeds. Form these into a paste, roll them thin, and lay them in sheets of tin; then bake them in a slow oven.

SHRUB.

Usually divided into rum shrub and brandy shrub, according as one or other of these spirits is used. Rum shrub is usually flavored with lemons, and brandy shrub, of orange juice and rind. There is also pine-apple shrub, made with rum and the juice of the pine-apple, and lemonade shrub, made extra strong with lemon juice, and used, diluted with water, to make extemporaneous lemonade, or lemon sherbet.

SILK, BLEACHING OF.

A ley of white soap is made by boiling in water 30 lbs. of soap for every 100 lbs. of silk intended to be bleached, and in this the silk is steeped till the gum is dissolved and separated. It is then put into bags of coarse cloth, and boiled in a similar ley for an hour. By these processes it loses 25 per cent. of its original weight. The silk is then thoroughly washed and steeped in a hot ley, composed of $1\frac{1}{2}$ lb. of soap, 90 gallons of

water, with a small quantity of litmus and indigo diffused. After this, it is carried to the sulphuring room—2 lbs. of sulphur are sufficient for 100 lbs. of silk. When these processes are not sufficiently successful, it is washed with clear hard water, and sulphured again.

SILK, TO CLEAN.

Take $\frac{1}{4}$ lb. of soft soap, a tea-spoonful of brandy, and a pint of gin; mix all well together, and strain through a cloth. With a sponge or flannel spread the mixture on each side of the silk without creasing it; wash it in 2 or 3 waters, and iron it on the wrong side; it will look as good as new.

SILK, TO TAKE STAINS FROM.

I. Pound French chalk fine, mix with lavender-water to the thickness of mustard; put on the stain, rub it soft with the finger or palm of the hand; put a sheet of blotting and brown paper on the top, and smooth it with an iron, milk-warm.

II. Mix together in a phial 2 oz. of essence of lemon, 1 oz. of oil of turpentine. Grease and other spots in silks are to be rubbed gently with a linen rag dipped in the above composition.

III. Dip a pen in spirits of turpentine, and transfer it to the paint spot, in sufficient quantity to discharge the oil and gluten. Let it stand some hours, then rub it. For large or numerous spots, apply the spirit of turpentine with a sponge, if possible, before it is become dry. This is only applicable to paint.

SILKWORM GUT.

Take the best and largest silkworms you can procure, just when they are about to spin, and which may be known by their refusing to eat, having a fine silk thread hanging from their mouths. The worms must first be thrown into strong vinegar, and kept there covered close for twelve hours, if the summer be warm; or fifteen hours in cooler weather; when taken out, they must be pulled asunder, and you will see two transparent guts of a greenish yellow color, as thick as a small straw, bent double, the rest of the inside resembling boiled spinach, you can make no mistake. If you find the guts soft, or break upon stretching them, you must let them lie longer in the vinegar, when fit to draw out, stretch it gently with both hands, till of a proper length, or nearly so. The gut drawn out must be fastened on a thin piece of board, by putting each end in a slit made at the ends of the board. It is now to be placed in the sun to dry.

SILLABUB.

Grate off the peel of a lemon with lump sugar, and dissolve the sugar in $\frac{3}{4}$ pint of wine, add the juice of $\frac{1}{2}$ a lemon, and $\frac{1}{4}$ pint of cream; beat the whole together till of a

proper thickness, and then put it into glasses. Some persons substitute a pint of milk for the cream, and add a little nutmeg.

SILVER COIN OF BRITAIN.

Take $11\frac{1}{10}$ of pure silver and $\frac{9}{10}$ copper; 1 lb. troy therefore is composed of 11 oz. 2 dwts. of pure silver, and 18 dwts. of copper. It is coined into sixty-six shillings.

SILVER, FROSTED OR MATT.

After any article has been silvered by immersion in a silvering liquid, it comes out in a state either black, that is, covered with the black oxyde of silver, and which requires much rubbing to bring it to its color or metallic brilliancy, or else it leaves the liquid in a frosted or white state, when it requires burnishing; cast silver is also thus frosted or white. To give to polished silver articles this appearance, make them warm, and paint them over with a small camel-hair pencil, wet with dilute muriatic acid, or with citric acid dissolved in water.

SILVER TREE, TO PREPARE.

Pour into a glass globe or decanter 4 drachms of nitrate of silver, dissolved in 1 lb. or more of distilled water, and lay the vessel on the chimney piece, or in some place where it may not be disturbed; now pour in 4 drachms of mercury. In a short time the silver will be precipitated in the most beautiful arborescent form, resembling real vegetation. This has been generally termed the *Arbor Dianæ*.

SILVERING COPPER INGOTS.

The principal difficulties in plating copper ingots are, to bring the surfaces of the copper and silver into fusion at the same time, and to prevent the copper from scaling; for which purposes fluxes are used. The surface of the copper on which the silver is to be fixed must be made flat by filing, and should be left rough. The silver is first annealed, and afterwards pickled in weak spirit of salt; it is planished, and then scraped on the surface to be fitted on the copper. These prepared surfaces are anointed with a solution of borax, or strewed with fine powdered borax itself, and then confined in contact with each other, by binding wire. When they are exposed to a sufficient degree of heat, the flux causes the surfaces to fuse at the same time, and after they become cold, they are found firmly united. Copper may likewise be plated by heating it, and burnishing leaf-silver upon it; so may iron and brass. This process is called *French Plating*.

SILVERING POWDER.

I. Silver dust 20 grains, alum 30 grains, cream of tartar and common salt, of each $\frac{1}{2}$ oz.; powder and mix.

II. Silver dust 1 oz., common salt and sal ammoniac, of each 4 oz., corrosive sub-

limate $\frac{1}{2}$ oz. Used to silver copper, previously well cleaned, by friction, adding a little water to make a paste.

SIMPLE CERATE.

Olive oil and yellow wax, equal parts, melted together with heat, and stirred till cold. Called also *Simple Dressing, Oil and Bees'-wax Ointment, &c.* Spermaceti cerate is preferred to this generally as a dressing for sores, excoriations, &c. The only effect of either is to soften the parts by the absorption of the oil, and to prevent irritation by keeping the air from them.

SIMPLE OINTMENT.

I. Lard 4 lbs., white wax 1 lb.; melt together, and stir till cold.

II. Olive oil $5\frac{1}{2}$ oz., white wax 2 oz.

SINGLETON'S GOLDEN OINTMENT.

Orpiment mixed with lard to the consistence of an ointment. A very little should be used at once; the best way of using it, is just to touch the edge of the eyelash with a feather which has touched the ointment.

SIZE, (SOFT GLUE.)

This is made from skins, chiefly rabbit skins, also old gloves, parchment, and gelatine brut, by boiling them for some hours, till dissolved, then straining, and again boiling to a proper jelly-like consistence, more or less hard, and called in proportion to the boiling, *single* or *double* size. The best clippings of white leather and parchment, when thus boiled, are called, from the transparency of the product, *satin size*. It is used to wash over the surface of paper-hangings previous to varnishing them.

SIZE FOR ARTISTS.

Dissolve over the fire in 1 pint of water, 4 oz. of Flanders glue and 4 oz. of white soap; then add 2 oz. of powdered alum; stir the whole, and leave it to cool. This size is much used by those who have to color unsized paper, on which it should be spread cold, with a sponge or pencil.

SKELETONS, PREPARATION OF.

An excellent and simple way of procuring skeletons of mice, small birds, and fish, is to put them into a box of the proper size, in which holes are bored on all sides, and then buried in an ant-hill. The ants will enter numerously at these holes, and eat away all the fleshy parts, leaving only the bones and connecting ligaments; they may be afterwards macerated in clean water for a day or two, to extract the bloody color, and to cleanse them from any dirt they may have acquired; then whitened by lime and alum water, and dried in frames or otherwise, as may be most convenient. In country situations, wasps may be employed in this service; these are most voracious animals, and if a dead animal is placed near one of their nests,

or in an empty sugar cask, where they resort in plenty, they will perform the dissection with much greater expedition, and equally well as the ants. Wasps have been known to clean the skeleton of a mouse, or small bird, in three or four hours, while ants would require a week to effect it. When the animal is of a large size, the ligaments are sometimes unable to sustain the weight of the bones, in which case, an iron wire, of sufficient thickness, is passed through the centre of the back-bone, which must pass out anteriorly, so as to fix the head to the cervical vertebræ. It is made in the form of two forks, the one for the support of the anterior, and the other for the exterior part; for this purpose two pieces of iron-wire are taken, the length of the skeleton; they are twisted together, leaving a fork at each extremity, and are then both fixed to the board on which the skeleton is to be placed. One of these should enter the ribs, and encompass the back bone, between the scapular bones on each shoulder, the other two should pass between the bones of the pelvis. It not unusually happens that pieces of the skeleton detach one from another, in which case two holes are bored in the ends of the bones, which are separated, and are re-united by means of small brass wires. Skeletons of man and animals of a middling and large size, cannot be made in the manner described for natural skeletons. In this case, the bones, covered by the flesh, are immersed in water, and allowed to remain without changing it, until the soft parts begin to get putrid, when the animal matter is easily removed; and by repeating the maceration two or three times, it may all be completely abstracted. The duration necessary for the first maceration will depend upon the state of the atmosphere, being always much shorter in summer than in winter. After the fleshy matter has been completely freed from the bones, they should be exposed on the roof of a house, or other convenient situation, until they are rendered quite white, and free from grease. When the bones are perfect and dry, they are connected by means of wire and screws, &c. This is the most difficult part of the operation, as it requires considerable skill to reassemble the bones, so that they may be placed in their natural order and position. The operation is begun at one of the extremities, by making holes in the apophysis, or round ball of the bone. The bones are then attached to each other in their natural order, with annealed iron-wire, or brass wire, by means of the perforations which have been made. The ends of the wire should be twisted, and not too firmly, but sufficient to allow a little play between the articulation; this mode is to be pursued till the whole wires are put together.

They are then ready for placing on a board, and are kept erect by means of one or two perpendicular bars of iron, commensurate to the weight of the skeleton. In the larger species of birds, one support is necessary; it is passed through the breast bone, and attached under the spine. The position of this support must be varied according to the attitude in which the skeleton is to be placed.

SLOES, CONSERVE OF.

Pulp of sloes 1 part, sugar 3 parts. Mix together. This is slightly astringent, but is used chiefly to give a good color to other medicines.

SLOW MATCH.

A slow match is used to fire ordnance and some fire-works, and more especially to keep a light in circumstance where other lights would be inconvenient or dangerous. A very loosely twisted rope is soaked in saltpetre water; when perfectly dry, it is dipped in lime white. The use of the saltpetre is to ensure the ropes continuing to burn, and that of the lime is to prevent too quick an ignition.

SMALL-POX.

When a person who has never had the small-pox is attacked with febrile symptoms, after having been exposed to infection, a strict pursuance of the following plan is advisable:—Debarring the patient from animal food, impregnating his drinks with cooling acids, keeping his body open with gentle laxatives, and, above all, exposing him freely to cool air; the more urgent the symptoms, the more will the patient stand in need of air; for where the ventilation is free, it is inconceivable how refreshing it proves, and how suddenly it is capable of reducing the pulse, and of moderating all the symptoms. The proper treatment of the patient from the very first attack of the disease, will have great influence on the form which it assumes; if he be kept in a warm room, be loaded with bed-clothes, and get warm drink, the fever will be severe and the eruptions copious; while by an opposite treatment the disease may be broken at the beginning. In the early stage of small-pox, and during the eruptive power, when the symptoms run high, it will be proper to wash the body generally with cold water. This, when had recourse to on the attack of variolous fever, usually mitigates the head-ache, pain in the back, and other febrile symptoms; a slow and gentle perspiration succeeds, and a mild eruption takes place. Where it is resorted to after the small-pox has made their appearance, and by their quantity, and the duration of the fever, a confluent pock is expected, the cold bath not only moderates the febrile symptoms, but also diminishes the number of the pustules, and greatly lessens the danger of the disease. In those cases, however,

where the eruption does not come out kindly, the whole body should be immersed in a warm bath, putting the feet and legs into warm water first. If there be great irritability and restlessness, opium, in small quantities, either with a saline mixture, or a grain of antimonial powder, will be serviceable; also where the febrile symptoms run high after the appearance of the eruption, small and repeated doses of antimonial wine should be given. To lessen febrile heat and excitement, nitre and saline draughts may be employed, administering the latter in the act of effervescence. Cold diluents, such as lemonade, may be taken freely to allay thirst. In those cases where the pustules contain a thin watery fluid, and are accompanied with great soreness, uneasiness, loss of strength, and lowness of the pulse, Peruvian bark should be given in large doses, and be frequently repeated; and although it may, perhaps, increase the difficulty of breathing, and render the expectoration a little more difficult, still its good effects in obviating the symptoms of irritation, and the tendency to putrescency, will greatly overbalance the former. To assist the effects of this bark, a free use of wine- whey ought to be allowed. When a degree of sore throat is present, gargles, and the inhalation of warm steam, may be used. The secretion from the glands of the mouth and throat, in the confluent small-pox, usually goes on without the help of medicines, until near the completion of the suppuration, so that it is only necessary to defend the parts from the matter secreted by giving mucilaginous drinks, such as barley water, linseed tea, or a solution of gum arabic; but towards this time, the secretion is apt to become so thick and viscid, as to be expectorated with the greatest difficulty; and often even to endanger suffocation. In this case an emetic should be given, after which the mouth and throat must be washed out frequently with the following gargle:—Infusion of roses 7 oz., honey $\frac{1}{2}$ oz.; mix. If the emetic does not afford a permanent relief, then apply a blister to the throat. When the swelling of the face begins to subside, if the extremities do not become puffy and swelled, as they ought to do, cataplasms and blisters may be applied to them, to excite inflammation. Determination to the head or chest, or other viscera, requires blisters, the foot-bath, and mustard cataplasms to the feet.

SMELLOME'S EYE OINTMENT.

Verdigris $\frac{1}{2}$ drachm, olive oil 30 drops, yellow basilicon 1 oz.; mix. Used in inflammation of the eyelids, &c.

SMITH'S SOLDER FOR TIN.

Lead and tin, of each 4 oz., bismuth 8 oz. This will melt in boiling water.

SMOKE, ESSENCE OF, (SMOKING FLUID.)

Rough pyroligneous acid, used to impart a smoky flavor to fish and meat, by washing it over them, or immersing them in it for two or three minutes. A single drop of creosote in a pint of water answers the same purpose.

SMUT IN WHEAT, TO PREVENT.

Liming the seed by immersion is recommended by a French writer, as the only preventive warranted by science and sanctioned by experience, and the following is given as the method in which the process is best performed:—To destroy the germs of the blight in $4\frac{1}{2}$ bushels, or 256 lbs. of corn, about 6 or 7 gallons of water must be used, as grain may be more or less dry, and from 35 to 42 oz. avoirdupoise of quick lime, according as it may be more or less caustic, and according as the seed may have more or less of the blight. Boil part of the water, slack the lime with it, and then add the rest. When joined, the heat of the water should be such, that the hand can with difficulty bear it. Pour the lime-water upon the corn placed in a tub, stirring it incessantly, first with a stick, and afterwards with a shovel. The liquid should, at first, cover the wheat, 3 or 4 fingers' breadth; it will soon be absorbed by the grain. In this state let it remain covered over for twenty-four hours, but turn it over five or six times during the day. Such parts of the liquor as will drain off, may then be separated, when the corn, after standing a few hours, in order that it may run freely out of the hand, may be sown. If not intended to be used immediately, the limed wheat should be put in a heap, and moved once or twice a day till dry.

SOAP CERATE.

Boil litharge 15 oz. in 1 gallon of distilled vinegar, till dissolved, stirring continually, then add of Castile soap of the best quality 10 oz., boil again till the moisture is entirely evaporated, then add gradually $12\frac{1}{2}$ oz. of wax and 1 pint of sweet oil, the two last previously melted together. Should the cerate, on cooling, separate into two portions or become knotty, heat it again, and while hot, add a little pearlash-water, stir it well up, and evaporate the water which has been added with the pearlash. Used as a cooling application to scrofulous ulcers and swellings, spread upon linen, and applied over the part like a plaister.

SOAP ENEMA, OR INJECTION.

Soft soap 6 drachms, dissolved in 1 pint of hot water.

SOAP, ESSENCE OF.

White soap 3 oz., carbonate of potass 1 drachm, proof spirit 12 oz. Dissolve and filter.

SOAP LINCTUS.

Castile soap 1 drachm, oil of almonds 1 oz., syrup of tolu $1\frac{1}{2}$ oz. Useful in coughs and hoarseness, and attended by indigestion.

SOAP LINIMENT, (OPODELDOC.)

I. Castile soap 3 oz., camphor 1 oz., spirit of rosemary 1 pint. Mix and digest till dissolved.

II. Castile soap 4 oz., camphor 2 oz., oil of rosemary 5 fluid drachms, rectified spirits of wine $1\frac{1}{2}$ pint. Mix and dissolve.

III. Camphor, cut small, $1\frac{1}{2}$ lb., soft soap 6 lbs., oil of rosemary 2 oz., rectified spirits of wine and water, of each $3\frac{1}{2}$ gallons.

IV. Soft soap 3 oz., camphor 1 oz., water and spirits of wine, of each 6 oz., spirits of hartshorn 4 oz. These soap liniments called also *Opodeldoc*, *Balsam of Soap*, *Compound Tincture of Soap*, &c. &c., are stimulant and softening, and are usefully applied in rheumatism, swellings, bruises, sprains, &c. The following have the same application:—

V. *With Lead*.—Soap liniment, as above, 2 oz., sugar of lead, dissolved, 1 drachm. Mix.

VI. *Ioduretted*.—White soap 10 drachms, oil of almonds 5 drachms; melt together, and add iodide of potassium 1 drachm, dissolved in water 1 drachm.

VII. *Stimulant*.—Soap liniment $2\frac{1}{2}$ oz., tincture of cantharides $\frac{1}{2}$ oz.

VIII. *Sulphuretted*.—Sulphuret of potass 3 oz., soap 1 lb., water to dissolve; melt together, and add olive oil 1 lb., oil of thyme 1 fluid drachm. This is an excellent remedy for the itch, and some other skin diseases.

SOAP, LIQUID.

Liquor of carbonate of potass $\frac{1}{2}$ oz., olive oil 4 oz., rose water 12 oz. Mix well together. Chiefly used as a cosmetic.

SODA CAKES.

Flour 1 lb., bicarbonate of soda $\frac{1}{4}$ oz., sugar and butter, of each $\frac{1}{2}$ lb., currants $\frac{3}{4}$ lb.; make a paste with milk, and add candied orange or citron peel, or the fresh peels grated.

SODA LOZENGES.

I. Bicarbonate of soda 1 oz., powdered sugar 3 oz., gum arabic $\frac{1}{2}$ oz. Make into a paste with water, cut into form, and dry.

II. Bicarbonate of soda 1 oz., powdered sugar 19 oz., mucilage of gum tragacanth to mix. Divide into 20 grain lozenges. Useful in heartburn, acidity, &c.

SODA POWDERS.

These are tartaric acid and carbonate of soda. Procure 1 oz. of each, and divide it into 16 portions, wrap up the acid in one colored paper, and the soda in another, (merely for the sake of distinction when

used;) dissolve 1 of each kind in $\frac{1}{2}$ tumbler of water, mix the 2 solutions together, and take it immediately.

The above method of mixing is very inconvenient, because the effervescence is so rapid that it overflows the glass; it is better first to dissolve the soda in all the water, then add the acid in powder, and drink immediately. Using equal quantities, the drink will be slightly acid, which to most persons is agreeable; citric acid may be used instead of the tartaric, and will be found an improvement.

SODA WATER IN BOTTLES.

Dissolve 1 oz. of the carbonate of soda in 1 gallon of water, put it into bottles, in the quantity of a tumbler-full or $\frac{1}{2}$ pint to each; having the cork ready, drop into each bottle $\frac{1}{2}$ drachm of tartaric or citric acid, in crystals, cork and wire it immediately, and it will be ready for use at any time.

SOFT TOILET SOAPS.

Its manufacture being conducted on the principles already laid down, presents no difficulty to a man of ordinary skill and experience; the only point to be strictly attended to is the degree of evaporation, so as to obtain soap always of uniform consistence. The fat generally preferred is good hog's lard, of which 30 lbs. are to be mixed with 45 lbs. of a caustic lye; the temperature is to be gradually raised to ebullition, but the boil must not be kept up too long or too briskly, till after the saponification is completed, and the whole of the lye intimately combined with the fatty particles; after this, the evaporation of the water may be pushed pretty quickly, by a steady boil, till copious vapors cease to rise. This criterion is observed when the paste has become too stiff to be stirred freely. The soap should have a dazzling snowy whiteness, provided the lard has been well refined, by being previously triturated in a mortar, melted by a steam heat, and then strained. The lard soap so prepared is semi-solid, and preserves always the same appearance. If the paste is not sufficiently boiled, however, it will show the circumstance very soon; for in a few days the soap will become gluey and stringy, like a tenacious mass of birdlime. This defect may not only be easily avoided, but easily remedied, by subjecting the paste to an adequate evaporation. Such soaps are in great request for shaving, and are most convenient in use, especially for those who are travelling.

SOLDERS.

Soldering is the process of uniting the surfaces of metals, by the intervention of a more fusible metal, which being melted upon each surface, serves partly by chemical attraction, and partly by cohesive force, to bind them together. The metals thus united may be either the same or dissimilar; but the uniting metal must always have an affinity

for both. Solders must be, therefore, selected in reference to their appropriate metals. In all soldering processes, the following conditions must be observed:—First, the surfaces to be united must be entirely free from oxide, bright, smooth, and level. Secondly, the contact of air must be excluded during the soldering, because it is apt to oxidate one or other of the surfaces, and thus to prevent the formation of an alloy at the points of union. This exclusion of air is effected in various ways. The locksmith encases in loam the objects of iron or brass, that he wishes to subject to a soldering heat; the silversmith and brazier mix their respective solders with moistened borax powder; the coppersmith and tinman apply sal ammoniac, rosin, or both, to the cleaned metallic surfaces, before using the soldering-iron, to fuse them together with the tin alloy.

Common or Tinman's.—2 lbs. of lead and 1 lb. of tin.

Soft.—2 lbs. of tin and 1 lb. of lead.

For Steel Joints.—19 dwts. of fine silver, 1 dwt. of copper, and 2 dwts. of brass.

Silver for Jewellers.—19 dwts. of fine silver, 1 dwt. of copper, and 10 dwts. of brass.

Silver for Plating.—10 dwts. of brass, and 1 oz. of pure silver.

Gold.—Pure gold 12 pennyweights, pure silver 2 pennyweights, and copper 4 pennyweights.

Plumber's.—Equal parts of lead and tin.

Glazier's.—Lead 3 parts, tin 1 part. This melts at the heat of 500° of Fahrenheit.

Pewterer's.—5 parts of lead, 3 parts of tin, and 1 part of bismuth.

Hard.—Copper 2 lbs. and tin 1 lb.

Fine.—2 parts of tin, and 1 part of lead. Used to tin copper, and to solder brassware.

Fusible.—(See *Smith*, also *Fusible Alloys*.)

Brass Solder for Iron.—Thin plates of brass are to be melted between the pieces that are to be joined. If the work be very fine, as when 2 leaves of a broken saw are to be brazed together, cover it with pulverized borax, melted with water, that it may incorporate with the brass powder which is added to it; the piece must be then exposed to the fire without touching the coals, and heated till the brass is seen to run.

Coppersmith's.—(a) This is a very strong solder, consisting of 8 parts of brass and 1 of zinc.—(b) A still harder solder is made of 3 parts copper to 1 of zinc.—(c) A softer coppersmith's solder is made of 6 parts of brass, 1 of tin, and 1 of zinc. The tin being first added to the melted brass, then the zinc, and the whole well stirred together, till incorporated.

SOLOMON'S BALM OF GILEAD.

Compound tincture of cardamoms, made with brandy instead of proof spirit, 1 pint, tincture of cantharides 1 oz.

SORE THROAT.

This is sometimes a primary disorder, arising from cold, or a usual attendant upon other diseases, and has various names, according to its character, as simple, inflammatory putrid, &c. In ordinary cases it is merely that the glands at the back of the throat around the uvula become tumified and painful, impeding the swallowing of anything. The lining of the throat, if then affected with redness, soreness, and swellings, it constitutes quinsy. The extent of the inflamed surface often gives rise to the formation of various small ulcers, of more or less a putrid character, when the names *ulcerated*, or *putrid sore throat*, become appropriate; in other cases, especially with children, the inflamed surface discharges a lymph, which forms all over it a membrane, as it were a lining to the throat and air passages, when it becomes known by the name of *Croup*. The following receipts will meet the various cases of sore throat that occur, observing always, to allay inflammation by gentle laxatives, and if there is a rawness, but not attended with difficulty of breathing or swallowing, barley water, linseed tea, and other soft and soothing drinks are valuable; also, slight emetics are valuable, particularly with children, to remove the phlegm which accumulates.

I. *Common.*—Take of decoction of bark 7 oz., tincture of myrrh 2 drachms, purified nitre 3 drachms; make into a gargle. This is a sovereign method to disperse a tumified gland, or common sore throat. By taking upon such occasions a small lump of purified nitre, putting it into the mouth, and letting it partly dissolve there, then removing it, and applying it again in a few seconds, and swallowing the saliva.

II. *Putrid.*—Take of decoction of bark 6 oz., diluted vitriolic acid 1 drachm, honey of roses 1 oz.; make into a gargle. To be used, mixed with port wine, frequently during the day.

III. *Inflammatory.*—Take of nitre 2 drachms, honey 4 drachms, rose water 6 oz. Mix. To be used frequently.

IV. Take of spirit of salts 20 drops, honey of roses $\frac{1}{2}$ oz., water 4 oz. Mix.

V. *Gargle.*—Mix together 20 drops of muriatic acid (spirit of salts,) 1 oz. of honey of roses, and 4 oz. of decoction of barley.

VI. Mix together 2 drachms of borax, 1 oz. of honey of roses, and 7 oz. of rose water. To be used three or four times a day.

