The chemist's compendium for pharmacists, chemists, and students / compiled by C.J.S. Thompson.

The Chemist's Compendium

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PATENT HYGIENIC AND ELASTIC CLOTH SYNDICATE, Ltd.

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This Cloth is, in a hygienic sense, the most perfect covering for the body now before the public as the nature of its fibre, method of manufacture, preparation, and finish enables it to contain and maintain a constant warm chamber of air upon the surface of the skin over that part of the body which it covers, and it does not in the washing process become felted like flannel and other similar fabrics, but maintains its stability of structure.

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THE CHEMIST'S COMPENDIUM

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FOR PHARMACISTS, CHEMISTS, AND STUDENTS

COMPILED BY

C. J. S. THOMPSON

AUTHOR OF "PRACTICAL DISPENSING FOR PHARMACEUTICAL AND MEDICAL STUDENTS," "FIRST AID IN SIMPLE AILMENTS AND ACCIDENTS," "A MANUAL OF PERSONAL HYGIENE," ETC.

WHITTAKER AND CO.
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PREFACE

With the constant and increasing growth of Pharmaceutical, Chemical, and Scientific literature, the want has doubtless been felt by pharmacists of a book of convenient size, embodying the essential points of the many subjects of use to them in the daily exercise of their craft. This work is designed to supply this deficiency, and simply act as a handy-book of reference.

It is also intended to serve as an introduction and guide to the standard text-books on the subjects included.

C. J. S. T.

CONTENTS

A SYNOPSIS OF THE FORMULÆ

OF THE

BRITISH PHARMACOPŒIA OF 1885

WITH ADDITIONS OF 1890

ACETUM CANTHARIDIS.

Cantharides	1 part.
Glacial Acetic Acid	1 part.
Acetic Acid	q.s. 10 parts.

Prepared by maceration and percolation.
S.G. about 1·060.

ACETUM IPECACUANHÆ.

Ipecacuanha, in No. 20 powder	1 part.
Diluted Acetic Acid	q.s. 20 parts.

Prepared by maceration and percolation.

ACETUM SCILLÆ.

Squill, bruised	1 part.
Diluted Acetic Acid	8 parts.

Prepared by maceration.
S.G. about 1·038.

ACIDUM ACETICUM DILUTUM.

Acetic Acid	1 part.
Distilled Water	7 parts.

Mix. S.G. 1·006.

ACIDUM HYDROCHLORICUM DILUTUM.

Hydrochloric Acid	8 fld. ounces.
Distilled Water	q.s. 26½ fld. ounces.

Mix. S.G. 1·052.

ACIDUM LACTICUM DILUTUM.

Lactic Acid . . . . . 3 ounces.
Distilled Water . . q.s. to produce 1 pint.
Mix. S.G. 1·040.

ACIDUM NITRICUM DILUTUM.

Nitric Acid . . . . . 6 ounces.
Distilled Water . . . q.s. to make 31 fld. ounces.
Mix. S.G. 1·101.

ACIDUM NITRO-HYDROCHLORICUM DILUTUM.

Nitric Acid . . . . . 3 ounces.
Hydrochloric Acid . . . . . 4 ounces.
Distilled Water . . . . . 25 ounces.
Mix. S.G. 1·07.

ACIDUM PHOSPHORICUM DILUTUM.

Concentrated Phosphoric Acid . . 3 ounces.
Distilled Water . . . q.s. to make 20 ounces.
Mix. S.G. 1·08.

ACIDUM SULPHURICUM AROMATICUM.

Strong Tincture of Ginger . . . 1 part.
Spirit of Cinnamon . . . . 1 part.
Rectified Spirit . . . . . 18 parts.
Sulphuric Acid . . . . . 1½ parts.
S.G. 0·911.

ACIDUM SULPHURICUM DILUTUM.

Sulphuric Acid . . . . . 7 ounces.
Distilled Water . q.s. to make 83½ ounces when cold.
S.G. 1·094.

ADEPS BENZOATUS.

Prepared Lard . . . . . 50 parts.
Benzoin, in coarse powder . . . 1 part.
Add the benzoin to the melted lard and heat, then remove the residual benzoin by straining.

ADEPS LANÆ HYDROSUS.

Wool Fat	70 parts.
Distilled Water	30 parts.

Melt the fat and stir in the water thoroughly.

AQUA ANETHI.

Dill Fruit, bruised	1 pound.
Water	2 gallons.

Distil one gallon.

AQUA ANISI.

Anise Fruit	1 pound.
Water	2 gallons.

Distil one gallon.

AQUA AURANTII FLORIS.

Distilled from the flowers of the Bitter Orange tree.

AQUA CAMPHORÆ.

Camphor, crushed	½ ounce.
Distilled Water	1 gallon.

Macerate for at least two days.

AQUA CARUI.

Caraway Fruit	1 pound.
Water	2 gallons.

Distil one gallon.

AQUA CHLOROFORMI.

Chloroform	1 drachm.
Distilled Water	25 ounces.

Shake till dissolved.

AQUA CINNAMOMI.

Cinnamon Bark	20 ounces.
Water	2 gallons.

Distil one gallon.

AQUA DESTILLATA.

Water	10 gallons.

Distil, reject the first half-gallon and preserve the next eight.

AQUA FŒNICULI.

Fennel Fruit	1 pound.
Water	2 gallons.

Distil one gallon.

AQUA LAUROCERASI.

Fresh leaves of Cherry Laurel . . .	1 pound.
Water	2½ pints.

Distil one pint. Each 810 grains of the product should contain 0·1 per cent. of real hydrocyanic acid.

AQUA MENTHÆ PIPERITÆ.

Oil of Peppermint	1½ drachms.
Water	1½ gallons.

Distil one gallon.

AQUA MENTHÆ VIRIDIS.

Oil of Spearmint	1½ drachms.
Water	1½ gallons.

Distil one gallon.

AQUA PIMENTÆ.

Pimento	14 ounces.
Water	2 gallons.

Distil one gallon.

AQUA ROSÆ.

Fresh petals of the Hundred-leaved Rose .	10 pounds.
Water	5 gallons.

Distil one gallon.

AQUA SAMBUCI.

Fresh Elder Flowers, separated from their stalks	10 pounds.
Water	5 gallons.

Distil one gallon.

CATAPLASMA CARBONIS.

Wood Charcoal, in powder	½ ounce.
Crumb of Bread	2 ounces.
Linseed Meal	1½ ounces.
Boiling Water	10 fld. ounces.

CATAPLASMA CONII.

Juice of Hemlock	1 fld. ounce.
Linseed Meal	4 ounces.
Boiling Water	10 fld. ounces.

CATAPLASMA FERMENTI.

Beer Yeast	6 fld. ounces.
Wheaten Flour	14 ounces.
Water, heated to 100° F.	6 fld. ounces.

CATAPLASMA LINI.

Linseed Meal	4 ounces.
Boiling Water	10 fld. ounces.

CATAPLASMA SINAPIS.

Mustard, in powder	2½ ounces.
Linseed Meal	2½ ounces.
Boiling water and luke-warm water of each in sufficiency.	

CATAPLASMA SODÆ CHLORINATÆ.

Solution of Chlorinated Soda	2 fld. ounces.
Linseed Meal	4 ounces.
Boiling Water	8 fld. ounces.

CHARTA EPISPASTICA.

White Wax	4 ounces.
Spermaceti	1½ ounces.
Olive Oil	2 fld. ounces.
Resin	¾ ounce.
Canada Balsam	¼ ounce.
Cantharides, in powder	1 ounce.
Distilled Water	6 fld. ounces.

CHARTA SINAPIS.

Mustard, in powder	1 ounce.
Solution of Gutta Percha.	2 fld. ounces or a sufficiency.

Coat strips of cartridge-paper with the mixture.

COLLODIUM.

Pyroxylin	1 ounce.
Ether	36 fld. ounces.
Rectified Spirit	12 fld. ounces.

COLLODIUM FLEXILE.

Collodion	12 fld. ounces.
Canada Balsam	½ ounce.
Castor Oil	¼ ounce.

COLLODIUM VESICANS.

Blistering Liquid	20 fld. ounces.
Pyroxylin	1 ounce.

CONFECTIO OPII.

Compound Powder of Opium	1 part.
Syrup	3 parts.

CONFECTIO PIPERIS.

Black Pepper, in powder	2 parts.
Caraway Fruit	3 parts.
Clarified Honey	15 parts.

CONFECTIO ROSÆ CANINÆ.

Hips, deprived of their seedlike fruits	1 part.
Refined Sugar	2 parts.

CONFECTIO ROSÆ GALLICÆ.

Fresh Red-Rose Petals	1 part.
Refined Sugar	3 parts.

CONFECTIO SCAMMONII.

Resin of Scammony, in powder	48 parts.
Ginger, in powder	24 parts.
Oil of Caraway	2 fluid parts.

Oil of Cloves	1 fluid part.
Syrup	48 fluid parts.
Clarified Honey	24 fluid parts.

CONFECTIO SENNÆ.

Senna	7 ounces.
Coriander Fruit	3 ounces.
Figs	12 ounces.
Tamarind	9 ounces.
Cassia Pulp	9 ounces.
Prunes	6 ounces.
Extract of Liquorice	1 ounce.
Refined Sugar	30 ounces.
Distilled Water	q.s. to make 75 ounces.

CONFECTIO SULPHURIS.

Sublimed Sulphur	4 parts.
Acid Tartrate of Potassium, in powder	1 part.
Syrup of Orange Peel	4 fluid parts.
Tragacanth Powder	$\frac{1}{24}$ part.

CONFECTIO TEREBINTHINÆ.

Oil of Turpentine	1 fluid part.
Liquorice Root, in powder	1 part.
Clarified Honey	2 parts.

DECOCTUM ALOES COMPOSITUM.

Extract of Socotrine Aloes	$\frac{1}{2}$ ounce.
Myrrh, Saffron, Carbonate of Potassium — of each	$\frac{1}{4}$ ounce.
Extract of Liquorice	2 ounces.
Compound Tincture of Cardamoms	15 fld. ounces.
Distilled Water	q.s. to make 50 fld. ounces.

Reduce the aloes and myrrh to powder, and put them with the potassium and liquorice into a covered vessel, add a pint of distilled water; boil for five minutes, and add the saffron. When cool add the tincture of cardamoms, macerate for two hours, and strain.

DECOCTUM CETRARIÆ.

Iceland Moss	1 ounce.
Distilled Water	1 pint.

Boil for ten minutes, and strain.

DECOCTUM CINCHONÆ.

Red-Cinchona Bark, in No. 20 powder	1¼ ounces.
Distilled Water	1 pint.

Boil for ten minutes, and strain.

DECOCTUM GRANATI RADICIS.

Pomegranate Root Bark, sliced	2 ounces.
Distilled Water	2 pints.

Boil down to a pint.

DECOCTUM HÆMATOXYLI.

Logwood, in chips	1 ounce.
Cinnamon Bark, bruised	55 grains.
Distilled Water	1 pint.

Boil for ten minutes, adding the cinnamon towards the end.

DECOCTUM HORDEI.

Pearl Barley	2 ounces.
Distilled Water	1½ pints.

Boil for twenty minutes, and strain.

DECOCTUM PAPAVERIS.

Poppy Capsules, bruised	2 ounces.
Distilled Water	1½ pints.

Boil for ten minutes, and strain.

DECOCTUM PAREIRÆ.

Pareira Root, in No. 20 powder	1¼ ounces.
Distilled Water	1 pint.

Boil for fifteen minutes, and strain.

DECOCTUM QUERCUS.

Oak Bark, bruised	1¼ ounces.
Distilled Water	1 pint.

Boil for ten minutes, and strain.

DECOCTUM SARSÆ.

Jamaica Sarsaparilla, cut transversely .	2½ ounces.
Boiling Distilled Water	1½ pints.

Digest for one hour, then boil for ten minutes, and make up to one pint.

DECOCTUM SARSÆ COMPOSITUM.

Jamaica Sarsaparilla, cut transversely .	2½ ounces.
Sassafras Root, in chips Guaiacum Wood turnings Dried Liquorice Root, bruised } of each .	¼ ounce.
Mezereon Bark	⅛ ounce.
Boiling Distilled Water	1½ pints.

Digest for one hour, boil for ten minutes, and make the strained product measure a pint.

DECOCTUM SCOPARII.

Broom Tops, dried	1 ounce.
Distilled Water	1 pint.

Boil for ten minutes, and strain.

DECOCTUM TARAXACI.

Dried Dandelion Root, sliced and bruised	1 ounce.
Distilled Water	1 pint.

Boil for ten minutes, and strain.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Ammoniacum	12 ounces.
Mercury	3 ounces.
Olive Oil	56 grains.
Sublimed Sulphur	8 grains.

Heat the oil, adding the sulphur to it, gradually stirring till they unite. Then add the mercury, and finally the ammoniacum.

EMPLASTRUM BELLADONNÆ.

Alcoholic Extract of Belladonna . .	1 part.
Resin Plaster Soap Plaster } of each	2 parts.

Melt the plaster, then add the extract, and mix well together.

EMPLASTRUM CALEFACIENS.

Cantharides, in coarse powder Expressed Oil of Nutmeg Yellow Wax Resin	of each	1 part.
Resin Plaster		13 parts.
Soap Plaster		8 parts.
Boiling Water		5 fluid parts.