VII. *Ulcerated.*—The purified pyroligneous acid, in cases of putrid ulcerated sore throat, has been attended with the most

decisive success. Its internal exhibition more effectually allays thirst, and abates fever, than any other acid; and when applied as a gargle to inflamed or ulcerated sore throats, it has been found to disperse the inflammation, and to deterge the ulcers more effectually than the infusion of rose-leaves, with the sulphuric acid, the gargle generally resorted to in those cases. The concentrated acid may be given in the dose of from 40 to 60 drops, in a glass of water three or four times a day. For the purpose of gargling the throat, 4 drachms of the concentrated acid may be added to $\frac{1}{2}$ pint of water.

SOY, ENGLISH.

Take 1 gallon of haricot or white kidney beans, boil till soft, add bruised wheat 1 gallon; keep in a warm place for twenty-four hours, then add common salt 1 gallon, water 2 gallons; put the whole into a stone jar, bung it up for two or three months, shaking it very frequently, then press out the liquor, which is a good imitative of the Chinese soy.

SPEARMINT, ESSENCE OF.

One oz. of the essential oil of common mint to be added to a pint of spirits of wine. It should be tinged green. This is a good stimulant and carminative, a few drops being taken on a lump of sugar to remove flatulence, spasms, &c.

SPECULA METAL.

Melt 7 oz. of copper, and when fused, add 3 oz. of zinc and 4 oz. of tin. These metals will combine to form a beautiful alloy of great lustre, and of a light yellow color, fitted to be made into specula for telescopes. Mr. Mudge used only copper and grain tin, in the proportion of 2 lbs. to $14\frac{1}{2}$ oz. Mr. Edwards recommends, 6 copper, 2 tin, and 1 of arsenic. Mr. Little gives as the best composition, 32 parts of best bar copper, 4 of brass pin wire, $16\frac{1}{2}$ of tin, and $1\frac{3}{4}$ of arsenic. For Lord Rosse's large speculum, (cast April 14th, 1842, and the largest ever made,) the composition used was 126 parts of copper and $57\frac{1}{2}$ of tin.

SPEEDIMAN'S PILLS.

These are composed of aloes, myrrh, and rhubarb, with the extract and volatile oil of chamomile.

SPERMACEI, TO REFINE.

Spermacei is usually brought home in casks, and, in some cases, has so little oil mixed with it, as to obtain the denomination of *head matter*. It is of the consistence of a stiff ointment, of a yellowish color, and not tenacious. Having the head matter, or filtered sperm, in order to purify it, first put it into hair cloths, and with an iron plate between each cloth, to the number of half a dozen or more, submit it to the action of an

iron screw-press; and, as the oil does not separate very readily, it will, in general, be necessary to let the cakes of sperm be pressed three different times. The third time the cakes will become so dry, that they may be broken in small pieces with little trouble, and then put in a furnace containing $\frac{1}{2}$ water and $\frac{3}{4}$ cake. Let the fire be raised sufficiently under the furnace to melt the cake, which it will do before the water begins to boil; after which, boil the whole together for about half an hour, taking off, during the boiling, what scum and other extraneous bodies rise to the top; then let the whole be dipped out into a tub, or other cooler. After it is completely cold, take off the cake of spermacei, which will be on the top of the water. This process must, in general, be repeated three times. The third time, if the processes have been properly conducted, the spermacei will be as clear as crystal; and then, after it is cool, the only thing necessary to make it fit for sale, is to cut it into moderately small pieces, when it will break into that flakey appearance which it has in shops.

SPERMACEI CERATE, OR OINTMENT.

I. Spermacei 2 oz., white wax 6 oz., olive oil 1 pint. Melt together by immersing the vessel containing them in a saucepan of boiling water, or else over a very slow fire, or in an oven; when melted, and well stirred together, pour into a cold vessel, place this in a larger vessel of cold water, and stir till thick and congealed.

II. *Cheap*.—Clarified mutton suet $5\frac{1}{2}$ lbs., white wax and spermacei of each $\frac{3}{4}$ lbs. Melt and cool as above.

These two ointments are of use to render the parts supple, and hinder the rag or lint from sticking to the granulating flesh, and they also keep the air from wounds, which is known to irritate them, from the oxygen in the atmosphere; but they have, otherwise, no peculiar healing virtue.

SPERMACEI LINCTUS.

Spermacei 2 drachms, yolk of 1 egg; rub together, then add oil of almonds $\frac{1}{2}$ oz., syrup of tolu 1 oz. A great soothing to the throat to allay tickling cough, &c.

SPIELMANN'S EYE OINTMENT.

Acetate of lead 1 scruple, spermacei cerate 5 drachms, compound tincture of benzoin 2 scruples; mix. This is cooling, drying, and used in inflammation of the eyes.

SPIKE, OIL OF, IMITATIVE.

I. The true oil of spike is an oil distilled from the flowers and young tops of the broad-leaved lavender, and is imported from the continent equally under the names of *Oil of Spike* and *Oil of Lavender*. A good imitation is made here as follows:—Oil of turpentine 3 pints, oil of lavender 3 pints. Used by enamellers and painters on glass to mix their colors with.

II. Oil of turpentine 1 gallon, Barbadoes tar 4 oz., alkanet root 2 oz. Digest a week. Used as a liniment for horses.

SPILSBURY'S ANTI-SCORBUTIC DROPS.

A nostrum composed of 2 oz. of bichloride of mercury, 1 drachm each of prepared sesqui-sulphuret of antimony and red sanders-wood, rasped, 2 oz. each of orange-peel and gentian root, $\frac{1}{2}$ pint each of rectified spirit and of distilled water; macerate and filter, so as to form a tincture.

Dr. Hancock found no mercury in a specimen purchased of the proprietor.

SPIRIT VARNISH.

This is a general rather than a specific name, and includes all varnishes which have spirits of wine as their solvent. They dry quickly, and are clear and transparent, but more liable to crack, and are not so durable as oil varnishes. Their application is mostly to pictures, work-boxes, and articles of ornament. They are sometimes apt to chill or turn white, when laid on, and to stain when brandy, gin, &c., is spilt upon them. (See the following varnishes, which are of this description, viz. *Mastic, Electrical, Lac,* and *Sandarac.*)

SPIRITUOUS LOTION.

Elder flowers $\frac{1}{2}$ oz., camphor $\frac{1}{2}$ drachm, rectified spirit 4 oz. Macerate for twenty-four hours, then press out the liquor. Stimulant and fragrant.

SPITTING OF BLOOD, TO PREVENT.

Take of the infusion of red roses 8 oz., syrup of the wild poppy 1 $\frac{1}{2}$ drachm, diluted vitriolic acid 20 drops, compound powder of tragacanth 1 drachm. Make a mixture, of 2 table-spoonsful four times a day. Ordered in spitting of blood, and night perspirations;—a medicine of much pleasantness and effect.

SPONGE, BLEACHING OF.

To bleach sponge and render it perfectly white, it is necessary to soak it in cold water, but if it does not become soft, it must be immersed in boiling water. This, however, should, if possible, be avoided, for it has a bad effect on the sponge, particularly in cooling; it causes it to shrink and to become hard, and so tough as to prevent its being bleached. If the sponge is soaked in cold water, and that water be changed three or four times every day, and at every time that the water be drawn off, the sponge is pressed perfectly dry; this process being repeated for five or six days, it will at the expiration of that time be ready for bleaching. If the sponge, as is frequently the case, should contain small pieces of chalk and shells, which cannot be got out without tearing it, the sponge must be soaked for twenty-four hours in muriatic acid, with 20 parts of water, which will cause an effervescence to

take place, and carbonic acid gas to be liberated, when the shells and chalk will become perfectly dissolved. After that it must be carefully washed in muriatic acid and fresh water, the specific gravity of which must be 1.024. The immersion of the sponge in this acid should continue for about eight days; but it must occasionally be pressed dry and thoroughly washed. After having been perfectly washed and cleaned, it should be sprinkled with rose water, to give it a pleasant smell, which completes the process.

SPONGE BISCUITS.

Beat the yolks of 12 eggs for half an hour, then put in 1 $\frac{1}{2}$ lb. of beaten sifted sugar, and whisk it till it rises in bubbles; beat the whites to a strong froth, and whisk them well with the sugar and yolks; work in 14 oz. of flour, with the rinds of 2 lemons grated. Bake them in tin moulds buttered, in a quick oven, for an hour; before they are baked, sift a little fine sugar over them.

SPONGE CAKE.

Pare a good sized lemon thin, put the peeling into $\frac{1}{4}$ pint of water, let it stand some hours. When about to make the cake, put $\frac{3}{4}$ lb. of sugar into a saucepan, pour the water and peel upon it, and let it stand by the fire to get hot. Break 8 eggs into a deep earthen vessel, that has been made quite hot, whisk the eggs for a few minutes with a whisk that has been dipped in hot water, make the sugar and water boil up, and pour it boiling hot over the eggs, continue to whisk them briskly for a quarter of an hour; have 1 lb. of flour well dried and quite warm from the fire, just stir it lightly in, put the cake into tins, lined with white paper, and bake them immediately in a moderately-hot oven.

SPONGE LOZENGES.

Powdered burnt sponge 4 oz., sugar 12 oz. mucilage of gum tragacanth to mix. Divide into 12 grain lozenges. Used in scrofula, &c., but now generally superseded by the various preparations of iodine, to the presence of which substance sponge owes its virtues.

SPORTSMAN'S CORDIAL.

Peppermint water and rectified spirits of wine, of each 1 pint, lump sugar $\frac{1}{2}$ lb. Dissolve the sugar in the water, and add the spirit.

SPRAINS.

Scarcely any common accident involves more pain, delay in cure, or is attended with worse ultimate consequences than sprains. Dr. Sydenham used to say, that for sprains there were three remedies;—the first was patience, the second patience, and the third patience; merely wishing to indicate the absolute necessity for rest and inaction of the part affected. Dislocation of joints are always attended with violent sprains, hence

their pain and length of time in curing. A part sprained soon becomes tender, swelled, and inflamed. The first object is to prevent or reduce the inflammation by any simple cooling lotion, as vinegar and water, Goulard water, or any other of a similar character. If there is a tendency to cold shivering, or the patient have a cough, and also for females at certain times, use a warm decoction of poppy heads, instead of the cold liniment, or foment with cloths dipped in warm water. If the strain be very violent, and the swelling and pain great, 8 or 10 leeches may be applied round the part injured. The inflammation having subsided, rub the part frequently, but so as not to disturb it, with opodeldoc, camphor and oil, or some other stimulating liniment, always keeping it bound up till quite well.

SPRATS, ESSENCE OF.

Make an essence with sprats in the same manner as the essence of anchovies. When made, thicken it with flour to the consistence of cream, and dry it by a gentle heat into a thick paste.

SPRUCE BEER.

Although this beverage is known under the name of *beer*, it is in fact a wine as much as many others that are acknowledged as such. It is of two kinds, brown and white; the latter is by far preferable, and is made as follows:—Take 7 lbs. of the cheapest loaf sugar; dissolve it in $4\frac{1}{2}$ gallons of hot water. When the temperature has fallen to blood heat, mix in about 4 oz. of essence of spruce, and dissolve it perfectly by agitation; then add $\frac{1}{2}$ pint of good solid yeast from a brewery, and mix thoroughly. A fermentation will soon commence, which, if it be summer, will rapidly go through its stages; but if in winter, must be maintained by keeping the cask in a warm apartment. When the fermentation very perceptibly subsides, the liquor is to be drawn off, the cask well washed, and the liquor returned. A second fermentation, inconsiderable in degree, will take place, and when this diminishes, the liquor is fit for bottling. The bottles should be wired down, and laid on their sides until the liquor becomes brisk and in high order. This will be known by a trial of a bottle; and it then becomes prudent to set the bottles on their end, lest they should burst. When kept too long in this posture, the beer is apt to become flat; in which case, the bottles must be placed on their sides again. Brown spruce beer may be made exactly according to the same formula, except that in place of white sugar an equal weight of molasses or treacle is to be made use of.

SPRUCE BEER POWDERS.

Take 5 scruples of white sugar, 24 grains of sesqui-carbonate of soda, and 10 grains

of essence of spruce, for the blue paper; and $\frac{1}{2}$ dram of tartaric, or, what is better, citric acid, for the white paper. Dissolve in separate glasses of water; mix, and drink immediately.

SPRUCE, ESSENCE OF.

Boil the tops of the young shoots, and particularly the young fruit of the spruce fir tree, in water, and evaporate the solution to the thickness of treacle. It is stimulant and tonic, a good remedy for internal strains and other injuries.

SQUIBS OR SERPENTS.

Serpents are generally made about 5 or 6 inches long, and about $\frac{1}{2}$ inch in diameter, they are sometimes made straight, and sometimes with a choak in the middle of them; the name which they bear, probably rose from the hissing noise which they make when fired, or from the zigzag or vibrating directions in which they move when properly constructed. The cases must be made of some strong paper, and rolled in a former about $\frac{1}{4}$ inch diameter, or somewhat more, and having choaked or tied one end up close, with strong twine. To fill the case, first put in $\frac{1}{2}$ a thimble-full of gunpowder, then fill the rest of the case with the following composition:—Mealed-powder 1 lb., saltpetre $1\frac{1}{2}$ oz., and charcoal 1 oz. Paste a piece of touch-paper over the mouth, and dip the closed end in melted sealing-wax.

SQUILL MIXTURE.

Oxymel of squills 4 drachms, hyssop water 3 oz., peppermint water 1 oz., sweet spirits of nitre $\frac{1}{2}$ oz. Dose 1 or 2 table-spoonsful three or four times a day, in coughs, asthma, &c.

SQUILL PILLS.

Powdered squills 1 drachm, ginger and ammoniacum, of each 2 drachms, soap 3 drachms, syrup enough to mix into pills. Used in doses of from 5 to 20 grains in coughs, colds, &c.

SQUILLS, CONSERVE OF.

Fresh squills 1 oz., white sugar 5 oz. Mix. A good cough medicine, attenuant and soothing, either mixed with water, or taken as a linctus.

SQUILLS, HONEY OF.

Clarified honey 3 lbs., tincture of squills 2 lbs.; mix well together.

SQUILLS, LINCTUS OF.

Oil of almonds 2 oz., oxymel of squills and honey, of each 1 oz. Mix.

SQUILLS, OXYMEL OF.

Take of clarified honey 3 lbs., vinegar of squills 2 pints. Boil them in a glass vessel, with a slow fire, to the thickness of a syrup.

This is a useful aperient, detergent, and expectorant, and of great service in asthma, coughs, and other disorders where thick phlegm abounds. π

is given in doses of 2 or 3 drachms, along with some aromatic water, as that of cinnamon, to prevent the great nausea which it would otherwise be apt to excite. In large doses it proves emetic.

SQUILLS, SYRUP OF.

I. Vinegar of squills 3 pints, white sugar 7 lbs.; dissolve by a gentle heat.

II. Vinegar of squills 14 lbs., double refined sugar 28 lbs.; dissolve in a stone-ware vessel without heat. This is a good expectorant in chronic coughs and asthma; in large doses it proves emetic.

III. Vinegar of squills 2 lbs., double refined sugar, in powder, 3½ lbs. Dissolve the sugar with a gentle heat, so as to form a syrup.

This syrup is used chiefly in doses of a spoonful or two for promoting expectoration, which it does very powerfully. It is also given as an emetic to children.

SQUILLS, TINCTURE OF.

Fresh squills 4 oz., proof spirit 2 lbs. It is demulcent, expectorant, and diuretic, in doses of from 10 to 30 drops, taken in a little water, or on a lump of sugar.

SQUILLS, VINEGAR OF.

Take of squills, recently dried, 1 lb., vinegar 6 pints, proof spirit ½ pint. Macerate the squills with the vinegar, in a glass vessel, with a gentle heat for twenty-four hours; then express the liquor, and set it aside until the fæces subside. To the decanted liquor add the spirit.

This is a medicine of great antiquity. It is a very powerful stimulant; and hence it is frequently used with great success as a diuretic and expectorant. The dose of this medicine is from 1 drachm to ½ oz.

SQUIRE'S ELIXIR.

A nostrum composed of 20 drams of opium, 1 oz. of camphor, 1 dram each of carbonate of potass and cochineal, 2 oz. of burnt sugar, 1 pint of tincture of snake-root, 2 gallons of spirit of anise, and 8 oz. of sulphate of tin. Other formulæ are given, containing camphor, liquorice, &c., but opium is the basis.

STANDARD MEASURES, ALLOY FOR.

Mr. Bate, who had to manufacture these measures, used 576 parts by weight of copper, 59 of tin, and 48 of brass, as being equal to brass in hardness, worked with the same facility, and less liable than brass to oxidation.

STARCH, SUGAR FROM.

Starch 100 lbs., water 400 lbs., sulphuric acid from 1 to 10 parts. Boil for thirty-five or forty hours, adding water to make up for evaporation, then saturate the acid with lime or chalk, strain off the clear liquid, and evaporate to a dry consistence.

Sawdust, glue, potatoes, rags, &c., also yield sugar by the same means, but require a larger portion of acid. Potatoe sugar is often used to adulterate cane sugar, it may be known by boiling it in a solution of caustic potass. Cane sugar remains colorless, starch sugar turns brown.

STARCH LOZENGES.

Starch 1½ oz., liquorice 6 drachms, orrice root 4 drachms, sugar 1½ lb., all powdered, mucilage of gum tragacanth to mix.

STARCH, MANUFACTURE OF.

The starch makers place in large vats the wheat roughly ground, and without separating the bran, and employing even the refuse of flour and damaged wheat. They diffuse the farina in a certain quantity of water, adding a little *sour*, which is the product of a preceding operation. The sugar and the gluten which the farina contains speedily act on each other, and produce, at first, carbonic acid and alcohol, and afterwards acetic acid, which completes the solution of the gluten. It is this solution which is called the *sour*, or *fat water*. After having washed the deposit by decantation, it is diffused in water, and thrown on a hair sieve placed over a tun. The coarsest of the bran remains on the sieve. The fecula and the finer part of the bran pass through and subside together. This deposit is again mixed with water; and, on allowing it to rest, the fecula, being the heavier, is first deposited, and the bran forms the upper layer of the precipitate. A portion of this is taken off with a shovel, and by repeatedly washing the upper part of the remaining mass, additional portions are removed. The residue is mixed with water, and passed through a sieve made of silk. Thus a fresh portion of the bran is got rid of, and nothing more is required but to let the fecula subside, and wash it, in order to obtain it pure. Lastly, it is dried by taking it up in wicker baskets, having a loose linen lining, and turning it out of these moulds on an area coated with plaster. The blocks of starch thus formed are broken down by the hand, their fragments are exposed for some days to the air, their surface is smoothed, and they are carried to the stove to be perfectly dried. The lumps of starch thus obtained have a certain regularity of shape, which seems to indicate a rude crystallization; but it proceeds only from the action of the water, which cracks the mass in draining out of it.

STARKEY'S PILLS.

Extract of opium 4 oz., mineral bezoar and nutmeg, of each 2 oz., saffron and Virginian snake-root, of each 1 oz., Starkey's soap ½ lb., oil of sassafras ½ oz., tincture of antimony ½ fluid oz.; mix. They are anodyne, and to be taken in doses of 3 to 10 grains.

STARKEY'S SOAP.

A nostrum prepared by triturating for a long time, and carefully, carbonate of potass with oil of turpentine, with the addition of a small quantity of water.

STAVESACRE OINTMENT.

Powdered stavesacre 1 oz., lard 3 oz.; melt together, digest for three hours, and strain. Used in the itch, and to destroy vermin on the head.

STEEL LOZENGES.

I. Finely-powdered iron filings 1 oz., finely-powdered sugar 10 oz., finely-powdered cinnamon 2 drachms, mucilage of gum tragacanth to mix. Divide into 480 lozenges.

II. Sulphate of iron 3 drachms, sugar 1 lb. tincture of cantharides 1 oz., essence of orange peel 30 drops, mucilage of gum tragacanth to mix. Make into 280 lozenges. These are good tonics.

STEEL AND PLATINUM, ALLOY OF.

Platinum, although the most infusible of metals, when in contact with steel, melts at a comparatively low temperature, and combines with it in any proportion. This alloy does not rust or tarnish by exposure to a moist atmosphere for many months. The alloy is malleable, and well adapted for instruments which would be injured by slight oxidation, as mirrors for dentists, &c. The best proportions do not yet appear to be known; but it appears that if much platinum be used, the alloy has a damask or wavy appearance. Steel for cutting instruments is much improved by even $\frac{1}{200}$ th of platinum.

STEEL, TO COLOR BLUE.

The steel must be finely polished on its surface, and then exposed to a uniform degree of heat. Accordingly, there are three ways of coloring; first, by a flame producing no soot, as spirits of wine; secondly, by a hot plate of iron; and thirdly, by wood-ashes. As a very regular degree of heat is necessary, wood-ashes for fine work bears the preference. The work must be covered over with them, and carefully watched; when the color is sufficiently heightened, the work is perfect. This color is occasionally taken off with very dilute muriatic acid.

STEEL, TO DISTINGUISH FROM IRON.

The principal characters by which steel may be distinguished from iron, are as follow:—1. After being polished, steel appears of a whiter, light grey hue, without the blue cast exhibited by iron; it also takes a higher polish. 2. The hardest steel, when not annealed, appears granulated, but dull, and without shining fibres. 3. When steeped in acids, the harder the steel is, of a darker hue is its surface. 4. Steel is not so much inclined to rust as iron. 5. In general, steel has a greater specific gravity. 6. By being hardened and wrought, it may be rendered much more elastic than iron. 7. It is not attracted so strongly by the magnet as soft iron; it likewise acquires magnetic properties more slowly, but retains them longer, for

which reason, steel is used in making needles for compasses, and artificial magnets. 8. Steel is ignited sooner, and fuses with a less degree of heat, than malleable iron, which can scarcely be made to fuse without the addition of powdered charcoal, by which it is converted into steel, and afterwards into crude iron. 9. Polished steel is sooner tinged by heat, and that with higher colors than iron. 10. In a calcining heat, it suffers less loss by burning, than soft iron does in the same heat, and the same time; in calcination a light blue flame hovers over the steel, either with or without a sulphureous odour. 11. The scales of steel are harder and sharper than those of iron, and consequently more fit for polishing with. 12. In a white heat, when exposed to the blast of the bellows among the coals, it begins to sweat, wet, or melt, partly with light-colored and bright, and partly with red sparkles, but less crackling than those of iron; in a melting heat too, it consumes faster. 13. In the vitriolic, nitrous, and other acids, steel is violently attacked, but is longer in dissolving than iron. After maceration, according as it is softer or harder, it appears of a lighter or darker grey color, while iron on the other hand is white.

STEEL, TO GILD.

Pour some of the ethereal solution of gold into a wine-glass, and dip therein the blade of a new pen-knife, lancet, or razor; withdraw the instrument, and allow the ether to evaporate. The blade will be found to be covered by a very beautiful coat of gold. A clean rag, or small piece of very dry sponge may be dipped in the ether, and used to moisten the blade, with the same result. In this case there is no occasion to pour the liquid into a glass, which must undoubtedly lose by evaporation; but the rag or sponge may be moistened by it, by applying either to the mouth of the phial. This coating of gold will remain on the steel for a great length of time, and will preserve it from rusting.

This is the way in which swords and other cutlery are ornamented. Lancets too are in this way gilded with great advantage, to secure them from rust.

STEEL GOODS, TO PRESERVE FROM RUST.

I. A thin coating of caoutchouc is recommended. It is an excellent preservative of iron and steel articles from the action of the air and moisture; its unalterability, consistence when heated, adhesion to iron and steel, and facility of removal, renders it an admirable substance for this purpose. The caoutchouc is to be melted in a close vessel, that it may not inflame. It will require nearly the temperature of fusing lead, and must be stirred to prevent burning. Mix some oil with the caoutchouc, which renders it easily applicable, and leaves the substance, when dry, as a firm varnish, impervious to

moisture. This, when required, may easily be removed by a soft brush, dipped in warm oil of turpentine.

II. The following method has been communicated by M. Paynen to the Institute of France:—It consists in plunging the pieces to be preserved into a mixture of 1 part concentrated solution of impure soda (soda of commerce,) and 3 parts of water. Pieces of iron left for three weeks in this liquid neither lost weight or polish, while similar pieces in five days, in simple water, were covered with rust.

III. Mr. Pepys preserved steel goods by a far more philosophical method—that is, by merely wrapping them in zinc foil. He found that a table-knife, with a piece of zinc wrapped round it, was preserved from rust, though soaked for a month in sea water, while another knife, not connected with zinc, was very much corroded. This is available where the last receipt is not, particularly in the exportation of cutlery. Table knives are best kept from rust by having the ferrules made of zinc, or, if not in use, by being wrapped in zinc foil, or in a cloth with pieces of zinc. Knife boxes, scissor sheaths, sword cases, &c., should always be made of zinc.

STEEL MIXTURE.

I. Carbonate of potash 1 drachm, powdered myrrh 2 drachms, spirits of nutmeg 1 oz.; triturate together, and while rubbing, add gradually, sugar 2 drachms, and rose-water 18 oz.; then add sulphate of iron, powdered, $2\frac{1}{2}$ scruples, and place it at once in a bottle, which must be kept closely corked. Dose 1 to 2 oz. two or three times a day, as a mild and gentle tonic, not to be used however when there is a tendency of blood to the head.

II. Sulphate of iron 4 drachms, calcined magnesia 2 scruples, water 6 oz., tincture of quassia 2 fluid drachms. Mix in a bottle, cork it up, and then shake it well.

III. Powdered Jesuit's bark 1 oz., bruised Columbo root 3 drachms, bruised cloves 2 drachms, iron filings $\frac{1}{2}$ oz., peppermint water 1 pint. Digest in a close vessel for three days, agitating frequently, then strain, and add compound tincture of cardamoms 3 oz., and tincture of orange peel 3 oz. Dose 1 or 2 table-spoonful 2 or 3 times a day.

STEERS'S OPODELDOC.