Infuse the cantharides in the boiling water for six hours, strain, evaporate, then add the other ingredients, and melt in a water-bath.

EMPLASTRUM CANTHARIDIS.

Cantharides, in powder		4 parts.
Yellow Wax Prepared Suet	of each	2½ parts.
Prepared Lard		2 parts.
Resin		1 part.

EMPLASTRUM FERRI.

Peroxide of Iron, in fine powder		1 part.
Burgundy Pitch		2 parts.
Lead Plaster		8 parts.

EMPLASTRUM GALBANI.

Galbanum Ammoniacum Yellow Wax	of each	1 part.
Lead Plaster		8 parts.

EMPLASTRUM HYDRARGYRI.

Mercury	3 ounces.
Olive Oil	56 grains.
Sublimed Sulphur	8 grains.
Lead Plaster	6 ounces.

EMPLASTRUM MENTHOL.

Menthol	2 parts.
Yellow Wax	1 part.
Resin	7 parts.

EMPLASTRUM OPII.

Opium, in the finest powder	1 part.
Resin Plaster	9 parts.

EMPLASTRUM PICIS.

Burgundy Pitch	26 parts.
Common Frankincense	13 parts.
Resin, Yellow Wax } of each	4½ parts.
Expressed Oil of Nutmeg	1 part.
Olive Oil, Water } of each	2 fld. parts.

EMPLASTRUM PLUMBI.

Oxide of Lead, in fine powder	5 parts.
Olive Oil	10 parts.
Water	5 parts.

EMPLASTRUM PLUMBI IODIDI.

Iodide of Lead	1 part.
Lead Plaster	8 parts.
Resin	1 part.

EMPLASTRUM RESINÆ.

Resin	2 parts.
Lead Plaster	16 parts.
Curd Soap	1 part.

EMPLASTRUM SAPONIS.

Curd Soap	6 parts.
Lead Plaster	36 parts.
Resin	1 part.

EMPLASTRUM SAPONIS FUSCUM.

Curd Soap, in powder	10 parts.
Yellow Wax	12½ parts.
Olive Oil	20 fld. parts.
Oxide of Lead	15 parts.
Vinegar	160 parts.

ENEMA ALOES.

Aloes	40 grains.
Carbonate of Potassium	15 grains.
Mucilage of Starch	10 fld. ounces.

ENEMA ASAFŒTIDÆ.

Asafœtida	30 grains.
Distilled Water	4 fld. ounces.

ENEMA MAGNESII SULPHATIS.

Sulphate of Magnesia	1 ounce.
Olive Oil	1 fld. ounce.
Mucilage of Starch	2 fld. ounces.

ENEMA OPII.

Tincture of Opium	½ fld. drachm.
Mucilage of Starch	2 fld. ounces.

ENEMA TEREBINTHINÆ.

Oil of Turpentine	1 fld. ounce.
Mucilage of Starch	15 fld. ounces.

ESSENTIA ANISI.

Oil of Anise	1 fld. part.
Rectified Spirit	4 fld. parts.

ESSENTIA MENTHÆ PIPERITÆ.

Oil of Peppermint	1 fld. part.
Rectified Spirit	4 fld. parts.

EXTRACTUM ACONITI.

The fresh Leaves and Flowering Tops of Aconite	112 pounds.

Bruise, press out the juice, heat to 130° F., and separate the green colouring matter by a calico filter. Heat to coagulate the albumen, filter, and evaporate the filtrate to syrupy consistence, add the green colouring matter, pass through a sieve, and evaporate to suitable consistence.

EXTRACTUM ALOES BARBADENSIS.

Barbadoes Aloes, in small fragments .	1 pound.
Boiling Distilled Water	1 gallon.

EXTRACTUM ALOES SOCOTRINÆ.

Socotrine Aloes, in small fragments .	1 pound.
Boiling Distilled Water	1 gallon.

EXTRACTUM ANTHEMIDIS.

Chamomile Flowers	1 pound.
Oil of Chamomile	15 minims.
Distilled Water	1 gallon.

EXTRACTUM BELÆ LIQUIDUM.

Bael Fruit	1 pound.
Distilled Water	12 pints.
Rectified Spirit	3 fld. ounces.

EXTRACTUM BELLADONNÆ.

The fresh Leaves and young Branches of Belladonna	112 pounds.

Prepare in same manner as Extractum Aconiti.

EXTRACTUM BELLADONNÆ ALCOHOLICUM.

Belladonna Root, in No. 20 powder .	1 pound
Rectified Spirit, Distilled Water } of each . . .	q.s.

Made by maceration and percolation ; then evaporate the percolated liquid.

EXTRACTUM CALUMBÆ.

Calumba Root, cut small . . .	1 pound.
Proof Spirit	4 pints.

Exhaust by macerating twice, and evaporate to suitable consistence.

EXTRACTUM CANNABIS INDICÆ.

Indian Hemp, in coarse powder . .	1 pound.
Rectified Spirit	4 pints.

Macerate, press, and evaporate to suitable consistence.

EXTRACTUM CASCARÆ SAGRADÆ.

Cascara Sagrada, in No. 40 powder . .	1 pound.
Proof Spirit Distilled Water } of each	q.s.

Exhaust by maceration and percolation, then evaporate.

EXTRACTUM CASCARÆ SAGRADÆ LIQUIDUM.

Cascara Sagrada, in coarse powder . .	1 pound.
Rectified Spirit	4 fld. ounces.
Distilled Water	q.s.

Exhaust by boiling in three or four successive quantities of the water. Strain, evaporate, add the spirit, filter, and make up to sixteen fluid ounces with water.

EXTRACTUM CIMICIFUGÆ LIQUIDUM.

Cimicifuga, in No. 60 powder . .	20 ounces.
Rectified Spirit	q.s.

Exhaust by maceration and percolation, then evaporate, and finally make up to twenty fluid ounces.

EXTRACTUM CINCHONÆ LIQUIDUM.

Red Cinchona Bark, in No. 60 powder .	20 ounces.
Hydrochloric Acid	5 fld. drachms.
Glycerine	2½ fld. ounces.
Rectified Spirit Distilled Water } of each . . .	q.s.

Exhaust by maceration and percolation. Evaporate to twenty fluid ounces. The finished liquid extract should contain five grains of the alkaloids of the bark in every hundred fluid grains.

EXTRACTUM COCÆ LIQUIDUM.

Coca, in No. 40 powder	20 ounces.
Proof Spirit	q.s.

Exhaust by maceration and percolation, and make up to twenty fluid ounces.

EXTRACTUM COLCHICI.

Fresh Colchicum Corms, deprived of their coats	7 pounds.

Extract the juice, heat, strain, and evaporate.

EXTRACTUM COLCHICI ACETICUM.