Castile soap 3 lbs., spirits of wine 3 gallons, camphor 14 oz., oil of rosemary 3 oz., oil of marjoram 6 oz., spirits of hartshorn 2 lbs. (See *Soap Liniment* for numerous other receipts, but slightly varying from this.)

STEINACHER'S NITRIC ACID.

Nitric acid 16 oz., litharge 2 oz.; distil very slowly, leaving about 2 oz. in the retort.

STEPHENS'S REMEDY FOR THE STONE.

This was a soap made with lime procured from egg-shells, and snail-shells calcined. Along with this soap, which was given in form of pills, a diuretic and laxative decoction was given, prepared with chamomile, fennel, parsley, and burdock, with some Alicant soap. When pain was produced, an opiate was given, and when the decoction purged, it was intermitted.

STEREOTYPE PLATES, ALLOY FOR.

Melt 9 lbs. of lead, and throw into the crucible 2 lbs. of antimony, and 1 lb. of bismuth; these metals will combine, forming an alloy of a peculiar quality. This quality is expansive as it cools, it is therefore well suited for the formation of small printing types, (particularly when many are cast together to form stereotype plates,) as the whole of the mould is accurately filled with the alloy; consequently, there can be no blemish in the letters. If a metal or alloy, liable to contract in cooling, were to be used, the effect of course would be very different.

STERRY'S PLAISTER.

A nostrum very popular in London, and composed of the common ammoniac plaister of the Pharmacopœia, or ammoniac dissolved in vinegar, and spread on brown paper.

STIMULANT ENEMA.

I. Pulp of colocynth 1 drachm, boil in 1 pint of water till reduced to $\frac{3}{4}$, then add common salt and syrup of buckthorn, of each 1 drachm.

II. *For Horses*.—Common salt and linseed oil, of each 8 oz., hot water 1 gallon, gum arabic 1 oz.; mix. Used in the staggers.

STIMULANT LINIMENT.

I. Liquor of ammonia 2 fluid drachms, olive oil 6 fluid drachms. Used in sore throat.

II. Compound camphor liniment 9 fluid oz. tincture of cantharides 1 fluid drachm, laudanum 2 fluid oz. Rubbed over painful joints, and over the bowels in colic and cramp. It is stimulant and anodyne.

STIMULANT MIXTURE.

I. Carbonate of ammonia $\frac{1}{2}$ drachm, peppermint water 5 oz., orange syrup 6 drachms, compound tincture of cardamoms 2 drachms. One table-spoonful occasionally for lowness of spirits, faintness, &c.

II. Camphor julep 4 oz., ether spirit of aniseed and tincture of cardamoms, of each 3 drachms, syrup 1 oz., tinctures of tolu and ginger, of each 1 drachm, peppermint water $1\frac{1}{2}$ oz.

STIMULANT PLAISTER.

Gum ammoniacum, strained, 1 oz., vinegar of squills $\frac{1}{2}$ oz. Mix with a gentle heat, and spread on leather, as an application to the chest or pit of the stomach.

STOERCK'S PILLS.

Extract of hemlock 1 drachm, mixed up with powdered hemlock till of a proper consistence to roll into pills. The dose is from 2 to 8 grains, to be taken twice a day in various glandular and visceral enlargements, cancer, scrofula, &c.

STOMACHIC DRAUGHT.

I. Take of tincture of cascarrilla 2 drachms, vitriolic ether 20 drops, cinnamon water and simple peppermint water, of each 1 oz. Make into a draught, to be taken three times a day.

II. Take of raspings of quassia 2 drachms, orange peel 3 drachms, lemon peel 4 drachms, boiling water 1 pint. Let this remain for four hours in a closed saucepan, then strain off. The dose is 3 table-spoonful at twelve, seven, and bed-time.

STOMACHIC ELUCTUARY.

Green peppermint, lump sugar, and confection of orange peel, of each equal parts; mix. Dose a tea-spoonful occasionally.

STOMACHIC ELIXIR.

Take of gentian root 2 oz., Curaçoa oranges 1 oz., Virginian snake-root $\frac{1}{2}$ oz., cochineal $\frac{1}{2}$ drachm, French brandy 2 pints. Let them steep for three days, and then filter the elixir.

STOMACHIC TINCTURE.

Cinnamon $\frac{1}{2}$ oz., smaller cardamom seeds, caraway seeds, and cochineal, of each 2 drachms, raisins of the sun, stoned, 4 oz., proof spirit 2 lbs.

STOMACHIC WINE.

Take 1 oz. of Peruvian bark, grossly powdered, cardamom seeds and gentian root, bruised, of each 2 drachms; infuse in a bottle of white, port, or Lisbon wine, for five or six days, then strain off the wine.

This is used in cases of debility of the stomach or intestines, in slow recovery after a fever, or for intermittent fevers. A glassful may be taken two or three times a day.

STOPPING-OUT VARNISH.

Brunswick black diluted with turpentine. This is the best application, but any turpentine varnish, colored with lamp black, will do for the purpose.

Stopping-out varnish is used by engravers, previous to biting in an etching, to cover over any defects of scratches, false lines, &c., and also when two or more applications of the biting acid are necessary in certain parts of an engraving, to stop out such parts as are bitten or corroded enough.

STORAX PILLS.

Strained storax 3 drachms, powdered opium and saffron, of each 1 drachm. Dose from 5 to 10 grains in chronic coughs.

STOREY'S WORM CAKES.

A nostrum composed of 1 scruple of jalap, 1 dram of ginger, 2 scruples of sugar, 1 oz. of cinnabar, and as much of syrup as is sufficient to make them into cakes.

STORM GLASS.

Take 2 drachms of camphor, $\frac{1}{2}$ drachm of pure nitrate of potash, and $\frac{1}{2}$ drachm of muriate of ammonia. Triturate them together until they are thoroughly pulverized. Put these ingredients into a bottle about 10 inches in length, and 1 inch in diameter; half fill it with the best alcohol, and add distilled water, until you obtain as heavy a precipitate as you consider necessary. Cork the bottle, not cover it with perforated bladder, as recommended in some books. The instrument should be kept in the shade, as solar light deranges it. The indications given by these glasses are as follows:—If the weather promise to be fine, the solid matter of the composition will settle at the bottom of the glass, while the liquid will remain transparent; but previous to a change for rain, the compound will gradually rise, the fluid continue pellucid, and small stars will be observed moving or floating about within the vessel. Twenty-four hours before a storm, or very high wind, the substance will be partly on the surface of the liquid, apparently in the form of a leaf; the fluid in such case will be very thick, and in a state resembling fermentation. During the winter, small stars being in motion, the composition is remarkably white, and somewhat higher than usual, particularly when white frosts or snows prevail. On the contrary, in the summer, if the weather be hot and serene, the substance subsides closely to the bottom of the glass tube. Lastly, it may be ascertained from what quarter of the compass the wind blows, by observing that the solid particles adhere more closely to the bottom on the side opposite to that where the tempest arises.

Persons often fail in making a storm glass for want of attending to the quantity of water, and for which the following rule, or rather advice, can be given:—At the time you are filling the glass, and are about to add the water, and which must always be added last, and when the other ingredients are well dissolved in the alcohol. Observe in some optician's window the quantity or position of the precipitate, and add water until you have the same quantity; see also, if after a little rest it takes the same position; thus regulate it for three or four days, when it will afterwards act well. If you have not the opportunity of seeing other glasses, make it conform at one time with the preceding indications, and it will agree with the rest of them.

STOUGHTON'S ELIXIR.

A nostrum composed of a compound tincture of gentian, made with $2\frac{1}{2}$ lbs. of gentian root, 1 lb. of Virginian snake-root, $1\frac{1}{2}$ lb. of dried orange peel, 4 oz. of calamus aromaticus, and 6 gallons each of rectified spirit and water. Cardamoms are sometimes added.

STRAINS, EMBROCATION FOR.

For Horses.—(a) Soft soap and oil of turpentine, of each 4 oz., oil of rosemary and camphor, of each 1 drachm.—(b) Olive oil, oil of turpentine, and elder-flower oint-

ment, of each 2 oz. Mix, and add oil of marjoram 2 drachms.

STRAMONIUM, LINCTURE OF.

Bruised stramonium seeds 2 oz., proof spirit 1 pint; digest for six days, then strain or filter. Used as an anodyne in 10 to 20 drops on a lump of sugar.

STRAMONIUM OINTMENT.

I. Fresh thorn-apple leaves 2 oz., lard 5 oz. Digest for three hours, and strain.

II. Powdered leaves 1 oz., lard 4 oz.; mix. It is used to dress irritable ulcers, and as an application to painful piles.

STRANGUARY, TREATMENT OF.

This is a frequent inclination to make water, attended with smarting pain, heat, and difficulty in avoiding it, together with a sensation of fulness in the bladder. When this disease arises merely from irritation, plentiful draughts of warm liquid should be given, as barley-water, a thin solution of gum arabic, or linseed tea with a small portion of nitre dissolved in it. At the same time, warm fomentations are to be applied to the pubes, or lower part of the belly, and copious emollient and opiate clysters are to be administered. Of the latter the following is the most approved:—Mix 1 drachm of tincture of opium, (laudanum,) with 4 oz., by measure, of boiled starch. Let one of these clysters be injected every five or six hours.

STRAWBERRY JAM.

Bruise very fine some scarlet strawberries, gathered when quite ripe, and put to them a little juice of red currants. Beat and sift their weight in sugar, strew it over them, and put them into a preserving pan. Set them over a clear slow fire, skim them, then boil them twenty minutes, and put them into glasses.

STRAWBERRY WINE.

I. Take of cold soft water 7 gallons, cyder 6 gallons, strawberries 6 gallons; ferment. Mix raw sugar 16 lbs., red tartar, in fine powder, 3 oz., the peel and juice of 2 lemons, then add brandy 2 or 3 quarts. This will make 18 gallons.

II. Take of cold soft water 10 gallons, strawberries 8 gallons; ferment. Mix raw sugar 25 lbs., red tartar, in fine powder, 3 oz., 2 lemons and 2 oranges, peel and juice, then add brandy 1 gallon. This will make 18 gallons.

STRAW BLEACHING.

Our milliners, not pleased with the yellow color which the straw of which hats are made originally possesses, or urged by the all-prevailing taste, have lately been desirous of obtaining white straw; and several attempts have been made to bleach this substance with the usual agents. Sulphuric acid has been

found to succeed best in those incipient attempts, while the chlorides and the simple chlorine gas are said to injure the texture and destroy the natural varnish of the straw, which is its greatest beauty. It is probable, however, that this has proceeded from unskilful management, for in other departments of bleaching, the corrosive effects of the chlorine, when combined with earths or alkalies, and properly diluted, are found to be as easily prevented as that of sulphuric acid, while its power of destroying a color is greatly superior. Straw hats and bonnets are bleached by putting them, previously washed in pure water, into a box with burning sulphur; the fumes which arise unite with the water on the bonnets, and the sulphurous acid thus formed bleaches them.

STRUVE'S LOTION FOR HOOPING COUGH.

A nostrum composed of 1 dram of potassio-tartrate of antimony dissolved in 2 drams of distilled water, to which add 1 dram of tincture of cantharides.

STRYCHNINE MIXTURE.

Pure strychnine 1 grain, white sugar 2 drachms, acetic acid 3 drops, water 2 oz. A tea-spoonful night and morning in palsy. Be careful not to increase the dose.

STRYCHNINE PILLS.

Strychnine 2 grains, conserve of roses $\frac{1}{2}$ drachm. Divide into 24 pills, and silver them.

STRYCHNINE, SPIRIT OF.

Strychnine $2\frac{1}{2}$ grains, spirits of wine 1 oz. Used in palsy, in doses of 6 to 20 drops.

STYPTICS.

Styptics are such applications as have a tendency to contract the orifices of severed blood vessels, and therefore to stop bleeding; the most powerful of all is the actual cautery, or a red-hot iron, though it is evident such, although an application, is not a medicine. Of drugs having this tendency, the astringent salts hold pre-eminence; among these are alum, green vitriol, blue stone, and the sulphate of zinc, among which the two former are generally to be preferred. The following are very good styptics:—

I. Green vitriol, calcined, 1 drachm, proof spirit, tinged yellow with oak bark, 2 lbs.

II. Nut galls and oxyde of iron, of each 4 oz., proof spirit 1 gallon.

III. Spirits of wine, colored yellow with oak bark, or red with catechu.

The pith and seed of the *lycopodium*, or puff ball, as well as many others of the fungi, are powerfully styptic.

STYES, TREATMENT OF.

These are small abscesses seated in the edge of the eye-lid, and produced from the obstruction of very minute glands. They are often attended with much heat and pain, and

always with great inconvenience. If they do not suppurate quickly, a small poultice of bread and milk is to be applied warm. When the matter is formed, an opening should be made with the point of a lancet, and a small portion of weak citrine ointment is afterwards to be applied.

ST. YVE'S EYE OINTMENT.

Red precipitate $\frac{1}{2}$ drachm, oxyde of zinc 1 scruple, fresh butter 1 oz., wax 4 scruples, camphor 15 grains. Used for chronic inflammation of the eyelids.

SUCCEDANEUM, MINERAL.

I. A material for filling the holes of decayed teeth, formed of tin-foil, to which a very small quantity of mercury has been added.

II. The finely divided silver, formed in making the silver tree, is a far superior article for this purpose.

III. Another preparation is the lead deposited on the lump of zinc used in making the lead tree.

The true stopping for teeth is gold in the state of leaf. Succedaneums are other metallic substances used in lieu of it. Spongy platinum mixed with a small quantity of wax has also been recommended.

SUGAR, TO BOIL AND CLARIFY.

The proper method of boiling sugar is the only secret in the confectioner's business, and this consists of six or seven different degrees of thickness, forming syrups or liquid sugars, candies or granulated sugars, and caramels, or hard sugars; of these three kinds, capillaire, candied sugar, and barley sugar, are examples. Different names are used not merely for these, but also for intermediate degrees of boiling. The following are the chief differences, and the methods of producing them:—Put some syrup, that is sugar which has been clarified with white of egg and a little water, or else loaf-sugar merely dissolved by boiling in $\frac{1}{4}$ its weight of water. Continue to boil this until taking a little out in a spoon, and putting a single drop on the finger, and touching that with the thumb, the separation of the thumb and finger draws out a thread of sugar as fine as a hair between them, and when it breaks, it forms a drop on the finger, this is called the *little thread*. Continuing the boiling for a little time longer, a *large thread* is next produced; after a little more boiling, a thread, 2 or 3 inches in length, is produced, this is called the *little pearl*, and if the thread does not break by separating the thumb and finger to its fullest extent, it is called the *great pearl*. When this degree of thickness has been obtained, it ceases to remain a perfect syrup, yet is scarcely strong enough to grain, or become a true candy; by a little more boiling, then taking a few drops up on a perforated spoon or slice, and blowing it through the holes, small air bubbles will be

seen on the other side, this is called the *blow*. If boiled longer, suddenly jerking the skimmer will draw it out into long threads, this is called the *feather*. After it has passed this degree, it naturally candies, if left to cool. Continue the boiling, and after a few minutes, take a spoon or tobacco-pipe, dip this in cold water, then into the sugar, then into the water again to cool, and without taking it out, work it up with the fingers into a ball, this is called the *ball*, and if you can make a large one, and it bites hard and sticky to the teeth, it is called the *large ball*. If it is crisp, it has arrived at that degree called the *crack*; and if, when you draw out a thread from it, it snaps off like glass, and with a noise, it has reached the highest degree of boiling, and which is called the *caramel degree*. Beyond this, the sugar almost directly becomes brown, and burns, forming burnt sugar.

To prevent it graining, add 2 drops of lemon juice or vinegar to every pound of sugar. If boiled too high, add a little water, and boil again. For the last degrees, the sugar should be taken from the fire before it has quite perfected that degree, as the heat in it will carry it forward to the proper consistence.

SUGAR CANDY.

In making refined sugar, the crystals are small, confused, and irregular, hence the whiteness and opacity of loaf sugar; but if pure syrup or dissolved sugar be allowed to remain quite still and undisturbed, as the water evaporates, the sugar will crystallize in certain regular forms, and if the syrup has been perfectly clarified, these crystals will be colorless and transparent, constituting white sugar candy. Brown sugar candy differs from this only in being made from syrup of brown sugar. The manufacture is very simple;—the syrup is poured into oblong boxes, or sometimes round earthenware pans, across which thin strings have been stretched for the crystals to form upon; these boxes are then placed in the drying stove for several days, when not only the threads will be covered with sugar candy, but the box or pan completely lined with it. Sometimes the syrup is colored red with cochineal.

SUGAR, ROCK.

Boil 1 quart of clarified sugar to that degree of hardness, called the *crack*, which is such, that when a drop be drawn out, the long filament of sugar will be very brittle. Having some icing, previously prepared as for cakes, (see *Icing*.) or mix some finely-powdered sugar with the white of an egg to a thick consistency, take the sugar from the fire, and as soon as the boiling has gone down, stir in a spoonful, which must be done very quickly, and without stopping. Let it rise once and fall, when it rises a second time, pour it out into a paper case or mould, and immediately cover it over with a pan. It

may be colored with cochineal, saffron, &c., and also flavored with any of the essential oils.

SUGAR VINEGAR.

I. In 158 quarts of boiling water dissolve 10 lbs. of sugar and 6 lbs. of tartar; put the solution into a fermenting cask, and when it is cooled to the temperature of from 75° to 80°, add 4 quarts of beer yeast to it. Stir the mixture well, then cover the vessel loosely, and expose it for six or eight days to the vinous fermentation, at a temperature of from 70° to 75° Fahr. When it has become clear, draw off the vinous liquor, and either acidify it in the graduation tub above described, or by the common vinegar process. Before it is finished, we should add to it 12 quarts of strong spirit (brandy,) and 15 quarts of good vinegar, to complete the acetic fermentation. With a graduation tub which has been used, this addition of vinegar is unnecessary.

II. For every gallon of hot water, take 18 oz. of sugar; and when the syrup has cooled to 75°, add 4 per cent. by measure of yeast. When the vinous fermentation is pretty well advanced, in the course of two or three days, rack off the clear wash from the lees into a proper cask, and add 1 oz. of tartar, and 1 of crushed raisins, for every gallon of water. Expose it in a proper manner, and for a proper time, to the acetic process; and then rack off the vinegar, and fine it upon beech chips. It should be afterwards put into bottles, which are to be well corked.

SULPHATE OF ZINC OINTMENT.

Sulphate of zinc 1 drachm, lard 1 oz. This is astringent, and used as an eye ointment, and in certain skin diseases.

SULPHUR, BALSAM OF.

I. Flowers of sulphur 1 lb., olive oil 8 lbs. Heat them together in a large iron pot, and stir till they combine.

II. Flowers of sulphur 1 lb., linseed oil 1 gallon.

III. *Anisated*.—Dissolve 1 oz. of flowers of sulphur in 4 oz. of oil of aniseed, or add 4 oz. of the oil of aniseed to every 12 oz. of balsam of sulphur.

SULPHUR, BLEACHING BY.

Straw bonnets, discolored paper, and numerous other articles, are bleached by the fumes of sulphur. The articles to be bleached are made damp, and then placed in a box or close room; 2 or 3 oz. of roll sulphur are melted in a pipkin, and kept on the fire till they inflame spontaneously. Then the pipkin is placed, with the sulphur in it still burning, among the goods to be bleached, and the box or room closed as tightly as possible. The sulphur, in burning, unites with oxygen, and forms sulphurous acid,

which flies off in vapor, and is absorbed by the moisture upon the surrounding objects, which thereby become bleached.

SULPHUR COINS, TO MAKE.

Prepare first the requisite moulds of both sides of the coin, by pouring plaster of Paris on each side alternately. Make a line, or other mark, on each mould, to show the position that they are afterwards to be placed in, that the heads and devices may be in such a position relative to each other, as they are in the original coin. Then melt some sulphur, (that is best which has been melted two or three times before, so that it has acquired a light brown color.) When ready to pour, hold the two moulds at the proper distance from each other, according to the thickness of the coin, and with the marks of both in a line with each other, and wind round the edge of the moulds a strip of card, in such a manner, that the card shall go very nearly round them; a small vacuity only being left at the top. This being prepared, hold the card between the fingers and thumb, then pour in the sulphur, and as it shrinks, pour in more, until the space between the moulds is full. It will immediately congeal, and when removed, it will be found to have taken a fine impression from the moulds, and to have all the sharpness of the original coin. When taken out, it may be trimmed with a knife around the edges, for sulphur has the property of remaining soft for some considerable time after melting. To give the artificial coins clearness, and an appearance of antiquity, they must be rubbed all over with black-lead, and then the black-lead removed from the more prominent parts with a soft damp rag. A fine metallic appearance is given to medals by varnishing over the black-lead surface, with a weak solution of dragon's-blood in spirits of wine, instead of partially rubbing the black-lead off. The moulds must of course be damped previously to using.

SULPHUR, ELECTUARY OF.

I. *Simple*.—Flowers of sulphur 1 oz., honey or treacle 2 oz. Gently laxative.

Brimstone and treacle, as it is commonly called is very useful as a medicine for those children who are troubled with breakings out over the face, &c.; as a cleanser for various other skin diseases, and as a mild aperient for those afflicted with the piles; a little cream of tartar is added with advantage.

II. *Compound*.—(a) Flowers of sulphur $\frac{1}{2}$ oz., cream of tartar 1 oz., confection of senna 2 oz., confection of black pepper $1\frac{1}{2}$ oz., syrup of ginger 1 oz.; mix.—(b) Flowers of sulphur 1 oz., cream of tartar $1\frac{1}{2}$ oz., borax $\frac{1}{2}$ oz., confection of senna $2\frac{1}{2}$ oz., syrup of orange peel to mix.

SULPHUR LOZENGES.

Sulphur 2 oz., sugar 1 lb., mucilage of gum tragacanth, made with rose water to mix. Useful in piles and some skin diseases.

SULPHUR, MILK OF.

To a solution of the sulphuret of potass, add sulphuric acid. This will seize upon the potass, and liberate the sulphur, which will fall down to the bottom of the vessel in the state of a whitish yellow powder, which is called the milk or cream of sulphur.

SULPHUR MOULDS.

Suppose we have a number of the white plaster medallions, or casts of gems, such as are sold by the Italians, and desire to make moulds of them, from which other casts may be made afterwards, we must proceed as follows:—Prepare a few slips of stiff paper, such as writing paper, each about an inch broad, and long enough to go once or twice round the medallion. Soak the back of the medallion in a plate containing a little water, not enough, however, to come over the face of it, and here let it rest, until in half a minute or so, you will perceive that the water will be absorbed, so as to just show itself on the face of the medallion, making it more shining. When this is the case, take it out of the water directly, fold the slip of paper round it, and hold it between the thumb and finger of the left hand. While this is doing let there be melting on a slow fire some roll brimstone, in a pipkin or patty pan with a handle. As soon as ever a small quantity of the brimstone is melted, pour it carefully upon the face of the medallion, which you may turn about a little, that the brimstone may flow over the whole face equally. Place it now upon the table, and pour more brimstone in, until you consider it of sufficient thickness to be strong, and this will be about a quarter of an inch. When crystallized, which will be in a minute or two, the paper may be untwisted, and the medallion and its mould separated from each other. If the operation has been well conducted, the medallion will be uninjured, and the mould will be seen to possess all the sharpness of the original, and casts made from it will be exact counterparts of it. If a second mould be wanted, dip in water the back of the medallion as before, but more slightly, and proceed to cast again in the same manner.

SULPHUR OINTMENT.

I. Sublimed sulphur 3 oz., lard 6 oz., essence of bergamot 20 drops. Used in the itch, &c.

II. Sulphur and soft soap, of each 6 oz., white hellebore 2 oz., nitre 1 drachm, lard 1½ lb., essence of bergamot ½ drachm. This is stronger than the last, and is better adapted to grown persons.

SULPHUR, PRECIPITATED MILK OF.

Sublimed sulphur 1 part, dry slaked lime 2 parts, water 8 to 12 parts, boil, filter, precipitate by muriatic acid and drain; then well wash and dry the precipitate. The milk

of sulphur of the shops usually contains a large proportion of sulphate of lime, owing to the precipitation being made with sulphuric, instead of muriatic acid. The muriate of lime formed by the latter is soluble, and is drained and washed away. The sulphate of lime formed by the other acid being insoluble remains mixed with the sulphur.

SULPHUR SEALS.

The process of making sulphur moulds will suggest the general directions to be given in making sulphur coins, medals, gems, &c. The moulds are to be made of plaster of Paris, cast from the original objects, or facsimilies of them. To make gems or sulphur seals is the most easy, and is conducted in the same way as making the moulds, except as to color. It is requisite, in order that they should be of a fine red, to mix with the sulphur a little of the best English vermillion, (Chinese vermillion turns black,) and to heat the sulphur as little as possible. In fact, to succeed perfectly, the sulphur should be just melted, then the vermillion mixed with it, and immediately used up. When cast, they may be trimmed around the edges with a pen-knife, and inclosed in a strip of filagree paper. They are infinitely sharper than impressions made with sealing wax, and will bear the heat of a direct summer's sun without injury. Seal engravers, therefore, who desire impressions of seals to display in their shop windows, have recourse to sulphur casts, rather than the more perishable ones of sealing wax. It is advisable in the imitation of monkish seals, Romish amulets, engraved inscriptions, and other similar objects, not to have them of a uniform red color, but bearing traces of the rude antiquity which distinguished the originals. This may be given by the most simple means, and with the greatest effect. They may be cast in ordinary sulphur when it is of that fawn or reddish grey color which it acquires by melting once or twice. When cast and trimmed, rub over the whole of it a common hard brush, dipped in black lead—that brush used ordinarily by servants to polish stoves will do better than any other, as it is imbued with the lead powder. The quantity to be put on is according to fancy. It will be seen to adhere to the roughnesses and depressions, and bring the more prominent parts out in fine relief. If a gloss be desirable, rubbing the seal with a piece of wool or cotton will communicate it readily.

SULPHUR, TINCTURE OF.

Flowers of sulphur 2 oz., proof spirit 1 lb. Sometimes administered for the relief of coughs. It is slightly pectoral.

SULPHUR, TO OBTAIN PURE.

Boil some flowers of sulphur, which are common brimstone sublimed, in 10 times

their weight of spirits of turpentine. This solution will remain clear at 180° of heat, but in cooling will deposit needle-shaped crystals, which may be washed in cold alcohol, or warm water, and put by for curiosity or use. The common flowers of sulphur are sufficiently pure for ordinary purposes. The purity of sulphur may be judged of by heating it on a piece of platinum foil; if pure, it will, upon heat being applied, burn away without leaving any residue.

SULPHURET OF MERCURY CERATE.

Yellow wax, lard and yellow resin of each 1 oz., red sulphuret of mercury 30 grains.

SULPHURIC ACID OINTMENT.

Strong sulphuric acid $\frac{1}{4}$ fluid drachm, lard 1 oz. Used instead of sulphuric ointment in itch, &c. For children use twice or thrice as much lard.

SUPPOSITORY.

These differ from enemas in being solid preparations placed within the anus, and are used to allay local irritation of the rectum, &c., whether occasioned by over-charged veins, as in the piles, by worms, &c. Their action differs only from an enema in being much more gradual, the object being that the substances shall dissolve gradually. The following are examples:—

I. *Purgative*.—(a) Rub up 2 grains of elaterium in 1 drachm of soap. This is a strong purge.—(b) Soap 2 drachms, common salt 1 drachm. This is a mild purgative.

II. *Sedative*.—(a) Mix 2 grains of opium with 10 grains of soap.—(b) powdered opium 2 grains, finely-powdered galls 10 grains, spermaceti cerate 1 drachm.—(c) Extracts of opium and stramonium of each 1 grain, cocoa-nut oil 2 drachms. Used for the piles when very painful.

III. *For Worms*.—Aloes 4 drachms, common salt 3 drachms, flour 2 drachms, honey enough to make into a thick solid paste, divide into pieces weighing 15 grains each. One to be used after a stool.

SWINTON'S DAFFY'S ELIXIR.

Take 3 lbs. of jalap root, 12 oz. of senna leaves, 4 oz. each of coriander seed, anise seed, liquorice root, and elecampane root, 1 gallon each of wine and water. Digest for three weeks, strain, and add 1 gallon of treacle. Dose 2 to 6 drams as a carminative.

SYDENHAM'S LENITIVE.

Coarsely-powdered rhubarb 3 drachms, tamarinds 2 oz., senna $\frac{1}{2}$ oz., coriander seeds

2 drachms, boiling water 1 pint; macerate for three hours, and strain. This is an excellent stomachic and laxative, in doses of 3 or 4 table-spoonsful.

SYMPATHETIC INKS.

These inks are colors with which a person may write, and yet nothing appear on the paper after it is dry, till some means are used, as holding the paper to the fire, or rubbing it over with some other liquor, to make it visible. The following are the best of these inks:—

I. Write with the juice of onions, solution of sal ammoniac, milk, lemon juice, or dilute sulphuric acid, the writing will become brown or black, when held to the fire, but does not recover its invisibility as it cools.

II. Write with a solution of the salts in the first column, and wash over with those of the second for the color given in the third:—

Sulphate of iron....	Tincture of galls....	Black.
Sugar of lead.....	Sulphuret of potass..	Brown.
Nitrate of bismuth..	" "	Black.
Sulphate of iron....	Prussiate of potass..	Blue.
Sugar of lead.....	Chromate of potass..	Yellow.
Muriate of tin.....	Brazil wood.....	Red.

But the most curious sympathetic inks are two of the salts of cobalt, and the muriate of copper. These show the writing plainly when held to the fire, but become invisible when again cooled. To prepare them, it is only necessary to immerse the metals above-mentioned in the proper acids, by the assistance of heat they will be dissolved, and the ink formed. It may be used as common ink is, using, as in all other instances of secret writing, a new quill pen. When the paper written upon is heated, the nitrate of cobalt appears blue, the acetate of cobalt green, and the muriate of copper yellow. Pictures may be painted with these inks, and if rightly designed, will show as a winter scene when cold, but exposed to the warmth of a fire, the trees, grass, and sky assume a colored garb.

SYRIAN GARNET, TO IMITATE.

Paste 256 grains, glass of antimony 128 grains, purple of cassius 1 grain, oxyde of manganese 1 grain.

SYRUP CREAM, OR CREAM SYRUP.

Finely-powdered lump sugar mixed with an equal weight of cream; put it into 1 or 2 oz. bottles, and open when wanted. It will keep for any length of time, if well corked and sealed, and is useful on long voyages.

TABLE ALE.

Very pale malt 12 quarters, mashed at three times with 23, 16, and 16 barrels of water. Then boiled with 31 lbs. of hops, set to work with 72 lbs. of yeast, cleansed by the head of yeast being beat in, and let to work out. Produce 50 barrels, or 1 gallon of ale from every $\frac{1}{2}$ gallon of malt. (See *Ale and Beer*.)

TABLE BEER.

Table beer is usually and most economically made, after making porter or ale, by another mashing. To make it alone you may use the following proportion of materials:—Malt 8 bushels, hops 8 lb., sugar 8 lbs., Spanish liquorice $\frac{1}{2}$ lb., treacle 10 lbs. Produce 5 barrels.

TAIN, EAU DE, (THYME WATER.)

Lemon thyme 1 lb., water 5 quarts. Distil off 1 gallon.

This is fragrant, and used in several articles of French perfumery, though the odour is not much esteemed in this country.

TALC WATER.

The ancients bestowed high encomiums on a water, or oil of talc, as a cosmetic. We know not in what manner they composed this precious cosmetic, but the following imitations have been given:—Take any quantity of talc, divide it into laminæ, and calcine it with sulphur. Then pound it, and wash it in a quantity of warm water. Gently pour off the water, and leave the residue at the bottom of the vessel dry. When dry, calcine it in a furnace for two hours with a strong fire. Take a pound of this calcined talc, and reduce it to powder, with 2 oz. of hydrochlorate of ammonia; put the whole in a glass bottle, and set it in a damp place. All the talc will spontaneously dissolve, and then pour off the liquor gently, taking great care not to disturb it. The liquor is as clear and as bright as a pearl.

TALC, OIL OF.

Take 1 part of Venetian talc and 2 parts of calcined borax; perfectly pulverize and mix these substances, put them into a crucible, cover it, and place it in a furnace. Expose it for an hour to a very violent heat, and at the end of that time the mixture will become a glass of a greenish yellow color. Reduce this to powder, then mix it with 2 parts of carbonate of potass, and again melt the whole in a crucible. Place the mass thus obtained in a cellar, upon an inclined piece of glass, with a vessel underneath it, and in a short time the whole will be converted into a liquid, in which the talc will be perfectly dissolved.

TAMARINDS, CONSERVE OF.

Pulp of tamarinds 4 oz., white sugar 6 oz. Heat by a water bath, in an earthen vessel, and stir until properly mixed.

TAMARINDS AND SENNA.

Tamarinds 1 oz., senna 1 drachm, coriander seeds $\frac{1}{2}$ drachm, sugar $\frac{1}{2}$ oz., boiling water 8 oz. It is laxative in doses from 2 oz. to 4 oz.

TANNIN OINTMENT.

Tannin 2 drachms, water 2 fluid drachms, rub them together, and add 1 $\frac{1}{2}$ oz. of lard. This is a good astringent application to piles, very similar to the ointment of nut galls.

TAR OINTMENT.

Tar and mutton suet in equal parts, melted together, and stirred till cold. This is a very good application, as also is tar water to various skin diseases.

TAR VARNISH.

Grind tar and Spanish brown together, to such a consistence that they will work well with a brush. It is used for out-door work. Tar, with a little lime, is preferable. Lime in small quantities turns it of a black color.

TAR WATER.

Take of tar 2 pints, water 1 gallon. Mix, by stirring them with a wooden rod for a quarter of an hour, and, after the tar has subsided, strain the liquor, and keep it in well-corked phials.

Tar water should have the color of white wine, and an empyreumatic taste. It is, in fact, a solution of empyreumatic oil, effected by means of acetic acid. It acts as a stimulant, raising the pulse, and increasing the discharge by the skin and kidneys. It may be drank to the extent of a pint or two in the course of a day.

TARTAR EMETIC.

Mix 2 parts of the black sulphuret of antimony, in fine powder, and 1 part of nitrate of potass, with 2 parts of sulphuric acid, previously mixed with 8 parts of water, and suffered to cool; by a due application of heat, a true oxyde of mercury will be the result, which, when thoroughly washed, is to be boiled, while still moist, with 2 parts of bitartrate of potass, and a proper quantity of water; afterwards evaporate and crystallize.

TARTAR EMETIC MIXTURE.

Antimonial wine and simple syrup, of each $\frac{1}{2}$ oz., nitre 2 scruples, camphor julep 5 oz. Dose a dessert-spoonful every two hours.

TARTAR, SOLUBLE.

Dissolve in 1 gallon of water, 1 lb. of the carbonate of potass, add cream of tartar as long as there is any effervescence, then filter, evaporate and crystallize.

TARTAR, SOLUBLE, CREAM OF.

Add 2 lbs. of borax to 5 lbs. of cream of tartar, both in powder. Dissolve the mixture in water and evaporate.

TAYLOR'S DEFENSOR.

Thin isinglass jelly, with a little permanent white well mixed in while cooling.

TAYLOR'S MIXED OILS.

Oil of wormwood 2 lbs., dulcified vitriolic ether 3 lbs., oil of marjoram 1 lb.

TAYLOR'S RED BOTTLE.

British brandy, tinged with cochineal and flavored with oil of origanum.

TAYLOR'S REMEDY FOR DEAFNESS.

This is an infusion of garlic in oil of almonds, colored with alkanet root.

TEARS OF THE WIDOW OF MALABAR.

Rectified spirit 5 quarts, bruised cloves $\frac{1}{2}$ oz., bruised mace 48 grains; digest for a week, then add a little burnt sugar to communicate a slight color; filter, and add $4\frac{1}{2}$ lbs. of white sugar, dissolved in $\frac{1}{2}$ gallon of rain-water. A pleasant liquor, made and named by our ingenious neighbours, the French.

TERRA COTTA.

I. Heat flints to a red heat in a fire, then throw them into cold water, and afterwards pound them fine. To 1 lb. of these calcined flints, add 2 lbs. of pipe-clay, 1 lb. of fine sand, and 2 lbs. of brick-dust; sift the whole well, and mix it with water for modelling.

II. Mix together equal parts of pipe-clay and red brick-dust, and add $\frac{1}{4}$ part of white sand. Make into a paste with alum-water.

All terra cotta works must be dried well before being put into the oven, and then baked very slowly.

TERRA JAPONICA, TINCTURE OF.

Take of the best English saffron 1 oz., mace bruised 1 oz.; infuse them into a pint of brandy, till the whole tincture of the saffron is extracted, which will be in seven or eight days; then strain it through a linen cloth, and to the strained tincture add 2 oz. of terra japonica (catechu,) powdered fine; let it infuse for a week.

TERRA SIENNA.

A yellowish brown earth, brought chiefly from Italy, and a favorite color with water-color painters. It becomes of a very fine reddish-brown when calcined.

TERRO-METALLICUM.

An amalgam of tin-foil and quicksilver, for filling decayed teeth

THIBAUT'S BALSAM.

Myrrh, aloes, and dragon's-blood, of each 1 drachm, flowers of St. John's-wort 1 handful, spirits of wine $\frac{1}{2}$ pint, Canada balsam $\frac{1}{2}$ oz. Digest the flowers in the spirit for three days, then express the liquor, and dissolve the other ingredients therein. Used to heal cuts and wounds, and to stop bleeding.

THIEVES' VINEGAR.

Dried leaves or tops of rosemary and sage, of each 4 oz., dried flowers of lavender 2 oz., cloves 1 drachm, distilled vinegar 1 gallon. Digest for seven days, press, and filter. Used as a corrector of bad smells.

TIN, CRYSTALLIZED.

M. Baget, a Frenchman, claims the honor of the discovery of this process. It may be done as follows:—After cleansing away every extraneous matter, as dirt or grease, with warm soapy water, rinse the tin in clean water; then, after drying it, give it a heat to the temperature of bare sufferance to the hand, and expose it to the vapor of any acid that acts upon tin, or the acid itself may be poured on, or laid on with a brush, the granular crystallization varying according to the strength of the wash, and the heat of your plates. Hence, it must be perceived, whatever quantity is required for any particular job of work should be made all at one time; no two makings coming away alike, but depending entirely upon accident. Wash 1. Take 1 part by measure of sulphuric acid, and dilute it with 5 times as much water. 2. Take of nitric acid and water equal quantities, and keep the two mixtures separate. Then, take of the first 10 parts, and 1 part of the second; mix, and apply the same with a pencil or sponge to the surface of the heated tin, repeating the same several times, until the material acted upon loses its heat, or you may be satisfied with the appearance of your work. A transparent varnish is now to be laid on, much whereof will be absorbed, and will of course be affected by any coloring matters you may mix with it; these, however, should not be opaque colors; and a good polish being given to the work, produces that enviably brilliant material we find so much in use for covering iron story posts, &c.

TIN, TO COAT WITH BISMUTH.

Dissolve 10 grains of nitrate of bismuth in a wine-glass of distilled water, and add 2 drops of nitric acid. Stir the whole with a glass rod, and then immerse a rod or plate of tin. The bismuth will immediately begin to be precipitated on it in very small shining plates.

TIN MORDANTS.

I. Nitric acid and water, of each 2 lbs., sal ammoniac 2 oz., pure tin $4\frac{1}{2}$ oz.

II. Aquafortis 8 parts, common salt 1 part; dissolve, and add grain tin 1 part. (See *Mordant*.)

TIN POWDER.

Pour melted tin into a wooden box, the inside of which is rubbed with chalk, shake it about briskly till cold, then sift, and repeat the process.

TIN TREE, TO PREPARE.

Into a large phial, a small decanter, or other similar white glass vessel, pour distilled water, till 3 parts full, and put in 3 drachms of muriate of tin, adding 10 drops of nitric acid, and shake the vessel until the salt be completely dissolved. Immerse a piece of

zinc, as recommended in forming the lead tree, and set the whole aside to precipitate without disturbance. In a few hours, the effect will be similar to the lead tree, only that the tree of tin will have more lustre.

In this experiment, it is surprising to observe the laminæ shoot out, as it were, from nothing; but this phenomenon seems to proceed from a galvanic action of the metals and the water.

TINNING PINS AND TACKS.

Fill a tinned copper vessel with alternate layers of brass pins, and plates or pieces of tin. Now pour over the whole a saturated solution of cream of tartar in hot water, so that the whole of the contents may be completely covered with the solution. Now place the vessel upon the fire, and let the liquid boil for five or six hours; when cold, the pins will be completely coated by the tin, which being dissolved by the salt, is precipitated on the brass.

TIPSY CAKES.

Steep small sponge cakes in brandy, then cover them with grated almonds and candied peel, or almonds cut into spikes and stuck into them; pile them in a dish, surround them with a custard, and cover them with preserves, drained as dry as possible.

TOBACCO, BRITISH HERB.

I. Thyme, marjoram, and hyssop, of each 2 oz., colt's-foot 3 oz., betony and eye-bright, of each 4 oz., rosemary and lavender, of each 8 oz. Mix, press together, and cut in imitation of foreign tobacco.

II. Take the leaves of the stramonium and henbane, of each equal quantities; dry them, and cut into proper shreds.

III. Take the outer leaves of the coss lettuce, dry them in the sun, then soak them for a few hours in a strong decoction of tobacco juice. Take them out, dry them a second time, spread them out, and sprinkle them very sparingly with dilute nitric acid, to occasion spots upon the leaves.

IV. Take Bengal safflower, or the worn-out safflower of the dyers; soak it in potass water, to which a large quantity of treacle, (2 lbs. to the gallon,) and a little coarse opium has been added; 1 oz. of saltpetre may be added to each gallon of liquor. If a light-colored tobacco is wanted, leave out the potass, but put the imitative tobacco into a sieve or basket, and expose it to the fumes of ammonia.

TOBACCO OINTMENT.

Fresh tobacco leaves 1 oz., lard 1 lb.; boil till crisp, then strain through linen.

This is an excellent remedy for scald-head and ringworm, but must be used but seldom, and then in small quantity; scarcely any drug is more deadly than tobacco, depressing the system so much, that the whole becomes relaxed, and a dangerous fainting may speedily ensue.

TOBACCO, ENEMA OF.

Tobacco 1 drachm, boiling water 1 pint; macerate for one hour, and strain. It is used in strangulated hernia; three parts of Virginian tobacco is said to be equal to seven of any other kind. A remedy too dangerous to use except in extreme cases.

TOLU LOZENGES.

Dissolve 1 oz. of balsam of tolu in 1 oz. of rectified spirit; then add 2 oz. of water, mix and filter. Add next 4 scruples of gum tragacanth in powder, and 1 lb. of loaf-sugar; beat the whole well together, roll it into a paste, and cut into lozenges.

TOLU, TINCTURE OF.

Take of balsam of tolu 1 oz., alcohol 1 pint. Digest until the balsam be dissolved, and then strain the tincture through paper.

This solution of the balsam of tolu possesses all the virtues of the balsam itself. It may be taken internally, with the several intentions for which that balsam is proper, to the quantity of a tea-spoonful or two in any convenient vehicle.

TOMATO SAUCE.

When the tomatoes are quite ripe, cut them in two, press out the pulp, and separate the seeds; then put them into a skillet, with some savoury sauce and a little salt. When of the thickness of pea-soup, rub it through a coarse cloth, boil it to the consistence of marmalade, put it into jars, and in a day or two after, pour over it lard or butter, and tie down with oiled paper.

TOMBAC.

I. *Red*.—Take $5\frac{1}{2}$ lbs. of copper, and $\frac{1}{2}$ lb. of zinc. The copper must be fused in a crucible before the zinc is added. This alloy is of a red color, and possesses greater durability than copper.

II. *White*.—(a) Take 10 oz. of lead, 6 oz. of bismuth, and 4 drachms of antimony. (b) 2 lbs. of antimony, 8 oz. of brass, and 10 oz. of tin.

TONIC MEDICINES.

Such medicines are called by these names as have a tendency generally to invigorate the system, particularly to increase the appetite and assist the functions of digestion, not by any immediate action upon the food, nor yet by the removal of disease, but by restoring that elasticity to the organs, which they have in a state of good health, and which is always impaired by inflammations, fevers, intemperance, and many other causes. Sometimes tonics act chiefly upon the nerves. Thus, astringents and stimulants are often tonics also, yet tonics do not necessarily have either of these characters. The chief tonics are Jesuit's bark, and quinine, (a preparation from it,) gentian, Columbo root, cardamoms, and other bitters; also, the oil of vitriol, in small quantities, and all the preparations of iron. The following are various receipts:—

I. *Common*.—Pour hot water upon a handful of gentian root, in chips, and take twice a day a wine-glassful, of such a strength, as that it is pleasantly bitter.

II. Put 1 scruple of citrate of iron in a bottle of port wine, and take a wine-glassful each day in 2 doses. This is a good tonic for children.

III. Elixir of vitriol 2 fluid drachms, tincture of Columbo 6 fluid drachms. Take a tea-spoonful three or four times a day in a glass of cold water.

IV. Decoction of bark 5½ oz., tincture of bark 3 fluid oz., aromatic confection 1 scruple, aromatic spirit of ammonia 1 drachm.

V. Infusion of Columbo 5½ fluid oz., compound tincture of cinnamon and orange syrup, of each 2 drachms.

VI. Infusion of cascarilla 5 oz., tincture of orange peel 7 drachms, sulphuric acid 2 drachms. 1 to 2 table-spoonsful twice a day.

VII. Decoction of bark 6 oz., compound tincture of bark 1 oz., bark, in powder, 1 drachm, calcined magnesia 1 drachm. Form a mixture; 2 table-spoonsful are to be given three times a day.

VIII. Chamomile flowers, lemon peel, and orange peel, of each 4 drachms, boiling water 1 pint. Let them remain for four hours, and strain. To the strained liquor add syrup of ginger 6 drachms. The dose is a wine-glassful in the morning early, and repeated an hour before dinner, for habits debilitated by drinking, or natural weakness of the stomach.

IX. Decoction of bark 12 drachms, tincture of bark 1 drachm, syrup of tolu ½ drachm, diluted vitriolic acid 8 drops. Make into a draught, to be taken three times a day. (See also *Stimulants, Astringents, Iron, Steel, &c.*)

TOOTH-ACHE DROPS.

I. Oils of marjoram and cloves, of each 3 fluid drachms, camphor 1 drachm; dissolve.

II. To the last add 1 drachm of creosote.

III. Tinctures of pellitory of Spain and colchicum, of each 1 oz., creosote and oil of cloves, of each 1 drachm.

IV. Equal parts of tincture of pellitory of Spain and laudanum.

V. Creosote and oil of cloves in equal parts.

VI. Burnt alum dissolved in dulcified spirit of nitre.

VII. To 1 scruple of vitriolic ether, add 12 drops of nitric acid and 1 drop of prussic acid.

VIII. A single drop of tincture (not oil) of tobacco.

In all the above cases apply the remedy on a piece of cotton wool, ramming it into the tooth. If the tooth-ache arise from cold, a hot embrocation of poppy-heads applied to the cheek upon going to bed is a good remedy.

TOOTH POWDER.

I. Florentine iris-root 4 oz., bone of the cuttle-fish 2 oz., cream of tartar 1 oz., oil of cloves 16 drops, liquid lake 16 drops.

II. Catechu 1 oz., yellow Peruvian bark, cream of tartar, cassia, and bole armeniac, of each ½ oz., dragon's-blood and myrrh, of each ¼ oz.

III. Rose pink 20 oz., bole armeniac, cuttle fish-bone, and cream of tartar, of each 8 oz., myrrh 4 oz., Florentine iris-root 2 oz., essence of bergamot ½ drachm.

IV. Add to 4 oz. of prepared chalk, 1 drachm of camphor, pound them together. This is said to render the enamel of the teeth brittle.

V. Magnesia, Florentine iris-root, prepared chalk, and myrrh, in equal quantities.

VI. Prepared chalk 4 oz., ivory black 1 oz., myrrh ½ oz., oil of rhodium 2 drops.

VII. White sugar 1 oz., powdered charcoal 1 oz., Peruvian bark ½ oz., cream of tartar 1½ drachm, canella 24 grains.

VIII. Instead of the ivory black in the receipt VI, put sifted wood ashes, or still better, the ashes of tobacco. (See *Lardner, Grosvenor, Green, Coral, Asiatic, Hemet, Ruspini, &c.*)

TOPAZ, TO IMITATE THE.

Paste 1008 grains, glass of antimony (fused oxyde) 43 grains, purple of cassius 1 grain; or paste 100 grains, peroxyde of iron 1 grain.

TORTOISE-SHELL, JOINING OF.

The common method of joining tortoise-shell together, is, by making the joint overlap a little; binding a wet linen cloth around it, and pressing the whole between the jaws of a pair of hot tongs. In this way, the effects of heat, moisture, and pressure, are combined in a very convenient manner; and the tortoise-shell is compelled, by their joint action, to become partially dissolved, and to unite firmly.

TORTOISE-SHELL BOXES.

Horn and tortoise-shell boxes are thus formed:—These substances being placed in brass moulds, and subjected to the action of strong screw-presses, which are placed in boilers; and when heated, the screws being turned, compel these softened substances to unite firmly together, and to receive the forms given to them by the moulds. A glue, which may assist in their union, can also be made of the raspings of tortoise-shell, by exposing them in close vessels, with a little water, to the action of heat, under pressure, in the manner of a Papin's digester.

TOUCH PAPER.

Dip a piece of any unsized paper, such as blotting paper, blue paper, or printing paper, in a solution of 1 oz. of saltpetre in nearly ½ pint of water; then letting it get perfectly dry, it will be fit for use. The burning of

this paper will show the nature of the combustion of this salt, for the paper will not inflame, but burn rapidly away, with a red flameless combustion.

TOURNAY CEMENT.

This is a mixture of coal ashes, with blue argilloferruginous lime and sand, well beaten up with water, left to dry, repeatedly levigated, moistened, and beaten.

TRACING PAPERS.

These are of two kinds—first, such as are transparent, and intended to copy any delineation placed beneath them, such as plans, engravings, &c. The other kind is opaque, and used for the purpose of transferring designs, taken upon the first kind of paper, immediately upon a sheet of common paper, block of wood, &c., placed beneath.

i. Mix together equal parts of olive oil and turpentine, to which add a little sugar of lead, and rub this mixture upon tissue paper. This is very tedious in drying, and remains greasy for a long period.

ii. Lay over the tissue paper a thin coat of copal varnish, or mastic varnish. This makes a clear, good paper, but it will not bear ink or water color. In the latter respect, paper washed over with spirit varnish is superior.

iii. Rub over one side of a sheet of tissue paper, some poppy oil, or nut oil. This will dry readily, remain perfectly transparent, and not become so soon of a yellow color as some other kinds of paper. It is apt, however, to remain greasy for a considerable time.

iv. Mix together by a gentle heat, 1 oz. of Canada balsam, and $\frac{1}{2}$ pint of spirits of turpentine; wash it as before, over one side of tissue paper. This dries quickly, is perfectly transparent, and is not greasy, therefore does not stain the object upon which it may be placed.

v. It is sometimes requisite to transfer a delineation from transparent paper on to another and less flimsy material, for example, an elaborate architectural plan when first formed, must of necessity have upon it numerous false lines, marks of the points of the dividers, &c., which, in the finished plan, would be unsightly; to remedy this, it is drawn first on common paper, and then transferred to a thicker and cleaner sheet. This process involves the use of the opaque tracing papers; these are of such a nature that when the prepared side is placed downwards, and anything is written with a point upon the back, a part of the composition comes off, and leaves a black mark on a piece of paper placed beneath, exactly similar to what may have been written above. Upon this principle the *manifold writers* are made; first is laid a sheet of common paper, upon

this a sheet of prepared paper, face downwards, then another piece of common paper, then prepared paper again. This may be repeated three or four times, if the papers be thin, and upon drawing or writing anything upon the upper sheet, you will have several exactly similar copies below. Plans and patterns are often drawn in this manner.

vi. Paint over, with a brush, a sheet of thin writing paper, with black-lead powder mixed with water. When dry, it will be fit for use. It gives lines sufficiently distinct for most purposes, and has the advantage that it may be rubbed out afterwards with Indian rubber, when desirable.

vii. Rub over one side of a piece of thin paper (using a piece of rag) a mixture of soap, lamp black, and a little water; when dry, wipe off as much as possible with a cloth, to prevent the paper staining the sheet to be placed beneath. It will be quite black, and the marks made by it cannot be obliterated by Indian rubber.

viii. Rub over a piece of paper with a lump of red chalk, and afterwards with a cloth, to incorporate the chalk with the grain of the paper, it will be immediately ready for use.

ix. *For Manifold Writers.*—It is made as recommended in No. 7, but with a little size added.