Fresh Colchicum Corms, deprived of their coats	7 pounds.
Acetic Acid	6 fld. ounces.

Crush the corms, add the acid, express the juice, heat, strain, and evaporate.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM.

Colocynth Pulp	6 ounces.
Extract of Socotrine Aloes	12 ounces.
Resin of Scammony	4 ounces.
Curd Soap, in powder	3 ounces.
Cardamom Seeds, in finest powder	1 ounce.
Proof Spirit	1 gallon.

Macerate the colocynth and distil off the spirit, then add the scammony, aloes, and soap, and evaporate, adding the cardamoms last.

EXTRACTUM CONII.

The fresh Leaves and young Branches of Hemlock	112 pounds.

Prepare as Extractum Aconiti.

EXTRACTUM ERGOTÆ LIQUIDUM.

Ergot, crushed	1 pound.
Distilled Water	6 pints.
Rectified Spirit	6 fld. ounces.

Exhaust the ergot by macerating twice; strain, evaporate, and add the spirit when cold. The product should measure sixteen fluid ounces.

EXTRACTUM EUONYMI SICCUM.

Euonymus Bark, in No. 20 powder	1 pound.

Rectified Spirit
Distilled Water } of each . . . q.s.
Sugar of Milk

Percolate with water and spirit; evaporate, and let the fluid product contain 80 per cent. of the dry extractive.

EXTRACTUM FILICIS LIQUIDUM.

Male Fern, in coarse powder . . . 2 pounds.
Ether . . . . . 4 pints or q.s.

Percolate, evaporate, and preserve the oily extract.

EXTRACTUM GELSEMII ALCOHOLICUM

Gelsemium, in No. 60 powder . . 1 pound.
Rectified Spirit
Distilled Water } of each . . . . q.s.

Exhaust by maceration and percolation, and evaporate.

EXTRACTUM GENTIANÆ.

Gentian Root, sliced . . . . 1 pound.
Boiling Distilled Water . . . . 1 gallon.

Infuse, boil, and evaporate.

EXTRACTUM GLYCYRRHIZÆ.

Liquorice Root, in No. 20 powder . . 1 pound.
Distilled Water . . . . . 4 pints.

Macerate twice, strain and evaporate.

EXTRACTUM GLYCYRRHIZÆ LIQUIDUM.

Liquorice Root, in No. 20 powder . . 1 pound.
Distilled Water . . . . . 4 pints.
Rectified Spirit . . . . . q.s.

Exhaust by macerating twice with water; strain, evaporate, and filter.

EXTRACTUM HAMAMELIDIS LIQUIDUM.

Hamamelis Leaves, in No. 40 powder . 20 ounces.
Rectified Spirit
Distilled Water } of each . . . . q.s.

Exhaust by percolation, and evaporate.

The finished product should measure one pint.

EXTRACTUM HÆMATOXYLI.

Logwood, in fine chips	1 pound.
Boiling Distilled Water	1 gallon.

Infuse, and evaporate.

EXTRACTUM HYDRASTIS LIQUIDUM.

Hydrastis Rhizome, in No. 60 powder .	20 ounces.
Rectified Spirit } equal fluid parts . .	q.s.
Distilled Water }	

Exhaust by percolation; evaporate, and let the finished product measure one pint.

EXTRACTUM HYOSCYAMI.

The fresh Leaves, flowering Tops, and young Branches of Henbane . .	112 pounds.

Prepare as Extractum Aconiti.

EXTRACTUM JABORANDI.

Jaborandi, in No. 40 powder . . .	1 pound.
Proof Spirit } of each . . .	q.s.
Distilled Water }	

Extract by maceration and percolation; then evaporate.

EXTRACTUM JALAPÆ.

Jalap, in coarse powder	1 pound.
Rectified Spirit	4 pints.
Distilled Water	1 gallon.

Exhaust by two macerations; mix the extracts, and evaporate.

EXTRACTUM KRAMERIÆ.

Rhatany Root, in No. 40 powder . .	1 pound.
Distilled Water	q.s.

Exhaust by maceration and percolation, and evaporate the liquor.

EXTRACTUM LACTUCÆ.

The flowering Herb of Lettuce . .	112 pounds.

Prepare as Extractum Aconiti.

EXTRACTUM LUPULI

Hop	1 pound.
Rectified Spirit	1½ pints.
Distilled Water	1 gallon.

Exhaust by maceration ; boil, strain, and evaporate.

EXTRACTUM MEZEREI ÆTHEREUM.

Mezereon Bark, cut small . . .	1 pound.
Rectified Spirit	8 pints.
Ether	1 pint.

Exhaust by two macerations with spirit ; evaporate and macerate alcoholic residue with ether. Decant, and evaporate to a soft extract.

EXTRACTUM NUCIS VOMICÆ.

Nux Vomica	1 pound.
Rectified Spirit	64 fld. ounces.
Distilled Water	16 fld. ounces.

Exhaust by maceration and percolation, then press and evaporate. Finished extract should contain 15 per cent. of total alkaloid.

EXTRACTUM OPII.

Opium, in powder	1 pound.
Distilled Water	6 pints.

Exhaust by three macerations, mix the liquors, and evaporate. Finished extract should yield about 20 per cent. of morphine.

EXTRACTUM OPII LIQUIDUM.

Extract of Opium	1 ounce.
Distilled Water	16 fld. ounces.

Rectified Spirit	4 fld. ounces.

Macerate and filter. Contains twenty-two grains of extract of opium in the fluid ounce. Yields one per cent. of morphine.

EXTRACTUM PAPAVERIS.

Poppy Capsules, freed from the seeds, and in No. 20 powder	1 pound.
Rectified Spirit	2 ounces.
Boiling Distilled Water	q.s.

Infuse, percolate, and evaporate.

EXTRACTUM PAREIRÆ.

Pareira Root, in No. 40 powder . .	1 pound.
Boiling Distilled Water	q.s.

Digest, percolate, and evaporate.

EXTRACTUM PAREIRÆ LIQUIDUM.

Extract of Pareira Distilled Water Rectified Spirit } of each . . .	q.s.

Dissolve four parts of the extract in sufficient spirit and water (1 to 3) to form sixteen fluid parts of liquid.

EXTRACTUM PHYSOSTIGMATIS.

Calabar Bean, in No. 40 powder . .	1 pound.
Rectified Spirit	4 pints.

Macerate, percolate, press, and evaporate.

EXTRACTUM QUASSIÆ.

Quassia Wood, rasped	1 pound.
Distilled Water	q.s.

Macerate, percolate, filter, and evaporate.

EXTRACTUM RHAMNI FRANGULÆ.

Rhamnus Frangula Bark, in No. 40 powder	1 pound.
Proof Spirit Water } of each	q.s.