Outlines for large and not very delicate objects, such as those for embroidery, braiding, paper hanging, when painted by hand, buhl work, ornamental japanning, &c., are often made by a process still simpler than the above; the transparent or other paper upon which the design has been drawn is pricked through, all along the outline, and being laid upon the work beneath, pounded chalk, starch, or red ochre is dusted upon it; the color passing through the holes is seen beneath in lines, perishable it is true, but sufficiently lasting for a pencil, chalk, &c., to be marked over them. If done with powdered rosin instead of the above, the lines given by it may be fixed by heat, this however would, of course, be injurious to delicate fabrics, such as the greater part of those to be embroidered.

TRAGACANTH, COMPOUND POWDER OF.

Gum tragacanth, gum arabic, and starch, of each $1\frac{1}{2}$ oz., white sugar 3 oz.; powder and mix.

TRANSPARENT SOAPS.

Equal parts of tallow soap, made perfectly dry, and spirits of wine, are to be put into a copper still, which is plunged in a water-bath, and furnished with its capital and refrigeratory. The heat applied to effect the solution should be as slight as possible, to avoid evaporating too much of the alcohol. The solution being effected, must be suffered to settle; and after a few hours' repose, the clear supernatant liquid is drawn off into tin frames, of the form desired for the cakes of soap. These bars do not acquire their proper degree of transparency till after a few weeks' exposure to dry air. They are now planed, and subjected to the proper mechanical treat-

ment for making cakes of any form. The soap is colored with strong alcoholic solution of archil for the rose tint, and of turmeric for the deep yellow.

These soaps were for a long time manufactured only in England, where the process was kept a profound secret; they are now made everywhere. Transparent soaps, however pleasing to the eye, are always of indifferent quality; they are never so detergent as ordinary soaps, and they eventually acquire a disagreeable smell.

TREACLE BEER.

Hops $1\frac{1}{2}$ lb.; boil in 36 gallons of water for an hour, then strain off the hops, and add 24 lbs. of treacle, stir it up well till dissolved; then let it get to the temperature of new milk, cooling it to that degree as quickly as possible; then add a little yeast. Let it ferment for three or four days, then put it in a cask. In a fortnight it will be clear and fit to drink.

Treacle beer is pleasant to the taste, but does not keep well.

TREACLE, TO MAKE BRANDY FROM.

Spirit distilled from common treacle dissolved in water, should be fermented in the same manner as the wash for common malt spirit. If fresh wine-lees, abounding in tartar, are well fermented with treacle, the spirit will acquire a greater vinosity and briskness, and approach the nature of foreign brandy. If the treacle spirit, brought to the common proof-strength, is found not to have sufficient vinosity, it will be proper to add some sweet spirits of nitre; and if the spirit has been properly distilled by a gentle heat, it may, by this addition only, be made to pass, with ordinary judges, as French brandy.

Great quantities of this spirit are used in adulterating foreign brandy, rum, and arrack. Much of it is also used alone, in making cherry brandy, and other cordials by infusion; in all which, many prefer it to foreign brandies. Treacle, like all other spirits, is entirely colorless when first extracted; but distillers give it, as nearly as possible, the color of foreign spirits.

TRIPHARMIC OINTMENT.

Lead plaister 4 oz., olive oil 4 fluid oz., vinegar 1 fluid oz.; melt, and stir till they combine. This is cooling and drying. The lead plaister should be made with hard tallow, or with the additional oil it will be too soft for an ointment.

TROTTER OIL, TO PURIFY.

Put 1 quart of trotter oil into a vessel containing 1 quart of rose-water, and set them over a fire till the oil melts and mixes with the rose-water. Stir well with a spoon. When properly combined, take the vessel from the fire, and let it cool. Now take off the oil with a spoon, and add rose-water as before. When the oil is again separated and cleansed, set it in a cool place. The principal use of trotter oil is for the making of cold cream, in which its qualities exceed those of every other oil.

TUNISIAN CEMENT.

This is composed of 3 parts of lime, 1 of sand, and 2 of wood-ashes; these ingredients are mixed up with oil and water alternately, till they compose a paste of the desired consistency.

TURKISH BLOOM.

Infuse $1\frac{1}{2}$ oz. of gum benzoin, 2 oz. of red saunders in powder, and 2 drachms of dragon's-blood, in 12 oz. of rectified spirits of wine, and 4 oz. of river or rain water. When the ingredients have been mixed, stop the bottle close, and shake frequently during seven days; then filter through blotting paper.

TURKISH DEPILATORY.

Take 5 oz. of quick-lime and 1 oz. of orpiment, reduce them separately to fine powder, mix well and sift. If too strong, add $\frac{1}{2}$ or $\frac{1}{3}$ of starch powder; form into a paste with warm water, and apply as before.

TURLINGTON'S BALSAM.

This is made of 3 oz. each of aloes, myrrh, balsam of Tolu, balsam of Peru, and olibanum, 9 oz. each of benzoin and of storax, $4\frac{1}{2}$ pints of alcohol. Digest in a warm place, and add 3 oz. of gum arabic in $1\frac{1}{2}$ pint of water.

TURNERS' CERATE.

Take of prepared calamine and yellow wax, of each $\frac{1}{2}$ lb., olive oil 1 pint. Melt the wax with the oil, and as soon as they begin to thicken, sprinkle in the prepared calamine and keep it stirring till the cerate is cool.

This ointment is known by the name of Turners' Cerate, as curing the wounds of Turners. It is generally used for broken chilblains.

TURNER'S WORK, POLISH FOR.

Dissolve sandarac in spirits of wine, in the proportion of 1 oz. of sandarac to $\frac{1}{2}$ pint of spirits; next shave bees' wax 1 oz., and dissolve it in a sufficient quantity of spirits of turpentine to make it into a paste; add the former mixture by degrees to it; then with a woollen cloth, apply it to the work while it is in motion in the lathe, and with a soft linen rag polish it. It will appear as if highly varnished.

TURPENTINE, BALSAM OF.

Melt by a gentle heat 1 lb. of black rosin, remove the vessel from the fire, and add 1 pint of oil of turpentine.

TURPENTINE, ENEMA OF.

Oil of turpentine 1 fluid oz., yolk of 1 egg, rub them together, then add 19 fluid oz. of barley water. It is used in colic, calculus, and especially to destroy thread-worms in the lower bowels.

TURPENTINE, LINCTUS OF.

Oil of turpentine 2 drachms, honey of roses from 1 to 4 oz. Let a child, troubled with worms, take a tea-spoonful night and morning, washing it down with tea or other weak drink.

TURPENTINE LINIMENTS.

I. Soft soap 2 oz., camphor 1 oz., oil of turpentine 16 oz.; shake them together till mixed. An application in rheumatism, lumbago, &c.

II. Resin cerate $\frac{1}{2}$ lb., oil of turpentine 4 fluid oz. An application to burns.

III. *Vitriolated*.—Olive oil 10 fluid oz., oil of turpentine 4 fluid oz., oil of vitriol 3 drachms. Used in chronic rheumatism, &c.

TURPENTINE MIXTURE.

Oil of turpentine 1 oz., rub it up with the yolk of 1 egg, add confection of almonds 1 oz., again triturate, and further add, gradually, orange syrup 2 oz., compound tincture of lavender 4 fluid drachms, oil of cinnamon 4 drops, water 4 fluid oz.

TURPENTINE VARNISH.

I. Mix 1 gallon of oil of turpentine, and 5 lbs. of powdered resin; put it in a tin can on a stove, and let it boil for half an hour. When cool it is fit for use.

II. Mastic in tears 12 oz., pounded glass 5 oz., camphor $\frac{1}{2}$ oz., oil of turpentine 1 quart. Digest with agitation till dissolved, then add Venice turpentine $1\frac{1}{2}$ oz., previously liquified by a gentle heat. Mix well, and the next day decant.

TUTANIA, OR BRITANNIA METAL.

I. Take 4 oz. of plate brass, and 4 oz. of tin; when fused, add 4 oz. of bismuth, and 4 oz. of antimony. This composition is added at discretion to melted tin.

II. *German*.—Take 2 drams of copper, 1 oz. of antimony, and 12 oz. of tin.

III. *Spanish*.—Take 8 oz. of scrap iron or steel, 1 lb. of antimony, and 3 oz. of nitre. The iron or steel must be heated to whiteness, and the antimony and nitre added in small portions. 2 oz. of this compound are sufficient to harden 1 lb. of tin.

TYPES, ALLOYS FOR.

Take 10 lbs. of lead and 2 oz. of antimony. The antimony is added while the lead is in a state of fusion. The antimony gives hardness to the lead, and prevents its contraction when cooling.

Some manufacturers employ different proportions of these metals, and some add copper or brass.

TYPE METAL, SMALL.

Take 9 lbs. of lead, 2 lbs. of antimony, and 1 lb. of bismuth. The antimony and bismuth are added when the lead is melted. This alloy expands in cooling; the mould is, therefore, entirely filled when the metal is cold, and no blemish is found in the letters.

Stereotype plates are formed of this alloy. Some manufacturers employ tin instead of bismuth.

TYPHUS FEVER.

This terrible fever commonly attacks those of weak lax fibres, those who lead a sedentary life and neglect proper exercise; also those whose constitution is weakened by improper or insufficient food, dirt and want of pure air; hence it is very prevalent among the poor, especially in times of distress, and in the damp and dirty cellars of the operative in many of our manufacturing towns. It is also extremely prevalent where human beings are much crowded together without proper ventilation, as in hospitals, jails, transport, prison, and emigrant ships, ill-constructed barracks, crowded workhouses, &c. Space does not allow us to describe all the symptoms of this very varied disease. Its principal characteristics are, its longer continuance than any other fever which is unattended with local inflammation, and the occurrence very generally of a slight eruption upon the skin, at about the fifth day, taking at that time much of the character and appearance of the measles or scarlet fever; also delirium, great oppression upon the brain, and vomiting, are very frequent symptoms. Typhus fever, in its virulent form, is too dangerous a disease to be treated, except by an experienced medical attendant, and such must be had recourse to immediately, if the patient appears in a state of stupor, if his strength seems exhausted, or particularly if black or purple spots appear on any part of the body, if purging ensue, or a blackish slimy matter forms on the lips, &c. In the mild state, typhus fever is to be treated like the scarlet fever, by keeping the room well ventilated, the patient cool, administering cooling and acid drinks, and mild aperients; the same system of tonics are to be given also upon recovery. Typhus fever in its mild state generally subsides after the fourteenth day, sometimes, however, the symptoms increase after that time, until at about the twenty-first day, the patient dies. In many cases, however, indeed in the majority of examples found among the indigent in low neighbourhoods, and where famine or vitiated air are the exciting causes, this disorder runs its fatal course in a much shorter period, even in three or four days. So very varied are the symptoms, and so modified by local circumstances, the season of the year, the constitution of the patient, and the general virulence of the contagion, for this disorder is eminently infectious, that no exact account of the disorder itself, nor of its peculiar mode of treatment, can be given.

ULTRAMARINE.

I. Ultramarine is made from a species of stone of a fine blue color, called *lapis lazuli*, by the following method:—Separate the best colored parts of the stone, reduce them to the size of a pea, bring them to a red heat in a crucible, and in that state, throw them into the strongest distilled vinegar. Then grind them with the vinegar, and reduce them to an impalpable powder; next take of wax, red colophonium, and lapis lazuli, an equal quantity, say $\frac{1}{2}$ oz. of each of these three substances; melt the wax and the colophonium in a proper vessel, and add the powder to the melted matter, then pour the mass into cold water, and let it rest eight days. Next take 2 glass vessels filled with water, as hot as the hand can bear, knead the mass in the water, and when the purest part of the ultramarine has been extracted, remove the resinous mass into the other vessel, where finish the kneading to separate the remainder. If the latter portion appears to be much inferior, and paler than the former, let it rest for four days, to facilitate the precipitation of the ultramarine, which extract, by decantation, and wash it in fair water. Ultramarine of four quantities may be separated by this process. The first separation gives the finest, and as the operation is repeated, the beauty of the powder decreases.

II. Separate the blue parts, and reduce them, on a piece of porphyry, to an impalpable powder, which besprinkle with linseed oil, then make a paste with equal parts of yellow wax, pine resin, and colophonium, say 8 oz. of each, and add to this paste, $\frac{1}{2}$ oz. of linseed oil, 2 oz. of oil of turpentine, and as much pure mastic. Then take 4 parts of this mixture, and 1 of lapis lazuli, ground with oil on a piece of porphyry, mix the whole warm, and suffer it to digest for a month, at the end of which, knead the mixture thoroughly in warm water, till the blue

part separates from it, and at the end of some days decant the liquor. This ultramarine is exceedingly beautiful.

These two processes are nearly similar, if we except the preliminary preparation of Kinckel, which consists in bringing the lapis lazuli to a red heat, and immersing it in vinegar.

ULTRAMARINE, ARTIFICIAL.

Mix well together 2 parts of sulphur and 1 of dry carbonate of soda; heat them to redness in a covered crucible till the mixture fuses, then shake in by degrees another mixture of silicate of soda, and aluminate of soda, the one containing 72 parts of silica to the 100, the other containing 70 parts of alumina; continue the heat for an hour longer.

USQUEBAUGH.

I. This is a strong compound liquor, chiefly taken by way of dram; it is made in the highest perfection at Drogheda, in Ireland. The following are the ingredients, and the proportions in which they are to be used:—Best brandy 1 gallon, raisins, stoned, 1 lb., cinnamon, cloves, nutmeg, and cardamoms, of each 1 oz., crushed in a mortar; let them infuse for a fortnight, then filter through flannel, and add a little sugar.

II. *Yellow*.—Allspice, aniseed, and caraway seed, of each 3 oz., mace, cloves, and nutmegs, of each 2 oz., coriander seed and angelica root, of each 8 oz., saffron and annatto, of each 2 oz., sugar 6 oz., spirits of wine 6 gallons.

III. *Green*.—The same as the last, using sap green instead of saffron and annatto.

IV. Infuse 4 oz. of aniseed, bruised, in 3 gallons of spirits of wine; let them infuse for three days, then strain, and add $\frac{1}{4}$ lb. of Spanish liquorice, $\frac{1}{2}$ oz. each of cloves, mace, nutmegs, ginger, and cinnamon, dates stoned and sliced, 4 oz., raisins stoned, 8 oz.; let them infuse for twelve days, then filter and color with saffron. A little sugar is an improvement.

VALERIAN MIXTURE.

Bruised valerian root 2 drachms, boiling water $\frac{1}{2}$ pint; macerate for two hours, strain and add powdered valerian 4 drachms.

VALERIAN, TINCTURE OF.

Red valerian 4 oz., proof spirit 2 lbs. This is an anti-spasmodic, in doses of 2 drachms to $\frac{1}{2}$ oz.

VANCOUVER'S CEMENT.

This is composed merely of the white of egg dried, finely pulverized, and mixed with a small quantity of lime.

VANDYKE BROWN.

This is a bituminous and vegetable mass extracted from the lower stratum of peat bogs.

VANILLA CREAM.

I. Boil a stick of vanilla, grated, and $\frac{1}{2}$ oz. of isinglass, in 1 pint of milk, until the latter is dissolved; strain, and add sugar 6 oz., and cream 1 pint; stir till nearly cold, then pour it into moulds.

II. Cream and isinglass jelly, of each 1 pint, essence of vanilla $\frac{1}{4}$ oz.

VANILLA, ESSENCE OF.

I. Vanilla, cut small, 1 lb., spirits of wine $\frac{1}{2}$ gallon. Let it infuse for several days with frequent agitation.

II. Vanilla $\frac{3}{4}$ lb., spirit of ambrette 1 quart, cloves 30 grains, musk 7 grains. Mix as before.

VANILLA LOZENGES.

Vanilla, in powder, 3 oz., sugar 18 oz., made up with mucilage of gum tragacanth. Each lozenge ought to contain 2 grains of vanilla.

VARNISH.

Varnishes are of two kinds, spirit and oil varnishes, the latter kind is sometimes divided into turpentine and oil varnishes. The manufacture of very numerous varnishes have been described under the words, *Amber, Brunswick, Copal, Crystal, Etching, Callot, Furniture, Flexible, Lac, Lacker, Electrical, Mastic, Sandarac, Stopping Out, Transfer, Turpentine, Wax, White, &c. &c.* Sandaric varnish is called also *Brown Hard, and White Hard Varnishes*. Mastic varnish is frequently asked for under the name of picture varnish, although copal varnish is also used for oil paintings; copal varnish being used for the body of carriages is frequently named body varnish and carriage varnish. To spirit of wine varnishes a little camphor is generally added to assist in the solvent power of the alcohol, which ought always to be strong, particularly for copal; in making this as little heat as possible should be used. Also pounded glass is often recommended, the only use of this is to prevent the resins from cohering into a solid mass, when the alcohol cannot act except upon the surface, and the proper solution is therefore delayed. Oil varnishes are made with oil of turpentine, or another and stronger kind with linseed oil, and occasionally with nut or poppy oil. The resins should be melted by heat, and the oil in a nearly boiling state be poured upon them, then well stirred up and boiled for an hour or more till quite clear and stringy. It should be now gradually cooled, and when the hand can bear the heat outside the vessel, dilute it to a proper consistence with turpentine. It should lastly be run through a sieve or filter. All varnishes require age before use.

VARNISH TO POLISH.

This is effected with pumice stone and Tripoli earth. The pumice stone must be reduced to an impalpable powder, and put upon a piece of serge moistened with water; with this rub lightly and equally the varnished substance. The Tripoli must also be reduced to a very fine powder, and put upon a clean woollen cloth, moistened with olive oil, with which the polishing is to be

performed. The varnish is then to be wiped off with soft linen, and when quite dry, cleaned with starch or Spanish white, and rubbed with the palm of the hand.

VARNISHES, COLORS FOR.

Black.—Lamp-black, carefully washed and afterwards dried; or black obtained from burnt vine twigs, or peach stones.

Yellow.—Yellow ochre, yellow pink, Naples and Montpellier yellows. In mixing up the last two, a horn or ivory spatula, with a glass pestle and mortar must be used, because these yellows are hurt if touched with steel or iron.

Blues.—Indigo, Prussian blue, blue verditer, and ultramarine. All these must be very finely powdered.

Greens.—Verdigris, distilled or crystallized verdigris, and green compounded of yellow and blue. The verdigrises will require a mixture of white, varying from $\frac{1}{4}$ to $\frac{3}{4}$, according to the tint intended to be given. Either white lead, Spanish white, or ceruse may be used for this purpose.

Reds.—Vermillion, red lead, red ochre.

Purples.—Cochineal, carmine, and carminated lakes with ceruse and boiled oil.

Brick Red.—Dragon's blood.

Buff.—Dragon's blood, with a little vermillion.

Violet.—Red lead, mixed with lamp black, with a slight mixture of blue and white.

Pearl Grey.—Ceruse mixed with lamp black; or ceruse mixed with indigo.

Flaxen Grey.—Ceruse mixed with carminated lake, and a very small quantity of Prussian blue.

VAUQUELIN'S TINCTURE OF SPIRITS OF TURPENTINE.

Spirits of turpentine 5 oz. by measure, strong spirits of wine 1 oz. by measure. Shake them well together. It ought not to become turbid on adding water.

VELNO'S VEGETABLE SYRUP.

It is composed of a solution of bichloride of mercury triturated with honey and mucilage. Sir C. Brodie states it is similar to the following:—Take 2 oz. of burdock root, (young and fresh) sliced, 1 oz. of dandelion root, 1 oz. of fresh spear-mint, $1\frac{1}{2}$ drachm each of senna leaves, coriander seeds bruised, and fresh liquorice root, and $1\frac{1}{2}$ pint of water, boil down to 1 pint, strain, and when cold add 1 lb. of refined sugar, boil to a syrup, and add a small portion of the solution of bichloride of mercury.

VELVET, SATIN, SILK, ETC., COLORS FOR PAINTING ON.

Menstrum.—Dissolve 3 or 4 pieces of gum tragacanth in a teacupful of hot water—strain, and add a little of this to the colors, when you lighten them for a first coat or ground-work, otherwise the colors will run.

Orange.—Pour 1 oz. of distilled vinegar on a small quantity of hay-saffron. When the color is extracted, pour it off clear—add gum-water when used. This color does not keep brilliant more than ten days in its liquid state, therefore make only a little at a time.

Golden Yellow.—Turmeric root 1 oz., gamboge 1 drachm, rectified spirits of wine 1½ oz. digest in a warm situation for three or four days, then strain it.

Leaf Yellow.—French berries bruised 1 oz., water 3 oz., boil over a slow fire, until reduced to 1½ oz. A few minutes before it is removed from the fire, add 1 drachm of finely powdered alum. When cold, strain and bottle it.

Scarlet.—Mix as much of the orange color with the pink saucer as may be necessary to produce a rich scarlet.

Rose.—May be made to any shade, adding more or less lemon-juice to the pink saucer; a diluted solution of citric acid in water will answer the same purpose.

Crimson.—Lay a coat of pink saucer, very deep, on your intended crimson flowers, and afterwards a coat of carmine.

Carmine Liquid.—Carmine 10 grains, liquid ammonia 10 drops, distilled water 1 oz.—shake frequently, it is fit for use in twenty minutes.

Dark Purple.—Liquid archil ½ oz., 20 drops of the saturated solution of pearlsh, and 5 grains of powdered alum—shake the ingredients well together in a bottle.

Light Purple.—Decoction of logwood ½ an oz., powdered alum 5 grains—mixed.

Lilac.—Same as purple, but made much lighter with gum-water.

Brown.—Vary the tints by adding either black, carmine orange, or leaf-yellow. An infusion of Spanish liquorice, or tobacco, makes an excellent brown.

Drab.—Mix a small quantity of Indian ink, with leaf-yellow.

Grey.—Indian ink and blue, diluted with gum-water.

Black.—Indian ink.

Green.—Vary the tints of green by adding blue or yellow-leaf, as required.

Sap Green.—Used in its raw state.

Verdigris Green.—French verdigris 1 oz., distilled vinegar 4 oz., boil for a few minutes over a slow fire, then add 1 drachm of cream of tartar; when cold, filter and bottle for use.

Blue.—Prussian blue powdered 1 drachm, oxalic acid 1 drachm, distilled water 8 oz.; it is incompatible with the other colors, but it forms a beautiful ink or stain.

VENUS, HUILE DE.

Flowers of the wild carrot, picked, 6 oz., spirits of wine 10 pints; distil in a water-bath, as long as a good spirit passes over, then add as much syrup, and color with cochineal.

VERATRINE, LINIMENT OF.

Veratria 8 grains, alcohol 1½ fluid oz.; dissolve, and add soap liniment 1½ fluid oz. It is a powerful remedy, used in gout and rheumatism.

VERATRINE OINTMENT.

Veratrine 10 to 20 grains, olive oil a few drops, and lard 1 oz. Rub them well together.

Majendie recommends 4 grains to the oz.—Pereira 20 to 40 grains.

VERDIGRIS.

I. Blue vitriol 24 lb., white vitriol 16 lbs., sugar of lead 12 lbs., alum 2 lbs. Pound them coarsely, then melt till they unite into a mass.

II. *Distilled or Crystallized.*—Sulphate of copper 12½ lbs., dissolve in water and add a solution of 19 lbs. of sugar of lead—filter, evaporate, and crystallize.

VERDIGRIS, LINIMENT OF.

Powdered verdigris 1 oz., vinegar 7 oz.; dissolve, strain, add clarified honey 14 oz., and boil to a proper consistence. It is applied to indolent ulcers.

VERDIGRIS OINTMENT.

I. Resinous ointment 15 oz., verdigris in fine powder 1 oz.

II. Verdigris ½ oz., olive oil 1 oz.; rub these well together, and then add 1 lb. of resin ointment.

III. Verdigris 1 oz., lard 15 oz.

VERDIGRIS PLAISTER.

Wax 4 oz., Burgundy pitch 2 oz.; melt, and add Venice turpentine and verdigris, of each 1 oz.

This is the material often sold in the streets as a sovereign cure for corns. It is also the green ointment, spread upon perforated corn plaisters sold at chemists.

VERDITER, BLUE.

Dissolve copper filings in dilute nitric acid, (aqua fortis,) by a moderate heat, until the acid is saturated; add an equal quantity of water to the solution obtained, which is a nitrate of copper, and proceed to precipitate the oxyde of copper by adding small quantities of caustic lime, until the green substance ceases to be precipitated, or until the liquor has lost nearly all its blue color; throw the whole upon a filter, and well wash the precipitate; to which, when nearly dry, must be added from 8 to 10 per cent. of fresh caustic lime, incorporating the whole well together. During the latter process, the previous green color will be converted into a blue, forming the pigment verditer.

VERJUICE WATER FOR ICEING.

Choose the largest, juiciest, and best flavored unripe grapes; stone them, and skin them by rubbing through a coarse hair sieve, so that the pulp only passes through. To every 20 oz. of this, put 6 oz. of loaf sugar,

water 2 pints, milk 1 table-spoonful; strain, add spices to your taste, and ice when wanted.

VERMICELLI.

Vermicelli is made from the wheat flour of southern countries, which contains more gluten than our own, by making it into a paste with water, and forming it into long thin filaments by passing it through a funnel. Prepared here from ordinary flour it becomes pasty when boiled in soups, or dissolves away. The following ingredients make a good vermicelli; Naples flour 21 lbs., potatoe starch 14 lbs., boiling water 12 lbs.

VERMIFUGE, OR WORM MIXTURES.

Such medicines as are useful for killing the worms which infest animal bodies, and particularly those of the human body, are called vermifuge or anthelmintic; the following are of this class. See also *Worms* and *Mathieu*.

I. Sulphate of iron 1 scruple, infusion of quassia 8 fluid oz. Dose 2 table spoonful every morning fasting.

II. Root of male fern 1 oz., water 9 oz., boil to 6 oz., strain and add sulphuric ether 1 drachm, and syrup of tansy 1 oz. Dose as above.

III. Valerian 2 drachms, wormseed 4 drachms, boiling water 8 oz., macerate for one hour, strain, and add assafœtida 1 drachm, previously triturated with the white of an egg.

IV. *Powders*.—Powdered jalap and scammony of each 1 drachm, cream of tartar 2 drachms, Ethiop's mineral 3 drachms. Dose from 10 to 20 grains.

V. Scammony and calomel of each 1 drachm, rhubarb 3 drachms, all in fine powder. Dose from 15 to 25 grains.

VERMILLION.

According to Wehrle, vermilion, similar to that of China, can be made by the following process:—Sublime common vermilion in very fine powder, with $\frac{1}{100}$ of its weight of sulphuret of antimony, then digest the sublimate with the sulphuret of potassium, and afterwards with muriatic acid; and, lastly, with $\frac{1}{4}$ per cent of gelatine, dissolved in water; wash and dry it. A very small portion of sulphuret of antimony is sufficient to impart to the vermilion a beautiful crimson color.

VERVAIN'S BALSAM.

Gum benzoin 3 oz., strained storax 2 oz., balsam of tolu 1 oz., Socotrine aloes $\frac{1}{2}$ oz., spirits of wine 2 lb.

VIDONIA WINE, TO FINE.

When first imported, Vidonia has a harsh and acid taste; but if properly managed it more resembles Madeira wine than any other. To take off the harshness, fine it down, and then rack it off upon the lees of Maderia or white Port, fining it again with

a light fining; and if 20 or 30 gallons of good Madeira wine be added, it will pass for Madeira. For the finings, dissolve 2 oz. of isinglass, and the whites and shells of six fresh eggs; beat them well up together with a whisk and add a gill of marble sand.

VIGANIS' ELIXIR OF VITRIOL.

Aromatic tincture 1 lb., dulcified vitriolic ether 8 lbs.

VINAIGRE DENTIFRIQUE.

Pellitory of Spain root, 2 oz., cinnamon, cloves and guaiacum of each 2 drachms, spirits of scurvy grass 2 oz., best white vinegar 4 lbs., used to wash the mouth in toothache, or for carious teeth, either by itself or mixed with water.

VINAIGRES COSMETIQUES.

I. *Vinaigre rosat*.—Dried petals of red roses 1 lb., best vinegar 1½ gallon. Infuse for eight days, strain and repeat the infusion with other rose leaves.

II. *Vin de rosmarin*.—The same as the last, but using the tops of rosemary instead of roses.

III. *Vin distille de lavande*.—(a) Infuse for some days the flowering tops of lavender in vinegar, using 1 lb. to the gallon, distil off 3 quarts of the quantity.—(b) Add oil of lavender 1 oz. to distilled vinegar 1 gallon, shake them well together. See also *Aromatic*.

VINEGAR, TO MAKE.

When we expose any spirituous liquors, as wine, beer, &c., with the requisite ferment, to the external air, at a temperature of from 64° to 68° Fahr., the fluid however clear before, becomes soon turbid; filamentous slimy particles begin to appear moving in the middle and on the sides of the vessel, and then form a scum on the top or the liquor; when this scum has acquired a certain thickness and consistence it falls in a sediment to the bottom. Meanwhile the liquor has become warmer than the surrounding air, and the vinegar process betrays itself by diffusing a peculiar odour around the apartment; whenever all the spirit present has been converted into acetic acid, the liquor comes to a state of repose, its temperature sinks to the pitch of the atmosphere, it becomes bright and is the article well known under the name of vinegar. Almost all the vinegar used by us is made from malt. The extract is made with hot water, exactly as in mashing for beer, except that the last mash is with boiling water, to bring out some of the gluten of the malt, and which is very conducive to the acetous fermentation, therefore useful here, though injurious in beer. After thirty or forty hours fermenting it is racked into casks, these are placed in the sun or still better in apartments heated to a temperature of 70 or 80 degrees, the bung hole of the casks being

left open, and the casks being but partly filled, that the air may have better access to the liquor. In about three months the vinegar will be fit for use, adding a few common raisins constitutes it white wine vinegar. See *Sugar*.

VINEGAR OINTMENT.

Olive oil 1 lb., white wax 4 oz., melt, cool a little, add vinegar 2 oz. and stir till cold. This is a cooling, astringent dressing to irritated and inflamed eye lids, &c.

VIOLET POWDER.

I. Powdered starch 28 lbs. orris root 1 lb., essence of bergamot $\frac{1}{4}$ oz., oil of rhodium $\frac{1}{2}$ drachm, mix and pass through a sieve.

II. Powdered starch scented with a little bergamot.

VIOLET PERFUME.

Drop 12 drops of genuine oil of rhodium on a lump of loaf-sugar; grind this well in a glass mortar, and mix it thoroughly with 3 lbs. of orris powder. This will, in its perfume have a resemblance to a well-

flavored violet. If you add more rhodium oil, a rose perfume, instead of a violet one, will be produced; the orris powder is a most agreeable perfume, and only requiring to be raised by the addition of the above quantity of the oil.

Keep this perfume in the same manner as the others. That which is sold at druggist's shops is generally adulterated.

VIOLETS, SYRUP OF.

Fresh flowers 1 lb., boiling water $2\frac{1}{2}$ lbs., infuse for a day, press out the liquor, in every 2 pints dissolve 4 lbs. of sugar, skim and boil to a syrup.

VITRIOLIC ELIXIR.

Take 4 oz. of the oil of vitriol mixed with 12 oz. of spirits of wine, both quantities being taken by weight. It is tonic, astringent, and diuretic.

VITRIOL, SWEET SPIRIT OF

Mix together equal parts of oil of vitriol and spirits of wine. Distil in a glass vessel till a black scum begins to arise, then suddenly stop the distillation.

WAFERS, MANUFACTURE OF.

There are two methods of manufacturing wafers; first, with wheat flour and water for the ordinary kind, and second, with gelatine. 1. A certain quantity of fine flour is to be diffused through pure water, and so mixed as to leave no clotty particles. This thin pap is then colored with vermillion, sulphate of indigo, turmeric, or other coloring matter. The pap is not allowed to ferment, but must be employed immediately after it is mixed. For this purpose a tool is employed, consisting of two plates of iron, which come together like pincers or a pair of tongs, leaving a certain small definite space betwixt them. These plates are first slightly heated, greased with butter, filled with the pap, closed, and then exposed for a short time to the heat of a charcoal fire. The iron plates being allowed to cool, on opening them, the thin cake appears dry, solid, brittle, and about as thick as a playing-card. By means of annular punches of different sizes, with sharp edges, the cake is cut into wafers. 2. The transparent wafers are made as follows:—Dissolve fine glue, or isinglass, in such a quantity of water, that the solution, when cold, may be consistent. Let it be poured hot upon a plate of mirror glass, (previously warmed with steam, and

slightly greased,) which is fitted in a metallic frame with edges just as high as the wafers should be thick. A second plate of glass, heated and greased, is laid on the surface, so as to touch every point of the gelatine, resting on the edges of the frame. By this pressure, the thin cake of gelatine is made perfectly uniform. When the two plates of glass get cold, the gelatine becomes solid, and may easily be removed. It is then cut with proper punches into discs of different sizes.

WAFERS, (IN COOKERY.)

Make a thin batter with fine flour and milk, sweeten with sugar, and flavor with cinnamon. Use irons similar to those for making letter wafers; grease these with a rag dipped in butter, pour a spoonful of the batter upon one and close the other over it, pare off any superfluity at the edges, and bake for a minute or two over a clear fire, then take them out and roll them round in a coil.

WALKER'S JESUIT'S DROPS.

Take 1 lb. of gum guaiac, 3 drachms of balsam of Peru, $2\frac{1}{2}$ pints of rectified spirit; make into a tincture. Dose 1 to 2 drachms as an anti-venereal. It is the same as the balsam of guaiac, and the anti-venereal elixir.

WALLS, TO PRESERVE FROM DAMPNESS.

A composition of 1 part wax, and 3 parts of oil, previously boiled, with a 10th of its weight of litharge, spread over a wall in a melted state, is a durable and effectual preservative from injury by dampness. When this coating is to be spread upon stone, or other porous matter, it should be heated once or twice previously, which may be accomplished by the partial application of a portable furnace. The composition is then more effectually absorbed. Surfaces of plaster or gypsum, such as walls, busts, reliefs, &c., may in the same manner be preserved from injury.

WALNUTS, TO BLEACH.

Put the walnuts into a box or tub having a close fitting lid and false bottom, also a hole in the side to communicate with the lower part. Put the walnut first damped with water in the cask above the false bottom, and a pan of burning charcoal beneath—the fumes which arise and which are of sulphurous acid will bleach the walnuts.

WALNUTS, EXTRACT OF.

Evaporate the expressed juice of unripe walnuts to a soft extract. It is a remedy for worms, a little being taken in cinnamon water.

WALNUTS, TO PICKLE.

Throw green walnuts into spring water with a handful of salt, keep them under water six hours, then put them into a stew-pan to simmer five minutes, but do not let them boil; take them out and put them in cold water and salt, then lay them on a cloth, and cover them with another to dry; carefully rub them with a soft cloth, and put them into a jar, with some blades of mace and nutmeg sliced thin. Mix the spice between the nuts, and pour distilled vinegar over them; when the jar is full of nuts pour mutton fat over them, and tie them close down with a bladder, and leather over the bladder.

WALNUT KETCHUP.

Green walnut shells $1\frac{1}{2}$ sieve, salt $\frac{1}{2}$ lb., beat together for a week at intervals, draw off the liquor, which will be about a quart, add ginger and allspice, of each $\frac{3}{4}$ oz., long pepper and cloves each $\frac{1}{4}$ oz., boil for half an hour, cool and bottle, putting the spices into the bottles.

WANT'S POWDER.

For gout and rheumatism, is the powdered bulb of colchicum, with some other powders to disguise it.

Mr. Want was the first modern surgeon who discovered the influence of colchicum on gout, though it was known to the ancients.

WARD'S ANTIMONIAL PILLS.

Glass of antimony finely powdered 4 oz., dragon's blood 1 oz., mountain wine to make into a paste for pills. Let the pills be of $1\frac{1}{2}$ grain each.

WARD'S ESSENCE FOR HEAD-ACHE.

I. Liquid ammonia 6 oz., spirits of lavender 1 lb, mix and distil 1 lb., add camphor 2 oz.

II. Aromatic liquid ammonia 12 oz., spirits of lavender 10 oz., camphor 2 oz.

III. Spirits of wine 4 oz., spirit of ammonia 2 oz., camphor 2 oz.

WARD'S PASTE FOR THE PILES.

Pulverize finely, in an iron mortar 1 oz. of black pepper, 1 oz. of elecampane-root, and 3 oz. of fennel seed, and mix them intimately together. Melt together over a clear fire 2 oz. of sugar, and 2 oz. of clarified honey, so as to form a clear syrup, which add to the mixed powder in the mortar, and heat the whole into a mass of uniform consistence. This medicine is to be taken, when the irritation of piles runs so high as to threaten fistula. The dose, is a piece of the size of a nutmeg, to be taken three times a day; this is to be washed down by a glass of cold water, or white wine.

WARD'S SWEATING POWDERS.

A combination of opium and white hellebore root.

WARD'S WHITE DROPS.

A solution of bichloride of mercury with carbonate of ammonia; or a nitrate of mercury, prepared by dissolving mercury in nitric acid, and adding solution of carbonate of ammonia.

WARD'S WHITE DROPS.

Quicksilver 12 oz., spirit of nitre 2 lbs., dissolve, add ammonia 14 oz., evaporate so as to form a light salt, which drain and dissolve in $3\frac{1}{2}$ lbs. of rose water,

WARE'S GOLDEN OINTMENT.

Take 1 oz. of fresh butter, free from salt, 1 drachm of powder of nitrated oxide of mercury; make an ointment for ophthalmia and ulcers.

WARNER'S CORDIAL.

Rhubarb 1 oz., Senna $1\frac{1}{2}$ oz., saffron 1 drachm, liquorice root 4 drachms, raisins 1 lb., rectified spirits 3 lbs. Digest for a fortnight. A good and gentle laxative medicine taken in doses of a wine glassful each morning.

WARMING PLAISTER.

Burgundy pitch 7 parts, melt and add plaister of cantharides 1 part. This is a stimulant plaister used sometimes in disorders of the chest, on swollen or rheumatic joints, &c.

WARTS.

These well-known excrescences of the skin generally attack the hands of children, and disappear at a certain age. They are either soft or hard; the soft warts may be removed by applying tincture of steel to their surface,

or by anointing them daily with mercurial ointment. The best method of removing hard warts is to cut them off, or pare them down with a sharp knife, and then to apply caustic to their roots, or they may be destroyed by touching them repeatedly with lunar caustic, blue vitriol, or nitric acid, or still more effectually by the application of the chloride of zinc.

WASH BALLS.

I. Wash balls are curd or other soap, cut or moulded into balls; if to be mottled the soap is cut into small square pieces, and these are rubbed in a coloring powder, and then squeezed together. For red, use Armenian bole; for blue rub them in powder blue, and for green in a mixture of powdered blue and yellow ochre.

II. A better method is to cut curd soap in square or irregular pieces of about half an inch square, fill a box with these irregularly placed; melt some other soap with a proper color, and pour it when melted on to the pieces so as to unite them altogether in a cake. When cold and somewhat dry, cut into balls with a proper cutter.

WASP, ON SWALLOWING A.

Instantly put into the mouth a teaspoonful of common salt. This will, instantaneously, not only kill the wasp, but at the same time heal the sting.

WATCHMAKERS' OIL.

Place a clean slip of lead in a white glass phial of olive oil; let the phial be now exposed to the direct rays of the sun for some days till there is a settled deposit at the bottom of the phial, and the oil has become clear and colorless. The oil thus purified is very limpid, and does not get thick by age.

WATER CEMENT.

A cement may be made with common lime that will harden under water. What is called poor lime has this peculiar property; but as this species of limestone rarely occurs, it is often an expensive article. The following is a good substitute, and may be used for water cisterns, aqueducts, &c. Mix 4 parts of grey clay, 6 of the black oxide of manganese, and 90 of good limestone reduced to fine powder; then calcine the whole to expel the carbonic acid. When this mixture has been well calcined and cooled, it is to be worked into the consistence of a soft paste with 60 parts of washed sand. If a lump of this cement be thrown into water it will harden immediately. Such mortar, however, may be procured at a still less expense, by mixing with common quicklime a certain quantity of what are called the white iron ores, especially such as are poor in iron. These ores are chiefly composed of manganese and carbonate of lime or chalk.

WATER COLOR CAKES.

These are made of the ordinary pigments, ground up very fine with water in which has been dissolved a little gum arabic or a little size; being thus made into a paste, they are pressed in a steel dye and afterwards dried by a gentle heat.

WATERLOO CRACKERS TO MAKE.

Take two slips of stiff paper or card-board about $\frac{1}{4}$ inch wide, and 4 or 5 inches long each; lay a mixture of powdered glass and gum water over one end of each paper for about an inch in length, let this dry, and then put $\frac{1}{4}$ or $\frac{1}{8}$ part of a grain of fulminating silver upon the glass on one piece of the paper; place the other piece of paper upon this, so that the glass upon the one shall rest upon the glass of the other, and the free ends of both papers be outwards. Paste a piece of thin paper over the whole covered parts, to attach them to each other. Upon pulling the outward ends of the papers, the two surfaces of glass will grind upon each other, and occasion the explosion of the fulminating silver. When these crackers are made of a larger size, with a grain or more of fulminate, they are used as attachments to a door and door-post, so that if any one should enter at night the explosion of the composition may indicate the opening of the door.

WATER-PROOF BOOTS.

Boots and shoes may be rendered impervious to water by the following composition; take 3 oz. of spermaceti, and melt it in a pimpkin, or other earthen vessel, over a slow fire: add thereto 6 drachms of Indian rubber, cut into slices, and these will presently dissolve. Then add of tallow 8 oz.; hog's lard 2 oz., amber varnish 4 oz. Mix, and it will be fit for use immediately; the boots or other material to be treated, are to receive two or three coats, with a common blacking brush, and a fine polish is the result.

WATER-PROOF CLOTH.

I. Brush the cloth first with a solution of isinglass, and when dry with a solution of nutgalls. This last solution changes the gelatinous mass of isinglass into a true leather.

II. Instead of isinglass use common glue, and afterwards a tincture or infusion of catachu. These receipts will scarcely do with light colors.

III. Rub the cloth over on the wrong side with Indian rubber varnish, or Indian rubber dissolved by heat in spirits of turpentine.

IV. Brush over the wrong side of the cloth with a solution of isinglass, alum, and soap.

V. Brush over the wrong side with soap suds, and afterwards with a solution of alum.

WAX, BLEACHING AND PURIFYING OF.

Bees' wax is freed from its impurities, by melting it with hot water or steam, in a tinned copper or wooden vessel, letting it settle, running off the oily looking liquid into an oblong trough which has a row of holes at the bottom, so as to distribute it upon horizontal wooden cylinders made to revolve half immersed in cold water, and then exposing the thin ribbons or films thus obtained to the bleaching action of light, air, and moisture; for this purpose the ribbons are laid upon long webs of canvas stretched horizontally between standards, two feet above the surface of a sheltered field, having a free exposure to the sun-beams. Here they are frequently turned over, then covered by nets to prevent their being blown away by winds, and watered from time to time, like linen upon the grass field in the old method of bleaching. Whenever the color of the wax seems stationary, it is collected, re-melted, and thrown again into ribbons upon the wet cylinder, in order to expose new surfaces to the blanching operation. By several repetitions of these processes, if the weather prove favorable, the wax eventually loses its yellow tint entirely, and becomes fit for forming white candles. If it be finished under rain, it will become grey on keeping, and also lose in weight. Neither chlorine, nor even the chlorides of lime and alkalis, can be employed with any advantage to bleach wax, because they render it brittle, and impair its burning quality.

WAX, IMITATIONS OF.

I. Yellow resin 16 lb., hard mutton suet 8 lbs., palm oil $2\frac{1}{2}$ lbs.

II. Best annatto 6 oz., water 1 gallon, boil till dissolved, add hard mutton suet 25 lbs., yellow rosin 70 lbs., boil till perfectly mixed and of a proper color constantly stirring it while on the fire, and afterwards till cold, or till it begins to thicken, then pour it into basins to cool. It cannot be cooled too slowly, if cooled rapidly the cakes of wax will be apt to crack.

WAX CANDLES, IMITATIVE.

Take equal parts of gum benzoin and resin mastic; put each into a separate vessel of glass or lead, add spirits of wine, and heat them gently till the resinous parts are dissolved. Let each of the solutions remain awhile at rest, and then mix them. Before using this varnish, heat it to 80° or 90° Fahr.; dip into it a candle from five to ten seconds, and dry it carefully. By this means, common candles may be made to resemble wax lights.

WAX LUTE OR CEMENT.

Bees' wax 1 lb., melt and add linseed oil to render it pliable, used as a cement which can be easily removed.

WAX OINTMENT.

Take of white wax 4 oz., spermaceti 3 oz., olive oil 1 pint. Mix them together over a gentle fire, and then stir them very briskly, without ceasing, till they are cold.

WEBSTER'S (LADY), ANTIBILIOUS PILLS.

Take of socotrine aloes 6 drachms, gum mastic 2 drachms. Reduce to powder separately; make into a mass with syrup of wormwood, and divide into 100 pills, of which take one every night.

WEBSTER'S DIET DRINK.

A decoction of liquorice, guaiac, sarsaparilla, sassafras, turmeric, bitter-sweet, betony, and thyme, boiled, with or without sugar, to the consistence of syrup.

WEDEL'S OIL.

Almond oil 2 oz. camphor 2 drachms, essence of bergamotte $\frac{1}{2}$ drachm, alkanet root to color.

WEDGEWOOD COMPOSITION OF MORTARS.

Take 6 parts clay, 3 felspar, 2 flint, and 1 china clay, burnt without glazing.

WEEDS, EXTIRPATING.

Weeds may be prevented from growing on gravel walks by watering the walks with salt and water. The salt will also kill the weeds already there; and if these are large, they should, of course, be hoed up and raked off.

WELSH ALE, TO BREW.

Take 1 quarter of the best pale malt, 8 lbs. of hops, $2\frac{1}{2}$ lbs. of sugar, and $\frac{1}{4}$ lb. grains of paradise. Turn on the first liquor at 178° . Mash for an hour and a half, and stand two hours. Turn on second liquor at 190° , and stand two hours. Boil an hour and a half, and put in the sugar just before turning into the coolers. Pitch the tun at 62° and put in the grains of paradise. Cleanse at 80° , using salt and flour. After the second mash, turn on for table beer at 150° . Mash three quarters of an hour, and stand two hours.

WELD YELLOW.

Fine whiting 4 lbs., water 4 pints, boil together into a smooth paste, and add gradually $\frac{1}{2}$ oz. of alum in fine powder, boil weld in water for a quarter of an hour, strain and add the liquor to the pap of whiting and alum until the desired color is obtained, pour into earthen pans, and dry on chalk. This color is used by paper stainers.

WESTPHALIAN ESSENCE OF WOOD SMOKE.

Macerate together for several weeks $\frac{1}{2}$ drachm of Barbadoes tar, 1 drachm of liquid burnt sugar, 5 drachms each of port wine and vinegar, 2 drachms of common salt, and 6 oz. of water. Used for curing hams.

WHIPT CREAM.

Whites of 12 eggs, cream 1 quart, pale sherry $\frac{1}{4}$ pint, essence of musk and amber-

gris of each 10 drops, essence of orange and lemon peel of each 3 or 4 drops, whisk to a froth, remove the latter on to a sieve, fill the glasses with cream, and then pile the froth on the top of them.

WHITE BRIONY, EXTRACT OF.

Made in the same way as the extract of wormwood; medicinally it is purgative and diuretic, and is a common remedy in asthma, dropsy, epilepsy, &c.

WHITE CAMPHORATED OINTMENT.

Simple ointment 5 oz., camphor 2 drachms, dissolve by a gentle heat, add finely powdered carbonate of lead 1 oz., and stir till cold.

WHITE ENAMEL.

The sulphate of baryta is the substance employed to produce white figures and lines upon colored china and glass. The lines required white are painted with this powder mixed to a proper consistence with oil, and used in the manner of paint. It is afterwards subjected to the strong heat of a furnace, when it fuses into a white enamel.

WHITE HELLEBORE, EXTRACT OF.

Made in the same way as the extract of wormwood. It is a powerful emetic and purgative; too powerful a drug to be used except to the educated.

WHITE LOTION, OR WASH.

Extract of lead, and proof spirit of each 1 drachm, distilled water 1 lb., cooling and astringent. It is used as a lotion in inflammations and burns.

WHITE METAL.

I. Melt together 10 oz. of lead, 6 oz. of bismuth, and 4 drachms of regulus of antimony.

II. Melt together 2 lbs. of regulus of antimony, 8 oz. of brass, and 10 oz. of tin.

III. Melt together 1 lb. brass, $1\frac{1}{2}$ oz. of spelter, and $\frac{1}{2}$ oz. of tin.

WHITE PRECIPITATE.

I. Bichloride of mercury 6 oz., distilled water 3 quarts, dissolve and add liquor of ammonia 8 fluid oz., wash and dry the precipitate.

II. Corrosive sublimate and sal ammoniac of each 7 oz., dissolve in 3 quarts of water, and precipitate with liquor of potass.

WHITE PRECIPITATE OINTMENT.

Mix together 1 drachm of white precipitate of mercury, with $1\frac{1}{2}$ oz. of lard. It is stimulant and detergent—a good application in itch, ringworm and other skin disorders; also to kill vermin on the body.

WHITLOW, TREATMENT OF.

This is a small tumour which appears under or around the finger nail; it is attended with redness and pain, and very quickly advances to suppuration. After the abscess

is evacuated of the white matter contained in it, it very soon heals of itself. The loss of the nail, however, is, sometimes, through improper management, the consequence of the disease. In order to check the inflammation in the first instance, and thereby at once stop the disease, it will be proper frequently to apply the following lotion, that is until the pain and heat are abated. Dissolve 1 oz. of sal ammoniac in 2 oz. of common vinegar, adding 1 oz. of rectified spirit, of distilled water.

WHORTLEBERRY MIXTURE.

I. *Alkaline.* Infusion of whortleberries $7\frac{1}{2}$ oz., carbonate of potass 2 drachms, extract of hemlock 20 grains, syrup of poppies 1 oz., tincture of ginger 3 drachms. Mix—dose 2 or 3 table spoonsful in chronic diseases of the urinary organs.

II. *Acid.*—Infusion of whortleberries $7\frac{1}{2}$ oz., dilute sulphuric acid 2 drachms, tincture of digitalis 1 drachm, syrup of poppies 3 drachms.

WHYTE'S TINCTURE OF BARK.

Take of Peruvian bark 4 oz., gentian root and orange peel each 1 oz., brandy 2 pints.

WIGG CAKES.

Put $\frac{1}{2}$ pint of warm milk to $\frac{3}{4}$ lb. of fine flour, and mix in 2 or 3 spoonsful of light yeast, cover it up and set it before the fire one hour in order to make it rise, work into it 4 oz. each of sugar and butter, make it into small cakes, with as little additional flour as possible, mixing at the same time with them a few caraway seeds, and bake them quickly.