Macerate, percolate, and evaporate.

EXTRACTUM RHAMNI FRANGULÆ LIQUIDUM.

Rhamnus Frangula Bark, in coarse powder	1 pound.
Rectified Spirit	4 fld. ounces.
Distilled Water	q.s.

Boil the bark in three or four successive quantities until exhausted. Evaporate the liquors and filter.

EXTRACTUM RHEI.

Rhubarb Root, in No. 40 powder	1 pound.
Proof Spirit, Distilled Water, of each	q.s.

Macerate, percolate, and evaporate.

EXTRACTUM SARSÆ LIQUIDUM.

Jamaica Sarsaparilla, in No. 40 powder	40 ounces.
Proof Spirit	2 pints.
Sugar	5 ounces.
Distilled Water	12 pints.

Exhaust by two macerations, press each time, mix, and evaporate.

EXTRACTUM STRAMONII.

Stramonium Seeds, in No. 40 powder	1 pound.
Ether	1 pint or q.s.
Distilled Water, Proof Spirit, of each	q.s.

Percolate the powdered seeds with ether, then afterwards with spirit, and evaporate.

EXTRACTUM TARAXACI.

Fresh Dandelion Root	4 pounds.

Crush, press, strain, and evaporate.

EXTRACTUM TARAXACI LIQUIDUM.

Dry Dandelion Root, in No. 20 powder	40 ounces.
Proof Spirit	4 pints.
Distilled Water	q.s.

Exhaust by two macerations, press, strain, mix, and evaporate.

EL BOVINUM PURIFICATUM.

Fresh Ox Bile	1 pint.
Rectified Spirit	q.s.

Evaporate and wash with the spirit, filter, and evaporate.

ERRI ET AMMONII CITRAS.

Solution of Persulphate of Iron	10 fld. ounces or q.s.
Solution of Ammonia	23 fld. ounces or q.s.
Citric Acid	4 ounces.
Distilled Water	q.s.

Add the solution of persulphate of iron to the solution of ammonia diluted with water, filter through calico, and wash the ferric hydrate. Add to the ferric hydrate a solution of citric acid till it is nearly dissolved. Add more solution of ammonia, and filter. Evaporate to syrupy consistence, and dry in thin layers on glass plates.

ERRI ET QUININÆ CITRAS.

Solution of Persulphate of Iron	4½ fld. ounces.
Sulphate of Quinine	1 ounce.
Diluted Sulphuric Acid	12 fld. drachms.
Citric Acid	3 oz. 30 grs.
Solution of Ammonia, Distilled Water } of each	q.s.

Dilute the ammonia, and add the solution of persulphate of iron, stir, filter through calico, and wash the ferric hydrate. Dissolve the quinine in Ac. Sulph. Dil., and precipitate it with ammonia. Add the citric acid in solution to the ferric hydrate, dissolve, and add the quinine. Add more ammonia gradually, filter, and evaporate to a syrupy consistency, then dry in thin layers on glass plates.

LYCERINUM ACIDI CARBOLICI.

Carbolic Acid	1 part.
Glycerine	4 fld. parts.

GLYCERINUM ACIDI GALLICI

Gallic Acid	1 part.
Glycerine	4 fld. parts.

GLYCERINUM ACIDI TANNICI.

Tannic Acid	1 part.
Glycerine	4 fld. parts.

GLYCERINUM ALUMINIS.

Alum, in powder	1 part.
Glycerine	5 fld. parts.

GLYCERINUM AMYLI.

Starch	1 part.
Glycerine	5 fld. parts.
Distilled Water	3 fld. parts.

GLYCERINUM BORACIS.

Borax, in powder	1 ounce.
Glycerine	4 fld. parts.
Distilled Water	2 fld. parts.

GLYCERINUM PLUMBI SUBACETATIS.

Acetate of Lead	5 ounces.
Oxide of Lead	3½ ounces.
Glycerine	1 pint.
Distilled Water	12 fld. ounces.

Mix and boil together for a quarter of an hour.

GLYCERINUM TRAGACANTHÆ.

Tragacanth, in powder	3 parts.
Glycerine	12 fld. parts.
Distilled Water	2 fld. parts.

HYDRARGYRUM CUM CRETA.

Mercury, by weight	1 ounce.
Prepared Chalk	2 ounces.

INFUSUM ANTHEMIDIS.

Chamomile Flowers	1 part.

Boiling Distilled Water	20 fld. parts.

Infuse fifteen minutes.

INFUSUM AURANTII.

Bitter Orange Peel, cut small . . .	1 part.
Boiling Distilled Water	20 parts.

Infuse fifteen minutes.

INFUSUM AURANTII COMPOSITUM.

Bitter Orange Peel	4 parts.
Fresh Lemon Peel	2 parts.
Cloves, bruised	1 part.
Boiling Distilled Water	160 fld. parts.

Infuse fifteen minutes.

INFUSUM BUCHU.

Buchu Leaves	1 part.
Boiling Distilled Water	20 fld. parts.

Infuse thirty minutes.

INFUSUM CALUMBÆ.

Calumba Root	1 part.
Cold Distilled Water	20 fld. parts.

Macerate thirty minutes.

INFUSUM CARYOPHYLLI.

Cloves	1 part.
Boiling Distilled Water	40 fld. parts.

Infuse thirty minutes.

INFUSUM CASCARILLÆ.

Cascarilla Bark	1 part.
Boiling Distilled Water	10 fld. parts.

Infuse thirty minutes.

INFUSUM CATECHU.

Catechu	160 grains.
Cinnamon Bark	30 grains.
Boiling Distilled Water	10 fld. ounces.

Infuse thirty minutes.

INFUSUM CHIRATÆ.

Chiretta, cut small	1 part.
Distilled Water	40 parts.

INFUSUM CINCHONÆ ACIDUM.

Red Cinchona Bark, in No. 40 powder .	1 part.
Aromatic Sulphuric Acid . . .	¼ part.
Boiling Distilled Water	20 parts.

Infuse one hour.

INFUSUM CUSPARIÆ.

Cusparia Bark, in No. 40 powder . .	1 part.
Distilled Water	20 parts.

Infuse one hour.

INFUSUM CUSSO.

Kousso	1 part.
Boiling Distilled Water	16 parts.

Infuse fifteen minutes. Not to be strained.

INFUSUM DIGITALIS.

Foxglove Leaves	1 part.
Boiling Distilled Water	156 parts.

Infuse fifteen minutes.

INFUSUM ERGOTÆ.

Ergot, crushed	1 part.
Boiling Distilled Water	40 parts.

Infuse thirty minutes.

INFUSUM GENTIANÆ COMPOSITUM.

Gentian Root, Bitter Orange Peel } of each . . .	1 part.
Fresh Lemon Peel	2 parts.
Boiling Distilled Water	80 parts.