WILLIAMS'S STUCCO.

Take sharp, rough, large-grained sand, sifted, washed, dried, and freed from all impurities, 84 lbs., well burnt lime, slaked and finely sifted, 12 lbs., curd, or cheese, produced from milk, 4 lbs., (the first, fresh made, and strongly pressed, to divest it of its whey; the second, whilst perfectly sound, rasped into powder with a grater, or brought into very light substance with scrapers, or fine-toothed plane-irons, in a turner's lathe;) and lastly, water in its natural state 10 lbs. If the sand is not thoroughly dried, or the lime has got damp from the air, the quantity of water must be less than the above proportion; and on the contrary, when the lime is used immediately, it may require more; so that the proper stiffness of the mortar, under those circumstances, will regulate the making of the composition.

WILSON'S PREPARED ASPHALTUM.

Balsam of copaiba 2 oz., simmer; add bruised asphaltum 1 oz.; take it off the fire, and thin with spirits of turpentine. An excellent glazing color.

WINDSOR ALE, TO BREW.

Take 5 quarters of the best pale malt, $\frac{1}{2}$ cwt. of hops, 8 lbs. of honey, 1 lb. of coriander seed, $\frac{1}{2}$ lb. of grains of paradise, $\frac{1}{2}$ lb. of orange peel, and $2\frac{1}{2}$ lbs. of ground liquorice root. The hops should be of the best kind, and soaked all night in cold liquor. Turn on at 180° , mash thoroughly an hour and a quarter, and stand an hour; boil one hour.

WINDSOR SOAP.

Take common hard curd soap 112 lbs., oil of carraway $1\frac{1}{2}$ lb., tincture of musk 12 oz., English oil of lavender 1 oz., and oil of marjoram 4 drachms.

WINE BITTERS.

I. Take 1 oz. of Virginia snake root, 1 oz. of Seville orange peel and lemon peel, 2 drachms of long pepper, and 1 quart of Cape wine, steep them for a week, and strain through a flannel filtering bag, or through blotting paper.

II. Take 2 gallons of rectified spirit, 2 drachms of the oil of Seville orange peel, 1 drachm of the oil of carraway, 1 drachm of the oil of wormwood, $\frac{1}{2}$ oz. of almond cake, $\frac{1}{2}$ oz. of coriander seed, $\frac{1}{2}$ oz. of Virginia snake root, 1 quart of clarified sugar, and fill it up with water, steep the coriander seed, almond cake and snake root in the spirits for three or four days, and kill the oils in spirits of wine.

WINES, TO FINE OR CLARIFY.

I. Boil 1 pint of skimmed milk; when cold, mix with it 1 oz. of chalk in fine powder, pour it into the cask, and roll it ten minutes. The following day bung up the wine, and rack it off as soon as fine.

II. Take $1\frac{1}{2}$ oz. of gum arabic, in fine powder, and 1 oz. of chalk, in powder. Mix these up with 1 pint of wine, pour the mixture into the cask, roll it ten minutes, and then fill it up. Bung it up the next day, and rack off the wine as soon as fine.

III. Take the yolk and white of an egg, $\frac{1}{2}$ oz. of chalk, in powder, and $\frac{1}{2}$ oz. of burnt alum, in powder. Beat those up in a mortar with 1 pint of spring water, and pour the mixture into the wine; roll the cask, then fill it up, and bung it up the next day. Rack off the wine as soon as fine.

WINES, TO CORRECT WHEN HARSH.

Take 1 oz. of salt, $\frac{1}{2}$ oz. of calcined gypsum, in powder, and 1 pint of skimmed milk. Mix those up with a little of the wine, and then pour the mixture into the cask; put in a few lavender leaves, stir the wine with a stick, so as not to disturb the lees, and bung it up.

WINES, TO CORRECT WHEN ACID.

I. Mix 1 oz. of calcined gypsum, in powder and 2 lbs. of honey, in 1 quart of

brandy; pour the mixture into the wine, and stir it so as not to disturb the lees; fill up the cask, and the following day bung it up. Rack this wine as soon as fine.

II. Mix $\frac{1}{2}$ oz. of salt of tartar, $\frac{1}{2}$ oz. of calcined gypsum, in powder, with 1 pint of the wine; pour it into the cask, and put 1 oz. of cinnamon in the stick; stir the wine without disturbing the lees, fill up the cask, and the day following bung it up.

WINES, TO CLEAR FOUL OR ROPY.

I. Take 1 oz. of ground rice, $\frac{1}{2}$ oz. of burnt alum, and $\frac{1}{2}$ oz. of bay salt. Beat the whole up in a mortar, with 1 pint or more of the wine, pour it into the cask, and roll it ten minutes. The cask must not be bunged up for a few days. As soon as such wine becomes fine, rack it off.

II. Bring the cask of wine out of the cellar, and place it in a shady situation to receive the circulation of the air, and take out the bung. In three weeks or a month rack it off into a sweet cask, which fill up, and put into the wine 1 oz. of cinnamon, in the stick; and bung it up tight.

WINE VINEGAR.

Take any sort of wine that has gone through fermentation, and put it into a cask that has had vinegar in it; then take some of the fruit or stalks of which the wine has been made, and put them wet into an open-headed cask in the sun, with a coarse cloth over the top of it, for six days—after which put them in the vinegar, and stir it well about—then put it in a warm place, if in winter, or if in summer, put it in a yard in the sun, with a slate over the bung. When the vinegar is sour enough and fine, rack it off into a clean sour cask, and bung it up; then put it in the cellar for use. Those wines that contain the most mucilage are fittest for the purpose. The lees of pricked wine are also a very proper ingredient in vinegar.

WOOD, ETC., STAINING OF.

Staining wood requires no preparation before the stain be applied: it is peculiarly useful to bedstead and chair makers. In preparing the stain but little trouble is required; and, generally speaking, its application differs very little from that of painting.

I. *Black Stain*.—Boil $\frac{1}{2}$ lb. of chip logwood, in 2 quarts of water, add 1 oz. of pearl-ash, and apply it hot to the work with a brush. Then take $\frac{1}{2}$ lb. of logwood, boil it as before in 2 quarts of water, and add $\frac{1}{2}$ oz. of verdigris and $\frac{1}{2}$ oz. of copperas; strain it off, put in $\frac{1}{2}$ lb. of rusty steel filings; with this go over your work a second time.

II. Boil 1 lb. of logwood in 4 quarts of water, add a double handful of walnut-peel or shells; boil it up again, take out the chips, add 1 pint of the best vinegar, and it

will be fit for use; apply boiling. This will be improved, if, when dry, you apply a solution of green copperas as dissolved in water, (1 oz. to a quart) hot over your first stain.

III. *Mahogany Color*.—Put 2 oz. of dragon's blood, broken in pieces, into 1 quart of rectified spirits of wine; let the bottle stand in a warm place, shake it frequently; when dissolved, it is fit for use.

IV. *Rosewood*.—Boil $\frac{1}{2}$ lb. logwood in 3 pints of water, till it is of a very dark red, add $\frac{1}{2}$ oz. of salt of tartar. While boiling hot, stain your wood with two or three coats, taking care that it is nearly dry between each; then with a stiff flat brush, such as is used by the painters for graining, form streaks with the black stain above-named, which, if carefully executed, will be very nearly the appearance of dark rosewood.

V. Stain with the black stain; and when dry, with the brush as above dipped in the brightening liquid, form red veins, in imitation of the grain of rosewood.

VI. *King or Botany-bay wood*.—Boil $\frac{1}{2}$ lb. of French berries in 2 quarts of water, till of a deep yellow, and while boiling hot, give two or three coats to your work; when nearly dry, form the grain with the black stain, which must also be used hot. You may, for variety, to heighten the color, after giving it two or three coats of yellow, give one of strong logwood liquor, and then use the black stain as directed.

VII. *Red Stain for Bedsteads and Common Chairs*.—Archil, as sold at the shops, will produce a very good stain of itself, when used cold; but if, after one or two coats, being applied and suffered to get almost dry, it is brushed over with a hot solution of pearlash in water, it will improve the color.

WOOL, BLEACHING OF.

Wool is commonly bleached by means of fumes arising from the slow combustion of sulphur. The wool is first prepared according to the purposes for which it is intended, by treating it with solutions of soap. By this process, it is cleared of a great quantity of loose impurity and grease which is always found in wool, often losing no less than 70 per cent. of its weight. The heat of the ley must be carefully attended to, as a high temperature is found to fix the unctuous matter or yolk of the wool. After washing, it is taken to the sulphur chamber, where it is exposed to the vapor from five to twenty hours according to circumstances. It is again washed, and then immersed in a bath composed of pure whiting and blue. It is then exposed a second time to the fumes of the sulphur, and washed with a solution of soap, which renders it of the proper whiteness.

WORMS.

Every part of the human body abound with some species of worms, but those to which we have here to direct our attention are such as are formed in the bowels, and which are of three kinds—long round worms, long flat worms, commonly from their shape called tapeworms, and very small thread-like worms. The latter are by much the commonest. Worms are very prevalent among children, particularly with those of a sickly habit, and who are suffered to eat unripe fruit, or crude vegetables. The symptoms which indicate worms, are a pale face, a bluish circle under the eyes, variable appetite, itching of the nose, disturbed sleep, and slimy and irregular stools, and when the thread worms abound in considerable numbers, or when even one of the other kinds is present, there is often great emaciation of the body, and sometimes considerable fever, and irregularity of pulse. There are two general remedies against all kinds of worms, one is oil of turpentine, the other common salt. Oil of turpentine may be administered to children with perfect safety in a dose of a dessert spoonful, (a teaspoonful under five years of age), mixed in a cup of milk, gruel, or linseed tea; it should be repeated daily for four or five days or a week, a dose of castor oil being given every second day. All worm medicines should be given before breakfast, but if the above excite vomiting give it afterwards; about two hours after breakfast. A glass of sea water daily, or of salt and water is an excellent remedy; also children who are troubled with worms, should be encouraged to eat much salt with their food. The following remedies besides those mentioned under the words *Vermifuge*, *Ching*, and *Story*, are recommended by different practitioners.

I. *Mixtures*.—Sulphate of iron 1 scruple, infusion of quassia 8 fluid oz. Dose, two table spoonful every morning.

II. Root of male fern 1 oz., water 9 oz., sulphuric ether 1 drachm, syrup of tansy 1 oz. Dose as before.

III. Valerian 2 drachms, wormseed 4 drachms, boiling water 8 oz., macerate for one hour, strain, then add assafoetida 1 drachm, previously triturated with the yolk of 1 egg. Dose as the last.

IV. *Oil*.—Rectified oil of turpentine $\frac{1}{2}$ oz., animal oil 1 drachm. This is very nauseous.

Animal oil is the same as Dippel's Oil of Harts-horn, which see.

V. *Lozenges*.—Scammony 2 oz., calomel 3 oz., jalap 2 oz., cream of tartar 4 oz., white sugar 3 lbs., mucilage of gum tragacanth to mix; cut in lozenges weighing 8 grains each—One or two for a dose.

VI. Calomel 1 oz. jalap 2 oz., white sugar 2 lbs, mucilage of gum to mix.

VII. Scammony and cream of tartar of each 1 oz., calomel $\frac{1}{2}$ oz., white sugar 1 drachm, gum water as before—make into eighty lozenges.

VIII. *Pills*. Calomel 1 oz., sugar 2 oz., starch 1 oz., mucilage of gum tragacanth to mix; cut into 248 pills. Dose, one night and morning for children.

IX. *Enema*. Oil of turpentine 1 fluid oz., olive oil $\frac{1}{2}$ pint, shake them well together.

X. Socotrine aloes 2 drachms, new milk $\frac{1}{2}$ pint, shake together.

XI. *Electuary*. Mix cowage with honey or treacle into a paste and administer one or two tea spoonsful to a child each morning.

This remedy produces no effect upon the tape-worm nor upon the thread-worm, but is considered very efficacious in expelling the round-worm.

WORMWOOD, CONSERVE OF.

Beat fresh picked leaves of the sea wormwood in a marble mortar, with a wooden pestle first alone, and then with three times their weight of loaf sugar.

WORMWOOD, EXTRACT OF.

Boil bruised wormwood leaves in water enough at first to cover them, for an hour, then strain and boil down the liquor to the consistence of an extract.

WORMWOOD, ESSENCE OF.

Salt of wormwood 5 drachms, extract of wormwood 1 drachm, tincture of wormwood 1 pint.

WRITING FLUIDS.

I. *Black*.—Caustic soda 1 drachm, water 1 pint, dissolve and color with Indian ink, beaten to a paste in a mortar.

II. *Blue*.—(a) Dissolve ceruleo-sulphate of potass or ammonia in hot water, and decant the clear part. It is a fine blue when used, but turns of an intense black in drying.—(b) Dissolve sulphate of indigo in hot water. This retains the blue color when dry as does also the next.—(c) Dissolve Prussian blue in pure water.

WYCH'S STUCCO.

Take 4 or 5 bushels of such plaster as is commonly burnt for floors about Nottingham (or a similar quantity of any tarras, plaster, or calcined gypsum;) beat it to a fine powder, then sift and put it into a trough, and mix with it 1 bushel of pure coal ashes well calcined. Pour on the water, till the whole becomes good mortar. Lay this in wooden frames of twelve feet in length on the walls, well smoothed with common mortar and dry, the thickness of two inches at each side, and three in the middle.

YEAST, TO PRESERVE.

I. Common ale yeast may be kept fresh and fit for use several months, by the following method:—Put a quantity of it into a close canvas bag, and gently squeeze out the moisture in a screw-press, till the remaining matter be as firm and stiff as clay. In this state it may be close packed up in a tight cask for securing it from the air; and will keep fresh, sound, and fit for use, for a long time.

II. Stir a quantity of yeast, and work it well with a whisk, till it seems liquid and thin. Then get a large wooden dish or tub, clean and dry, and with a soft brush lay on a thin layer of yeast thereon, turning the mouth downwards, to prevent its getting dust, but so that the air may come to it to dry it. When that coat or crust is sufficiently dried, lay on another, which serve in the same manner, and continue putting on others as they dry, till 2 or 3 inches thick, which will be useful on many occasions. But be sure the yeast in the vessel be dry before more be laid on. When wanted for use, cut

a piece out, lay it in warm water, stir it together, and it will be fit for use.

YEAST, SUBSTITUTES FOR.

I. Mix with 12 lbs. of flour 1 oz. of carbonate of soda, along with the usual quantity of salt. Knead the whole up with sour butter-milk; if very sour, half water and half butter-milk will do; but all butter-milk is preferable, which will be no worse if kept one, two, or three weeks before it is used; the more acid the better. The dough will be ready for baking in a quarter of an hour, as the fermentation goes on while kneading; but it will take no harm by standing one, two, or three hours. The butter-milk must be acid, the soda pounded small, and well mixed with the flour, and the oven brisk, or the bread will probably be heavy, and taste of the soda.

II. Put 1 oz. of hops into a coarse bag, and boil them in 2 quarts of water; pare, boil, and mash 1 lb. of potatoes very well, and press them through a cullender into the hop water. Place the mixture on the fire

until it begins to boil, then empty it into an earthen vessel with a narrow bottom, in which there has been previously mixed $\frac{1}{2}$ lb. of flour, with a gill of cold water, in the form of a paste; stir it well while pouring in, and when it is about the warmth of new milk, put in 4 oz. of dry flour, and 1 lb. of common yeast; let it stand in the vessel, covered up, in a situation where it will keep its temperature. It takes from four to twenty-four hours to ferment, according to the state of the weather. When it begins to lower in the vessel, it is fit for immediate use; or may be preserved, when put in a bottle and corked up, for several weeks. Should it be frozen, it will be no worse after being thawed.

III. Make about a pint or quart in the manner above directed, except in one particular; instead of putting any barm with the dry flour into the mixture, put 2 or 3 spoonsful of sugar with the flour; bottle it immediately, and having tied down the cork, set it where it will keep warm, and in twenty-four or thirty hours this will answer to ferment with, instead of the common barm. But it is always better to preserve some of the old for this purpose.

IV. Boil 1 lb. of good flour, $\frac{1}{2}$ lb. of brown sugar, and a little salt, in 2 gallons of water for one hour; when milk-warm, bottle it and cork it close; it will be fit for use in twenty-four hours. One pint of this will make 18 lbs. of bread.

V. To 1 lb. of mashed potatoes (mealy ones are best) add 2 oz. of brown sugar, and 2 spoonsful of common yeast; the potatoes first to be pulped through a cullender, and mixed with warm water to a proper consistence. Thus a pound of potatoes will make a quart of good yeast. Keep it moderately warm while fermenting.

YEAST POULTICE.

Mix well together 1 lb. of linseed-meal and 1 pint of ale yeast. Expose this cataplasm to a gentle heat, until a certain degree of fermentation takes place. This poultice is excellent for stimulating and cleansing foul ulcers.

YELLOW DIPPING METAL.

Melt together 2 parts of Cheadle brass, 1 part of copper, with a little Bristol old brass, and $\frac{1}{4}$ oz. of tin to every pound of copper. This alloy is almost of the color, &c. of gold coin.

YELLOW DYES.

The principal coloring matters for dyeing yellow, are weld, fustic, and quercitron bark. Yellow coloring matters have too weak an affinity for cloth, to produce permanent colors without the use of mordants. Cloth, therefore, before it is dyed yellow, is always prepared by soaking it in alum. Oxide of tin is sometimes used when very fine yellows

are wanted. Tan is often employed as subsidiary to alum, and in order to fix it more copiously on cotton and linen. Tartar is also used as an auxiliary, to brighten the color; and muriate of soda, sulphate of lime, and even sulphate of iron, to render the shade deeper. The yellow dye, by means of fustic, is more permanent, but not so beautiful as that given by weld, or quercitron. As it is permanent, and not much injured by acids, it is often used in dyeing compound colors, where a yellow is required. The mordant is alumine. When the mordant is oxide of iron, fustic dyes a good permanent drab color. Weld and quercitron bark yield nearly the same kind of color; but the bark yields coloring matter in greater abundance, and is cheaper than weld. The method of using each of these dye-stuffs is nearly the same.

YELLOW INK.

This is made by dissolving 3 parts of alum in 100 of water, adding 25 parts of Persian or Avignon berries, bruised, boiling the mixture for an hour, straining the liquor, and dissolving it in 4 parts of gum arabic.

YELLOW LOTION OR WASH.

Lime water 1 lb., corrosive sublimate $\frac{1}{2}$ drachm, rub together, shake up when used as a wash for foul ulcers, particularly for those of a syphilitic kind.

YELLOW OR RESIN SOAP.

Resinous substances, (except one or two,) are not converted into acids by the action of alkalis; hence do not of themselves form soaps, but when united with an equal quantity or more than this of grease, the whole blends together, and forms the ordinary yellow soap of the shops. A hard and very common soap is made, as just described, and in the last stage of the boiling process the adequate quantity of pounded rosin is added. The union of this, however, with the alkali is not perfect, consequently the soap when used is more decomposed by the hot water, and the alkali to some degree liberated. This, therefore, acts directly upon the greasy dirt of foul clothing, &c., and removes it with greater facility; for which reason this soap is much used in manufactures, and is also preferred by laundresses, who not content with the detergent properties of the soap are accustomed to add carbonate of soda to the water employed.

YELLOW STAIN FOR GLASS.

I. Take fine silver laminated thin, dissolve in nitric acid, dilute with abundance of water, and precipitate with solution of sea salt. Mix this chloride of silver, in a dry powder, with three times its weight of pipe clay well burnt and pounded. The back of the glass pane is to be painted with this powder; for when painted on the face it is apt to run into the other colors.

11. *Another yellow* can be made by mixing sulphuret of silver with glass of antimony and yellow ochre, previously calcined to a red brown tint. Work all these powders together, and paint on the back of the glass; or silver leaf, melted with sulphur and glass of antimony, thrown into cold water, and afterwards ground to powder, afford a yellow.

111. *A pale yellow* may be made with the powder resulting from brass, sulphur, and glass of antimony, calcined together in a crucible, till they cease to smoke, and then mixed with a little burnt yellow ochre.

1v. *The fine yellow* of M. Merand is prepared from chloride of silver, oxide of zinc, white clay, and rust of iron. This mixture, simply ground, is applied on the glass.

YOLK OF EGG OINTMENT.

Oil of almonds $1\frac{1}{2}$ oz., yellow wax $\frac{1}{2}$ oz.; melt together, and when nearly cold, add the yolk of 1 egg, and mix well. An excellent

application to sore nipples; egg and brandy is often used for the same purpose.

YORKSHIRE OAT ALE.

Grind 1 quart of oat malt, made with the white sort, and dried with coke, and mash with 44 gallons of cold soft water, let it stand twelve hours; then allow it to spend in a fine small stream, and put 2 lbs. of fine pale hops, well rubbed between the hands, into it; let it infuse, cold, for three hours, then strain and tun it; put yeast to it, and it will work briskly for about two days; then stop it up, and in ten days it will be fit to bottle. It drinks very smooth, brisk, and pleasant, and looks like white wine, but will not keep.

YOUNG'S PURGING DRINK.

Carbonate of soda $2\frac{1}{2}$ drachms, crystals of tartar 3 oz., water 8 drachms, corked up immediately in stone bottles and wired; a pleasant cooling laxative in summer.

ZAFFRE AND SMALTS.

Zaffre is the ore of cobalt calcined, then ground to a very fine powder along with 2 or 3 times its weight of fine white sand. When this is fused with half its weight of potass, and the melted mass poured into water, and afterwards ground, it forms the beautiful azure pigment, called *Smalts*.

ZINCING.

Iron and other vessels may readily be covered with zinc, by boiling them in a bath of muriate of zinc, in which is also deposited a quantity of zinc turning.

ZINC LABELS, INK FOR WRITING ON.

Reduce equal parts of verdigris and sal

ammoniac to powder; add $\frac{1}{4}$ part of lamp black, and 5 parts of water. Mix the composition well in a stone mortar; add the water gradually, and take care to shake the composition before it is used.

ZINC LOZENGES.

Sulphate of zinc 4 drachms, powdered sugar 2 lbs., mucilage of gum tragacanth to make into a paste; divide into 12 grain lozenges. It is tonic, and in quantity emetic.

ZINC OINTMENT.

Oxyde of zinc and lycopodium, of each 1 drachm, simple cerate $\frac{1}{2}$ oz. A good application to sore eyelids, excoriations, ulcers, &c.

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To prevent Measles
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To remove spots of Paint, Tar, Oil, or Grease
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To get Stout.

The liberal use of porter, butcher's meat, butter, cream, cod-liver oil, will have the desired effect.

How to make Vermin-killer.

1s. worth of arsenic, and 6d. worth of aniseeds, mixed together with a little flower. Retailed in packets at 1d., 2d., and 3d. each.

Blacking.

$\frac{1}{2}$ lb. of ivory black, 6 ozs. of the coarsest sugar, two table spoonsful of sweet oil, and a quart of small beer, with a spoonful of oil of vitriol mix well together and pack in soft paper. Retailed at half-penny each.

Black Ink.

One gallon; 1lb blue nutgalls (powdered); copperas, 6 ozs; gum (common) 4ozs.; soft water, one gallon—Dissolve the gum separately by the fire, and add after it has boiled a quarter of an hour. Let the ink be boiled over a slow fire three quarters of an hour.

Blue Ink.

One gallon; Prussian blue, 4ozs.; oxalic acid, 2ozs.; soft water (cold) one gallon. Dissolve the gum separately as before. This is fit for use in 24 hours.

Ginger Beer.

Five ounces of white Jamaica ginger, sliced in three gallons and a half of water; boil one hour, skim, then run through a hair seive, add loaf sugar. When cool fill. Add Tartaric acid, and cork.

Tooth Powder.

Powdered charcoal, cream of tartar and chalk, a little Orris root and powdered bark to flavour.

Razor Paste.

Two ounces of Emery powder fine mixed with Spermacetti.

Plate Powder.

Four ounces of prepared chalk, with two ounces each of polishers putty and Hartshorn.

Vinegar.

Sixpennyworth of acetic acid to 6 pints of water, colour with burnt sugar.

Soap.

The following is a recipe for a good cheap article: Add to ten quarts of water, six pounds of quick-lime (shell lime is best,) and six pounds of common washing soda. Put all together and boil for half-an-hour, and let stand all night to clear. Draw off the lye, and add to it one pound of common resin, and seven pounds of fat (any fat will do.) Boil this for half an hour, then let it stand till cool, and afterwards cut into bars.

Paste for Chapped Hands, Face or Split Lips.

Mix a quarter of a pound of unsalted hog's lard with the yolks of two new laid eggs and a large spoonful of honey and some rose water, add as much fine oatmeal, or almond paste as will work into a paste.

Deafness.

Deafness proceeds from various causes, but mostly from deficient secretion of wax. Mix half a drachm of oil of turpentine, and two drachms of olive oil. Drop two drops into the ear at bed-time.

Heartburn.

To two ounces of almond mixture put twenty drops of weak water of ammonia. This will not only be found effective in heartburn, but in many other complaints arising from morbid acidity of the stomach.

Diarrhoea or Looseness.

Diarrhoea, in many cases, is not to be considered as a disease, but rather as a salutary evacuation. It ought therefore never to be stopped unless when it continues too long, or evidently weakens the patient. When looseness is occasioned by catching cold, or an obstructed perspiration, the patient should be kept warm, drink freely of weak diluting liquors, bathe the feet often in luke warm water, wear flannel next the skin, and take every method to restore perspiration. If the looseness proceeds from excess or repletion, a vomit is the proper medicine. From whatever cause a looseness may proceed, when it is found necessary to check it, the diet ought to consist with rice boiled with milk, and flavoured with cinnamon, rice-jelly, sago, and the lighter sort of flesh meat, roasted. The drink should be thin water-gruel.

Cold in the Head or Chest.

In this case avoid all spirituous liquors and animal food. Let the bowels be kept well open, and should feverish head-ache be felt, small diaphoretic doses of some antimonial, at the same time administer barley water, weak tea, or gruel.

Summer Cough.

Two drachms syrup of squills, and one ounce of cinnamon water. Take a dose of this every night, until the cough is gone.

Ordinary Cold.

Add to two quarts of water, a tea-cupful of Linseed, a quarter of a pound of sun raisins, and two ounces of stick-liquorice. Let this simmer, until reduced to one quart, add one table-spoonful of rum, and white wine vinegar or lemon juice, and a quarter of a pound of powdered brown sugar candy. At bed time take half a pint of this mixture.

Palpitation of the Heart.

When palpitation arises from nervous irritability, the following draught should be taken:—One dr. of tincture of calumbo, ten drs. of tincture of ulep, and ten drops of tincture of fox-glove.

Shortness of Breath.

If proceeding from internal diseases, make a solution of the following ingredients:—One ounce of vitriolated spirits of ether, and twelve grains of camphor. Take one tea-spoonful in water whenever violent oppression.

A Certain Cure for Tooth Ache.

One ounce of carbonate of iron, four grains of quinine, mix well together, then divide the powder into four parts, to be taken in water. Dose for an adult.—One part night and morning. When the whole is taken a mild dose of castor oil must be taken. It is a certain cure, and the complaint will not return for years. Half the above for a child or sick person.

Cure for Sore Tongue from Smoking.

Take an ounce of magnesia in a tumbler of water going to bed, and let a little borax and moist sugar melt on your tongue.

Remedy for bad Breath.

Take one drachm of sulphate of magnesia, two drachms of tincture of calumba, one ounce and a half of infusion of roses; make a draught, to be taken every morning, or every other morning, an hour before breakfast for at least a month.

To remove Tape Worms.

Oil of male fern one drachm in a little gum dissolved, castor oil one ounce, to be taken half-an-hour afterwards, to be repeated the second night. It never fails to cure.

To make Whiskey.

Half quartern rectified spirits of wine and a small piece of lump sugar put into a glass. Fill up cold water, then add two lumps of the essence of prune.

To make Gin.

Add one noggin of spirits of wine to one gill and a half of water, sweeten with sugar, add two or three drops of oil juniper, and two drops of oil of turpentine.

To make Rum.

Add one noggin of spirits of wine to one gill and a half of water, colour with a few drops of burnt sugar, add three or four drinks of tincture of capsicum.

To make Brandy.

Add one noggin of spirits of wine to one gill of water, and two drops of tincture of jupmacia, colour with burnt sugar,

Marking Ink.

One drachm and a half of lunar caustic, one scruple of sep green, six drachms of water, two drachms of mucilage—mix.

Cure for Thread Worms.

This is an almost certain cure when everything else has failed—care must be taken in the use of the ingredient that it does not touch the face or hands. Obtain some cowitch or cowbage. Dose for a child from 5 to 10 grains, in a little thick water gruel. Their expulsion may be hastened by taking a dose of castor oil out 12 hours after.

To remove Spots of Paint, Oil, Tar, and Grease.

If any of these fall on either silk, linen, or woollen, pour a little on of turpentine on the place, and let it soak for half an hour—then rub it, not hard, and you will find the turpentine has soaked out the glutinous quality, so that it will crumble out like pieces of dry dirt.

Simple French Polish.

Gum Sandrick. Spirits a gill. Gum Shellac. Dragon's Blood to colour

A Cement that will stick anything.

The cement is made as follows:—Dissolve five or six pieces of gum mastic, each of the size of a large pea, in so much spirits of wine as will serve to dissolve them. In another vessel dissolve as much isinglass in as much French brandy as will make a two-ounce phialful of strong cement, adding two small pieces of gum galbanum, which must be ground till dissolved; then mix the whole in a sufficient heat. Keep the article in a phial, closely stopped, and when about to use, place the phial in boiling water. This cement will do for glass, china, polished steel, &c.

Waterproofing for Calico, Cloth, &c.

To three pints of linseed oil, add one ounce of sugar of lead and four of white resin. The sugar of lead to be ground with a small quantity of the resin, and incorporate it with the oil by means of a gentle heat. Lay it on the calico with a brush. Cloth and woollen goods may be rendered waterproof, by being soaked in a solution of sugar of lead.

To prevent Paste, Seeds, or Leather turning Mouldy.

A clove or two will preserve Ink. Seeds may be preserved by using any of the essential oils. Paste by putting into it a few drops of oil of turpentine.

Ventilation.

One of our best writers on household science, remarks:—Ventilation is a question of money, but how much wiser is he who is willing to pay a large coal bill, yet enjoys fresh air in his winter sitting room, than he who keeps everything shut up, that heat may not be lost, and has a long doctor's bill to settle in the spring, perhaps in consequence.

A thermometer, costing one shilling, is a valuable adjunct to the sitting room. The temperature should never exceed 70, if that does not give sufficient warmth it is a sign that the person does not have enough exercise.

How to Brew a Gallon of Ale for Sixpence.

Put a handful of malt into a large tea-pot, then fill it with water, the first time under boiling heat, say a heat that you can just dip your finger in without scalding it; after it has stood for three quarters of an hour, pour off your liquor and fill the pot again with new boiling water, and if the malt be mashed before the second water so much the better, to resemble regular brewing. Now, after the second wort or wetting, which ought to stand an hour and a quarter, pour off as the first and give it a third liquoring, to extract all the virtues of the malt. The whole of this malt liquor must now be boiled with a few hops in it, half an hour longer, and while boiling add a little salt and a pinch of hartshorn shavings—it is now poured off into a pan, and when about blood heat add a little yeast to ferment it, and the miniature brew is obtained.

A Glue always ready for use.

Take five parts of glue, dissolve the glue in so much water by an easy fire, then gently add to the glue, one part of nitric acid. It will never get stiff or hard, and sticks better.

Piles.

Regular diet is to be particularly observed, and the following mixture may be used:—Two ounces of camphor powder, three ounces of sweet fennel-seed powder, ounce of powdered black pepper, and two ounces each of purified honey and brown sugar; take a portion of this two or three times a day. About half a tea-spoonful at a time is sufficient.

Rheumatic Pains.

Half a pint of vinegar, two ounces of turpentine, half an ounce of camphor, and one egg well beaten. Frequently rub the painful part before the fire.

Costiveness.

Evacuate the bowels regularly, if possible after breakfast. A mild aperient should be taken frequently as follows:—One scruple each of the extract of jalap, compound rhubarb, compound extract of colocynth, and Castile soap, mix these with ten drops of oil of carraway, and make up into about twenty pills; take one before dinner and one after as long as necessary.

Scarlet Fever.

The scarlet fever is so called from the colour of the patient's skin, which appears as if it was tinged with red wine. It happens at any season of the year, but is most common at the end of the summer. Children and young persons are most subject to this fever. It begins like other fevers, with coldness and shivering, without any violent sickness. Afterwards the skin becomes covered with red spots, which are broader and more florid than the measles. There is seldom any occasion for medicine in this disease. The patient should be kept within doors, abstain from flesh, strong liquors, and cordials; diluting liquors should be drunk freely. If the fever runs high, keep the bowels gently open by small doses of nitre and rhubarb. A scruple of the former, with five grains of the latter, may be taken thrice a day, or oftener if necessary. Children and young persons are sometimes seized at the beginning of this disease with a kind of stupor and epileptic fits. In this case the feet and legs should be bathed in warm water, a large blistering plaster applied to the neck, and a dose of the syrup of poppies given every night, until the patient quite recovers.

Ear-Ache.

This is often connected with chronic ulceration of the external part of the ear. An injection of warm water and soap is advisable, or the following mixture:—Ox-gall three drachms, mixed with one drachm of balsam of Peru. A drop or two of this on a little wool, and put gently into the ear, will give relief.

Head-Ache.

A good receipt. Get two-penny worth of compound camphor liniment, put a few drops on your fingers and draw them across your forehead.

Neuralgia.

Get three-pennyworth of carbonate of iron, take a tea-spoonful three times a day for about a week; this will strengthen the nerves. Apply compound camphor liniment to the part where the pain is.

To Prevent Moths.

Cuttings of Russian leather, a portion of a tallow candle, or a piece of yellow soap will be found sufficiently protective against the ravages of that enemy to ward-robes and textile fabrics,—the clothes moth.

To put a Chimney Fire Out.

The vapour arising from a handful of flour of sulphur thrown on the coals, will immediately extinguish the flames.

How to make sure of getting a good Joint for Dinner.

By attending to the following rules when you go to market, you will be sure of getting a nice tender joint:—

- Bacon—Thin rind, firm, reddish tinged fat, tender lean
- Beef—Young ox beef is smooth and open grained, whitish fat, red lean. Cow beef has a duller lean, but whiter fat
- Brawn—Rather tender
- Hams—Free from mustiness and grease, when stuck with a knife
- Lamb.—Natural colour, fresh smell
- Mutton—Close, smooth grain
- Pork—Thin rind, smooth grain, fat, free from kernels and sponginess
- Venison—Clear, bright, thick fat, smooth close grain

Rules to be observed in purchasing Game, Fowl and Poultry.

- Ducks—Soft feet, hard thick belly and breast
- Fowls—Short spurs, uncut, smooth legs and combs
- Geese—Yellow bill and feet, few hairs, soft feet
- Hares and Rabbits—Smooth claws, tender ears, stiff body
- Partridges—Dark bills, yellow legs, firm vent
- Pheasants—Blunt, short spurs
- Pigeons—Soft feet, firm vent, fat, tender
- Plovers—Hard vent, soft feet, similar characteristics to those of other fowls
- Turkey—Smooth black legs, short spurs, full bright eyes, soft moist feet

A few hints on Fish and how to choose the same.

Fish—This is a wholesome description of food, but less nutritious than the flesh of animals, or the grains of the cereals. Of all the various substances used as aliments by man, fish are the most liable to run into a state of putrefaction, and should therefore be only eaten when perfectly fresh. Those that are the whitest and most flaky when cooked, as whiting, cod, soles, haddock, turbot, &c., are the most easily digestible; and those of a more oily nature, such as salmon, eels, and herrings, are the most feeding, though the most likely to disagree with the stomach. Salt water fish is considered more wholesome than river fish, but, unless when well cooked, is harder of digestion. Too exclusive a fish dietary promotes skin disease, but when accompanied by a liberal allowance of vegetables, little danger arises. Acid sauces and pickles are the corrective additions to fish, not only from their power of retarding the process of putrefaction, but the correction of the relaxing tendency of large quantities of oil and butter.

Carp—The ordinary marks of goodness in fish. They live for a long time out of water, but are best killed quickly

- Cod—Red gills, thick neck, white and firm flesh
- Crabs—Heaviness, size middling, stiff joints, fine smell
- Eels—Thames eels are best, others are generally rank
- Flounders—Thickness, firmness, bright eyes
- Gudgeons—Ordinary appearances of freshness
- Herrings—Red gills, bright eyes, stiffness, and firmness
- Lobsters—Heaviness and fresh smell
- Mackerel—Same as Whittings
- Mullets—Firmness.
- Oysters—Whiteness and fatness
- Perch—Same as other fish, generally speaking.
- Pike—Same as Whittings
- Prawns and Shrimps—Sweet taste, firmness and stiffness
- Salmon—Red gills and flesh, bright scales, stiffness
- Skate—Whiteness and thickness
- Smeets—Silvery colour, firmness, cucumber-like smell
- Soles—Thickness, cream-coloured belly.
- Sprats—See Herrings
- Tench—Red gills, hard to open, bright eyes, stiff body
- Turbot—Thickness and yellowish white belly
- Whittings—Firm body and fins

How to exterminate Bugs.

Mix half-a-pint of spirits of turpentine, and half-a-pint of best rectified spirits of wine in a strong bottle, add in small pieces about half-ounce of camphor, which will dissolve in a few minutes. Apply this with a brush where the vermin breeds. On touching a live bug with the tip of a pin, dipped in this mixture, the insect will instantly be deprived of existence. Caution—to be used only in the day time, as it is very inflammable.

Pomatum.

Melt two ounces of Mutton suet with six ounces of bees wax, add six ounces of sugar candy, two ounces of soft soap, dissolved in water; and one ounce of indigo, finely powdered. When melted, add a gill of oil and well mix-

Corns or Warts

Can be quickly cured, by the application of Tincture of Idoine, the corns or warts will disappear in the course of a few days, if touched with the Tincture several times a day, singed linen is a good remedy for soft corns.

To Dye Hair.

Powered Lime, two ounces. Black and white lead, two ounces. Powdered Lythege, one ounce. Bismuth, one ounce, boiled in three pints of water five minutes, then strain it, and add a quarter of an ounce of Ammonia, in 48 hours it will be fit for use. Apply it to the hair with a sponge.

French Polish.

To half a pint of rectified Naptha, add an ounce and half of Shellac, and a quarter of an ounce of Benzoin, crush the Gum and mix them in a bottle, when dissolved it is ready for use.

DIRECTIONS FOR USE.

Take a piece of wadding or flannel, moisten it in the polish, then cover the wadding over with a calico rag; then take a little raw linseed oil in a cup, dip the end of your finger in the oil and put it on the outside of the calico rag, and when you find it stick add a little more oil. When you get a body or polish upon the furniture get a penny-worth of rectified naptha, in a bottle itself, use it on a new piece of flannel or wadding, and a piece of calico to cover over it, damp the wadding a little with spirits, and then rub in lightly over till the rubber is dry.

Staining Wood to Imitate Mahogany.

Get a pennyworth of dragon's blood, powdered; then mix a little of it with your polish in a bottle.

Ebony.

Get a pennyworth of drop black, and mix in the same way.

Satin Wood.

A quarter of an ounce of chrome yellow to four ounces of the polish.

To Imitate Walnut.

Take a little bi-cremate of potash and brown umber mixed in a little water, and put on to wood. Polish as before.

Cement for China and Glass.

Shellac, two parts; Venice of turpentine, one part; rosen, one part; ~~use~~ together and form into sticks.

TWENTY-FIVE HINTS.

- 1.—Never clean your nails with a sharp instrument.
- 2.—Never use a metal tooth-pick.
- 3.—Wash your hands in tepid water, neither hot nor cold.
- 4.—Never lick a postage stamp; moisten the corner of the envelope instead.
- 5.—Hot milk is one of the best stimulants in the world.
- 6.—People who suffer from sleeplessness should avoid drinking tea or coffee at nights.
- 7.—A glass of boiling water, sipped slowly at bedtime, ensures slumber.
- 8.—Drinking cold water, immediately after eating soup or anything hot, is apt to crack the enamel of the teeth.
- 9.—Never mix mustard with water which has not been boiled; it is sure to go bad.
- 10.—Do not set a wet umbrella open to dry; it makes the wires bowed.
- 11.—Don't threaten young children with "bogies"; you take from them their natural heritage of courage.
- 12.—Shoes are better than boots for strengthening the ankles.
- 13.—Country exercise is better for the muscles than any amount of town exercise. Walking always on pavements makes the ankles thick.
- 14.—Do not tell children that harm will happen to them when you have every reason to believe that it won't.
- 15.—There is such a thing as too much regularity of habit; we are not clocks, and a little variety is good at times.
- 16.—Rancid butter can be made perfectly sweet by washing it thoroughly in saltpetre and water.
- 17.—Celery is a valuable blood purifier for gouty or rheumatic people.
- 18.—Water your plants in the morning in winter time; never at night, when they are subject to a lower temperature.
- 19.—Don't depend too much on "lists" and memoranda. The memory grows weak and lazy if you fail to exercise it.
- 20.—In blowing out a candle, hold it aloft, and blow upwards. You will avoid all unpleasant smell by attending to this simple rule.
- 21.—Boot-trees are the best economy; they do so much towards preventing cracks in the leather.
- 22.—Don't make nervous children go to bed in a dark room. Night lights are cheap, and this kind of discipline will never strengthen the nerves.
- 23.—A little vaseline rubbed on the eyelashes at night will strengthen and beautify those that are weak.
- 24.—A dash of violet powder thrown into gloves after they are removed from hot hands will preserve them and make them last longer.
- 25.—A raw potato rubbed on knives will remove the stains left by acid.

of people there. One of the consuls of the thought fit to endorse the bills of lading that was in an infected condition. That meant the going to Spain (for it was the consul for that) would be quarantined, and, therefore, probably would arrive in the Tees from that country ought to do every mortal thing in their power to out the disease, and the only way to do that is isolation.

Councillor Baker thought the functionary raised by Ald. Sadler must have been panic-stricken cause for the cases of small-pox were only two thousand inhabitants.

Ald. Bulmer said he would like to know what there was of using the new lunatic asylum for cases where they could accommodate 600.

Dr. Hedley said that in the 1871 epidemic he had 50 and 60 cases a day, and nobody thought about it.

Ald. Sadler moved that they at once provide more beds either at the asylum or elsewhere for accommodation of small-pox cases.

Councillor Eptgrave seconded, and the motion was carried.

The meeting then resolved itself into a joint meeting of the Sanatorium and Asylum Committees.

Councillor Eptgrave reported that he had an interview with the Lunacy Commissioners, who emphatically declared that they could not entertain the idea of permitting the Asylum building to become infected with small-pox cases.

Ald. Bell pointed out that they were threatening serious damage to commerce. If they found it necessary they should use the asylum in spite of all. To use the asylum for its proper purpose for twelve months would not weigh a feather in the scale to the loss of two weeks trade to the town.

After a very lengthy discussion it was resolved to provide 200 to 250 more beds at once in the hospitals in wood, iron, or other material; but could not be got ready within a fortnight that arrangements be made for the use of the asylum and schools in Marton Road for the accommodation of 200 patients.

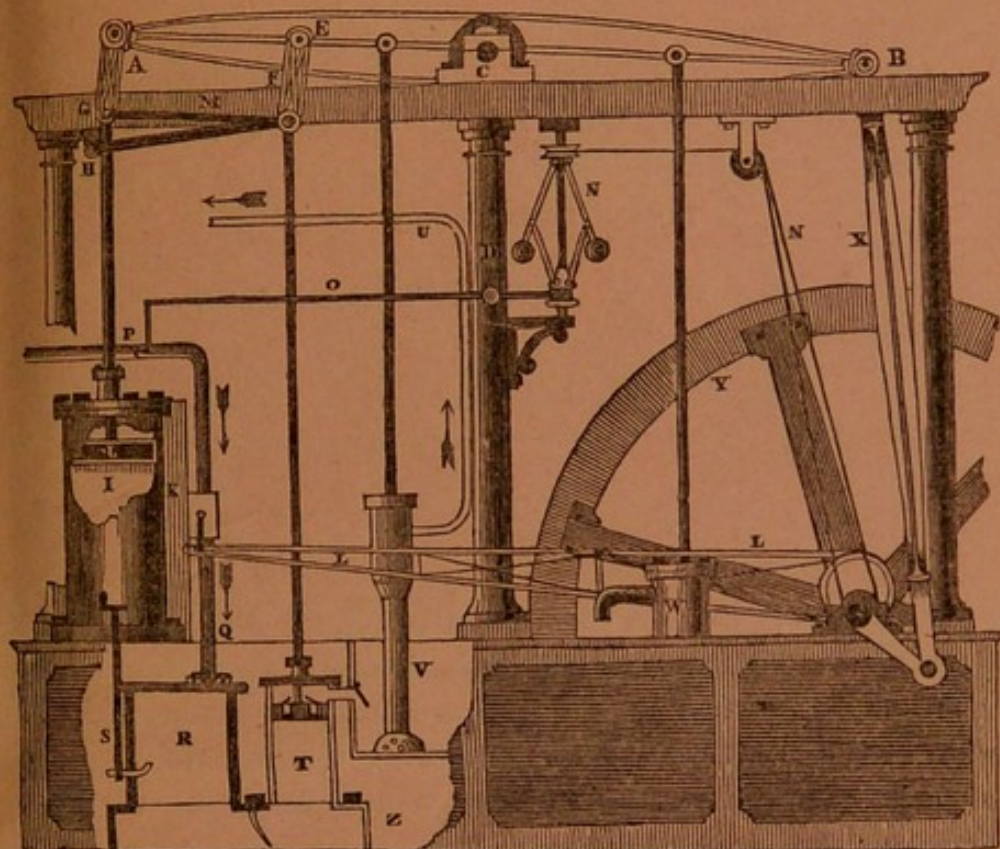
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The pantomime of "Aladdin" at the Grand Byker Bridge, Newcastle, comes to an end (today) evening, after having enjoyed a success extending over nine weeks. It will be succeeded Monday next by a melo-dramatic piece entitled "The Man."

The Economic Society.—At the Wednesday, and under the auspices of the Economic Society, Mr. H. S. Mundahl, has read a paper on the subject of "Monopolies in the Labour Market." There was a large attendance.

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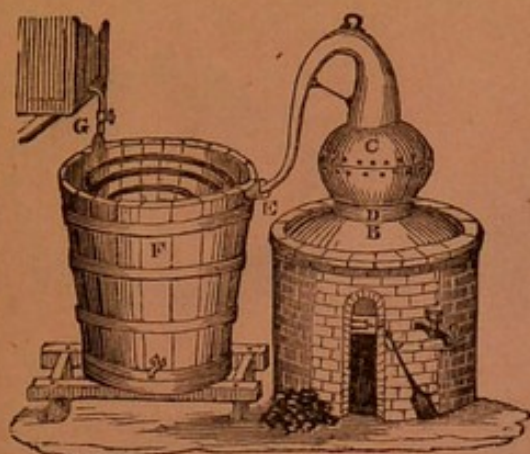
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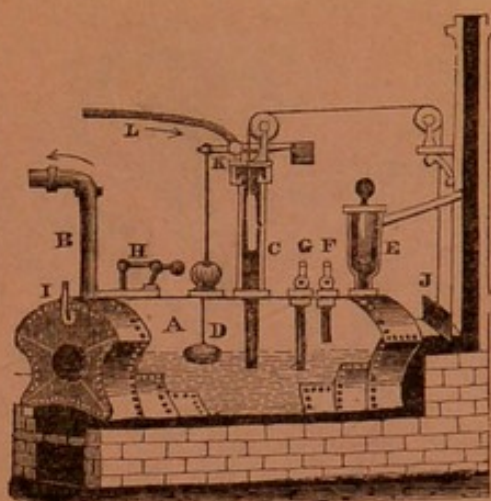
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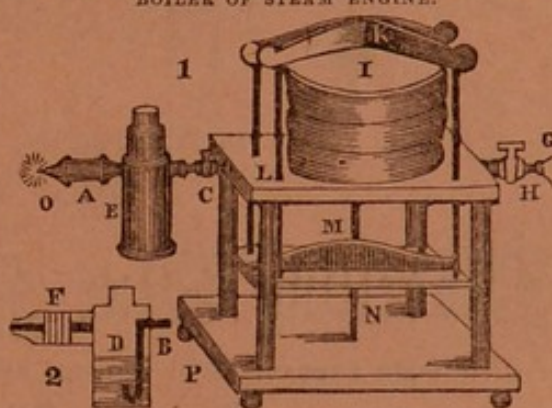
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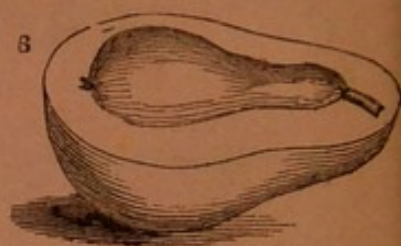
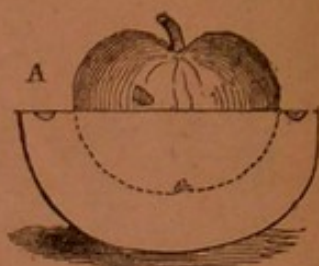
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WITH WOOD ENGRAVINGS OF MOULDS, PATTERNS, PARTS OF FLOWERS, FRUIT, ETC.

By G. W. FRANCIS, F.L.S.

KNOWING well how much the Art of making WAX FLOWERS and FRUIT is practised by Ladies, and how much more it would be pursued were there a plain and correct Guide to the operation, the Author has prepared the present little Work, hoping that, as the instructions are the result of experience, it will forward the views and remove the difficulties of the learner in the delightful occupation of imitating such beautiful objects.

There are no illustrations of natural objects more exact and pleasing than those made of Wax, more especially the representations of Fruit and Flowers. So exact indeed are they, if well made, that the most practised eye cannot sometimes detect the real from the artificial.

In Fruit, the choicest specimens of every clime may be thus assembled in a single vase, in all their apparent lusciousness and perfection; while, in their wax prototypes, lovely Flowers may be viewed in all their gorgeous coloring and transparent delicacy. As ornaments to the drawing room, when grouped with taste and blended with harmonic contrast, these wax objects are not to be surpassed, whether we look at them as records of foreign productions seldom seen—of extraordinary beautiful specimens of home growth—of favorites which it is desirable to preserve—or merely as beauties of ordinary production, which the eye delights to rest upon. Indeed all lovers of flowers (and who are not?) must admire these, their lovely images, transparent, vivid, and brilliant as they are.

The beautiful specimens of Wax Flowers and Fruit exhibited in the Great Exhibition in 1851, and at other Public Places, may induce the belief that to make them must be difficult. "I can never make any so beautiful as these" is a very oft-repeated expression upon witnessing even a single group. Yet, in truth, no art is of more easy attainment; a little patience and a little taste are the whole mental requisites; these, superadded to ordinary care in the manipulation, cannot fail very shortly to render proficient the most inexperienced. The chief thing is to know *how to select the proper materials, and how to set about the work in a proper manner*; and this and every other information is fully treated of in the pages of this Work.

In London and other large towns the requisite materials can always readily be procured, and it is not worth while that any of them should be home-made; yet, as persons who desire to practice this art may live far in the country where it is difficult to obtain even the simpler requisites; and as circumstances often arise in which it is absolutely impossible to procure what may be wanted for a particular purpose, as in the case of a mould being required for a certain specimen of a Fruit, or the extra thick wax desirable for particular Flowers, &c., the Author has included every available information, that the learner, however remotely situated may be his residence, or unique his model, may have as much as possible his difficulties removed, his mind stimulated, and his fingers directed, to attain excellence.