Infuse thirty minutes.

INFUSUM JABORANDI.

Jaborandi, cut small	1 part.

Boiling Distilled Water	20 fld. parts.

Infuse thirty minutes.

INFUSUM KRAMERIÆ.

Rhatany Root, in No. 40 powder . .	1 part.
Boiling Distilled Water	20 fld. ounces.

Infuse thirty minutes.

INFUSUM LINI.

Linseed	3 parts.
Dried Liquorice Root, in No. 20 powder .	1 part.
Boiling Distilled Water	87½ fld. parts.

Infuse two hours.

INFUSUM LUPULI.

Hop	1 part.
Boiling Distilled Water	20 fld. parts.

Infuse one hour.

INFUSUM MATICÆ.

Matico Leaves	1 part.
Boiling Distilled Water	20 fld. parts.

Infuse thirty minutes.

INFUSUM QUASSIÆ.

Quassia Wood, in chips	1 part.
Cold Distilled Water	80 fld. parts.

Macerate for thirty minutes.

INFUSUM RHEI.

Rhubarb Root, in thin slices . . .	1 part.
Boiling Distilled Water	40 fld. parts.

Infuse thirty minutes.

INFUSUM ROSÆ ACIDUM.

Dried Red Rose Petals	2 parts.
Diluted Sulphuric Acid	1 fld. part.
Boiling Distilled Water	80 fld. parts.

Add the acid to the water, and infuse thirty minutes.

INFUSUM SENEGÆ.

Senega Root, in No. 20 powder	1 fld. part.
Boiling Distilled Water	20 fld. parts.

Infuse thirty minutes.

INFUSUM SENNÆ.

Senna	2 parts.
Ginger, sliced	⅛ part.
Boiling Distilled Water	20 fld. parts.

Infuse thirty minutes.

INFUSUM SERPENTARIÆ.

Serpentary Root, in No. 20 powder	1 part.
Boiling Distilled Water	40 fld. parts.

Infuse thirty minutes.

INFUSUM UVÆ URSI.

Bearberry Leaves, bruised	1 part.
Boiling Distilled Water	20 fld. parts.

Infuse one hour.

INFUSUM VALERIANÆ.

Valerian Rhizome, bruised	1 part.
Boiling Distilled Water	40 fld. parts.

INJECTIO APOMORPHINÆ HYPODERMICA.

Hydrochlorate of Apomorphine	2 grains.
Camphor Water	100 minims.

Dissolve and filter.

INJECTIO ERGOTINI HYPODERMICA.

Ergotin	1 part.
Camphor Water	2 fld. parts.

Dissolve by stirring them together.

INJECTIO MORPHINÆ HYPODERMICA.

Hydrochlorate of Morphine	92 grains.
Solution of Ammonia, Acetic Acid, Distilled Water — of each	q.s.

Dissolve the morphine in two ounces of water with gentle heat, precipitate with ammonia, collect precipitate in a filter, wash, and add one ounce of water, heat gently, and carefully add acetic acid until the morphine is dissolved. Make up to two ounces.

Contains one grain of the acetate in ten minims.

LINIMENTUM ACONITI.

Aconite Root, in No. 40 powder	20 ounces.
Camphor	1 ounce.
Rectified Spirit	q.s. to 30 fld. ounces.

Macerate the root, then percolate, and allow to drop into a receiver containing the camphor.

LINIMENTUM AMMONIÆ.

Solution of Ammonia	1 fld. part.
Olive Oil	3 fld. parts.

Mix with agitation.

LINIMENTUM BELLADONNÆ.

Belladonna Root, in No. 40 powder	20 ounces.
Camphor	1 ounce.
Rectified Spirit	q.s. to 30 fld. ounces.

Macerate the root, then percolate, and allow to drop into a receiver containing the camphor.

LINIMENTUM CALCIS.

Solution of Lime	1 part.
Olive Oil	1 part.

Mix with agitation.

LINIMENTUM CAMPHORÆ.

Camphor	1 part.
Olive Oil	4 fld. parts.

LINIMENTUM CAMPHORÆ COMPOSITUM.

Camphor	20 parts.

Oil of Lavender	1 fld. part.
Strong Solution of Ammonia	40 fld. parts.
Rectified Spirit	120 fld. parts.

Dissolve the camphor and oil in the spirit, and add the ammonia gradually.

LINIMENTUM CHLOROFORMI.

Chloroform	1 fld. part.
Liniment of Camphor	1 fld. part.

Mix.

LINIMENTUM CROTONIS.

Croton Oil	2 fld. parts.
Oil of Cajuput	7 fld. parts.
Rectified Spirit	7 fld. parts.

Mix.

LINIMENTUM HYDRARGYRI.

Ointment of Mercury	1 part.
Solution of Ammonia	1 fld. part.
Liniment of Camphor	1 fld. part.

Mix the ammonia with half the camphor liniment, and rub the ointment with the other half. Mix.

LINIMENTUM IODI.

Iodine	5 parts.
Iodide of Potassium	2 parts.
Glycerine	1 part.
Rectified Spirit	40 fld. parts.

Dissolve.

LINIMENTUM OPII.

Tincture of Opium	1 fld. part.
Liniment of Soap	1 fld. part.

Mix.

LINIMENTUM POTASSII IODIDI CUM SAPONE.

Curd Soap, cut small	16 parts.
Iodide of Potassium	12 parts.
Glycerine	8 fld. parts.

Oil of Lemon	1 fld. part.
Distilled Water	80 fld. parts.

Dissolve the soap in the glycerine and water over a water-bath. Place the iodide of potassium in a mortar, powder it, and add the liquid. Triturate till cold, and add the oil of lemon.

LINIMENTUM SAPONIS.

Hard Soap, in fine shavings	16 parts.
Camphor	8 parts.
Oil of Rosemary	3 fld. parts.
Rectified Spirit	128 fld. parts.
Distilled Water	32 fld. parts.

Macerate seven days.

LINIMENTUM SINAPIS COMPOSITUM.

Oil of Mustard	1 fld. drachm.
Ethereal Extract of Mezereon	40 grains.
Camphor	120 grains.
Castor Oil	5 fld. drachms.
Rectified Spirit	4 fld. ounces.

Dissolve the extract and camphor in the spirit, and add the oils.

LINIMENTUM TEREBINTHINÆ.

Soft Soap	2 parts.
Distilled Water	2 fld. parts.
Camphor	1 part.
Oil of Turpentine	16 fld. parts.

Mix the soap with water, dissolve the camphor in the turpentine, and rub the whole together.

LINIMENTUM TEREBINTHINÆ ACETICUM.

Oil of Turpentine	4 fld. parts.
Glacial Acetic Acid	1 part.
Liniment of Camphor	4 fld. parts.

Mix.

LIQUOR ACIDI CHROMICI.

Chromic Acid	1 part.
Distilled Water	3 fld. parts.

LIQUOR AMMONIÆ.

Strong Solution of Ammonia . . .	1 fld. part.
Distilled Water	2 fld. parts.

S.G. ·0959.

LIQUOR AMMONIÆ FORTIOR.

Ammoniacal gas dissolved in water, 32·5 per cent. solution.

S.G. ·891.

LIQUOR AMMONII ACETATIS.

Strong Solution of Acetate of Ammonia .	1 fld. part.
Distilled Water . . q.s. to produce	5 fld. parts.

S.G. 1·022.

LIQUOR AMMONII ACETATIS FORTIOR.

Carbonate of Ammonia	17½ ounces.
Acetic Acid	50 fld. ounces or q.s.
Distilled Water	q.s.

Add the crushed Ammon. Carb. to part of the acid, adding more till neutral, and make up to three pints with water.

S.G. 1·073.

LIQUOR AMMONII CITRATIS.

Strong Solution of Citrate of Ammonia .	1 fld. part.
Distilled Water . . q.s. to produce	4 fld. parts.

S.G. 1·062.

LIQUOR AMMONII CITRATIS FORTIOR.

Citric Acid	12 ounces.
Strong Solution of Ammonia . .	11 fld. ozs. or q.s.
Distilled Water	q.s.

Neutralize the acid with the ammonia, adding sufficient distilled water to yield one pint.

S.G. 1·209.

LIQUOR ANTIMONII CHLORIDI.

Purified Black Antimony . . .	1 pound.
Hydrochloric Acid	4 pints.

Heat the antimony with the acid, filter, and boil down to two pints.

LIQUOR ARSENICALIS.

Arsenious Acid, in powder Carbonate of Potassium } of each .	87 grains.
Compound Tincture of Lavender . .	5 fld. drachms.
Distilled Water	q.s.

Dissolve the arsenious acid and Pot. Carb. in water with heat, adding the Tr. Lavend. when cold. Add water to make one pint.

(1 in 100.)

LIQUOR ARSENICI HYDROCHLORICUS.

Arsenious Acid, in powder . . .	87 grains.
Hydrochloric Acid	2 fld. drachms.
Distilled Water	q.s.

Boil the arsenious acid with the hydrochloric acid and four ounces of water, then add water to make one pint.

(1 in 100.)

LIQUOR ARSENII ET HYDRARGYRI IODIDI.

Iodide of Arsenium Red Iodide of Mercury } of each . .	45 grains.
Distilled Water	q.s.

Triturate with water till dissolved, filter, and add sufficient water to make ten fluid ounces.

(1 in 100.)

LIQUOR ATROPINÆ SULPHATIS.

Sulphate of Atropine	9 grains.
Camphor Water	16½ drachms.

(1 in 100.)

LIQUOR BISMUTHI ET AMMONII CITRATIS.

Citrate of Bismuth		800 grains.
Solution of Ammonia, Distilled Water	of each	q.s.

Rub the bismuth to a paste with water, add the ammonia gradually until it is just dissolved, then make up with water to one pint.

LIQUOR CALCII CHLORIDI.

Chloride of Calcium	1 part.
Distilled Water	5 fld. parts.

LIQUOR CALCIS.

Slaked Lime	2 ounces.
Distilled Water	1 gallon.

LIQUOR CALCIS CHLORINATÆ.

Chlorinated Lime	1 part.
Distilled Water	10 parts.

Mix well with agitation, and filter through calico.

LIQUOR CALCIS SACCHARATUS.

Slaked Lime	1 part.
Refined Sugar, in powder	2 parts.
Distilled Water	1 pint.

Mix the lime and sugar in a mortar, agitate with water in a bottle, and allow to stand.

Contains 7·11 grains CaO to the fld. ounce.

LIQUOR CHLORI.

Chlorine gas dissolved in water. The solution should be freshly prepared.

LIQUOR COCAINÆ HYDROCHLORATIS.

Hydrochlorate of Cocaine	33 grains.
Salicylic Acid	½ grain.
Distilled Water	q.s. to produce 6 fld. drachms.

(1 in 100.)

LIQUOR EPISPASTICUS.

Cantharides, in powder	5 ounces.
Acetic Ether	q.s.

Percolate with the acetic ether until twenty ounces are obtained.

LIQUOR FERRI ACETATIS.

Strong Solution of Acetate of Iron	5 fld. ounces.
Distilled Water, q.s. to produce, after admixture,	20 fld. ounces.

S.G. 1·031.

LIQUOR FERRI ACETATIS FORTIOR.

Solution of Persulphate of Iron	5 fld. ounces.
Solution of Ammonia	q.s.
Glacial Acetic Acid (liq.)	3 fld. ounces.
Distilled Water	q.s. to produce 10 fld. ounces.

LIQUOR FERRI DIALYSATUS.

Strong Solution of Perchloride of Iron	7 fld. ounces.
Solution of Ammonia, Distilled Water, of each	q.s.

S.G. 1·407.

LIQUOR FERRI PERCHLORIDI.

Strong Solution of Perchloride of Iron	5 ounces.
Distilled Water	q.s. to 20 fld. ounces.

S.G. 1·11. (1 in 4.)

LIQUOR FERRI PERCHLORIDI FORTIOR.

Iron Wire	4 ounces.
Hydrochloric Acid	20½ fld. ounces.
Nitric Acid	1½ fld. ounces.
Distilled Water	q.s. to 17½ fld. ounces.

LIQUOR FERRI PERNITRATIS.

Fine Iron Wire	1 ounce.
Nitric Acid	4½ fld. ounces.
Distilled Water	q.s. to 1½ pint.

S.G. 1·107.

LIQUOR FERRI PERSULPHATIS.

Sulphate of Iron		8 ounces.
Sulphuric Acid, Nitric Acid	of each	6 fld. drachms.
Distilled Water		12 fld. ounces.

S.G. 1·441.

LIQUOR GUTTA PERCHA.

Gutta Percha, in thin slices	1 ounce.
Chloroform	8 fld. ounces.
Carbonate of Lead, in fine powder	1 ounce.

LIQUOR HYDRARGYRI NITRATIS ACIDUS.

Mercury	4 ounces.
Nitric Acid	5 fld. ounces.
Distilled Water	1½ fld. ounces.

Mix the acid with the water, and dissolve the mercury in the mixture *without* heat. Boil fifteen minutes, and cool.

LIQUOR HYDRARGYRI PERCHLORIDI.

Perchloride of Mercury, Chloride of Ammonium	of each	10 grains.
Distilled Water		1 pint.

Dissolve.

LIQUOR IODI.

Iodine	22 grains.
Iodide of Potassium	33 grains.
Distilled Water	q.s. to produce 1 fld. ounce.

Dissolve.

LIQUOR LITHIÆ EFFERVESCENS.

Carbonate of Lithium	10 grains.
Water	1 pint.

Mix, and force into it as much pure CO_2 as can be introduced with a pressure of about four atmospheres.

LIQUOR MAGNESII CARBONATIS.

Sulphate of Magnesium	2 ounces.
Carbonate of Sodium	2½ ounces.
Distilled Water	q.s.

Contains ten grains of Mag. carb. in a fluid ounce.

LIQUOR MAGNESII CITRATIS.

Carbonate of Magnesia	100 grains.
Citric Acid	200 grains.
Syrup of Lemons	½ fld. ounce.
Bicarbonate of Potassium, in crystals	40 grains.
Water	q.s.

LIQUOR MORPHINÆ ACETATIS.

Acetate of Morphine	9 grains.
Diluted Acetic Acid	18 minims.
Rectified Spirit	½ fld. ounce.
Distilled Water	1½ fld. ounces.

(1 in 100.)

LIQUOR MORPHINÆ BIMECONATIS.

Hydrochlorate of Morphine	9 grains.
Solution of Ammonia	q.s.
Meconic Acid	6 grains.
Rectified Spirit	½ fld. ounce.
Distilled Water	q.s.

Dissolve the morphine in a little water with gentle heat, precipitate with ammonia, wash, drain, and mix precipitate with sufficient water to produce one and a half ounces, then add the spirit and acid, and dissolve.

(1 in 100.)

LIQUOR MORPHINÆ HYDROCHLORATIS.

Hydrochlorate of Morphine	9 grains.
Diluted Hydrochloric Acid	18 minims.
Rectified Spirit	½ fld. ounce.
Distilled Water	1½ fld. ounces.

LIQUOR MORPHINÆ SULPHATIS.

Sulphate of Morphine	35 grains.
Rectified Spirit	2 fld. ounces.
Distilled Water	q.s. to produce 8 fld. ounces.

LIQUOR PLUMBI SUBACETATIS.

Acetate of Lead	5 ounces.
Oxide of Lead	3½ ounces.
Distilled Water	1 pint or q.s.

Boil together for thirty minutes, filter, and make up to one pint.

LIQUOR PLUMBI SUBACETATIS DILUTUS.

Solution of Subacetate of Lead, Rectified Spirit, of each	1 fld. part.
Distilled Water	79 fld. parts.

LIQUOR POTASSÆ.

Carbonate of Potassium	1 pound.
Slaked Lime, washed	12 ounces.
Distilled Water	1 gallon.

One fluid ounce contains twenty-seven grains of hydrate of potassium.

S.G. 1·058.

LIQUOR POTASSÆ EFFERVESCENS.

Bicarbonate of Potassium	30 grains.
Water	1 pint.

Dissolve, and force into it as much CO_2 as can be introduced with a pressure of about four atmospheres.

LIQUOR POTASSII PERMANGANATIS.

Permanganate of Potassium	1 part.
Distilled Water	99 fld. parts.

LIQUOR SODÆ.

Carbonate of Sodium	28 ounces.
Slaked Lime, washed	12 ounces.

Distilled Water	1 gallon.

Contains 18·8 grains of hydrate of sodium in one fluid ounce.

S.G. 1·047.

LIQUOR SODÆ CHLORINATÆ.

Chlorinated Lime	16 ounces.
Carbonate of Sodium	14 ounces.
Distilled Water	1 gallon.

S.G. 1·054.

LIQUOR SODÆ EFFERVESCENS.

Bicarbonate of Sodium	30 grains.
Water	1 pint.

Dissolve, and force into it as much pure CO_2 as can be introduced with a pressure of about four atmospheres.

LIQUOR SODII ARSENIATIS.

Arseniate of Sodium (rendered anhydrous by a temperature not exceeding 300° F.)	9 grains.
Distilled Water	2 fld. ounces.

(1 in 100.)

LIQUOR SODII ETHYLATIS.

Metallic Sodium, free from oxide . .	22 grains.
Ethylic Alcohol	1 fld. ounce.

LIQUOR STRYCHNINÆ HYDROCHLORATIS.

Strychnine	9 grains.
Diluted Hydrochloric Acid . . .	14 minims.
Rectified Spirit	½ fld. ounce.
Distilled Water	1½ fld. ounces.

LIQUOR TRINITRINI.

Pure Nitro-glycerine . . .	1 part by weight.
Rectified Spirit	100 fld. parts.

Dissolve. S.G. 0·844.

LIQUOR ZINCI CHLORIDI.

Granulated Zinc	1 pound.

Hydrochloric Acid	44 fld. ounces.
Solution of Chlorine	q.s.
Carbonate of Zinc	½ ounce or q.s.
Distilled Water	1 pint.

LOTIO HYDRARGYRI FLAVA.

Perchloride of Mercury	18 grains.
Solution of Lime	10 fld. ounces.

LOTIO HYDRARGYRI NIGRA.

Subchloride of Mercury	30 grains.
Solution of Lime	10 fld. ounces.

MEL BORACIS.

Borax, in fine powder	2 parts.
Glycerine	1 part.
Clarified Honey	16 parts.

MEL DEPURATUM.

Honey	5 pounds.

Melt and strain.

MISTURA AMMONIACI.

Ammoniacum, in coarse powder	¼ ounce.
Distilled Water	8 fld. ounces.

Add the water gradually with trituration, and strain.

MISTURA AMYGDALÆ.

Compound Powder of Almonds	1 part.
Distilled Water	8 fld. parts.

Add the water gradually, triturate, and strain.

MISTURA CREASOTI.

Creasote	15 minims.
Glacial Acetic Acid	15 minims.
Spirit of Juniper	½ fld. drachm.
Syrup	1 fld. ounce.
Distilled Water	15 fld. ounces.

Mix the creasote with the acid, add the water gradually, and finally the syrup and spirit of juniper.

MISTURA CRETÆ.

Prepared Chalk	¼ ounce.
Gum Acacia	¼ ounce.
Syrup	½ fld. ounce.
Cinnamon Water	7½ fld. ounces.

Triturate the chalk and gum with the cinnamon water, and add the syrup.

MISTURA FERRI AROMATICA.

Red Cinchona Bark, in powder	1 ounce.
Calumba Root, in powder	½ ounce.
Cloves, bruised	¼ ounce.
Fine Iron Wire	½ ounce.
Compound Tincture of Cardamoms	3 fld. ounces.
Tincture of Orange Peel	½ fld. ounce.
Peppermint Water . q.s. to measure	12½ fld. ounces.

Macerate the solid ingredients for three days, filter, and finally add the tinctures.

MISTURA FERRI COMPOSITA.

Sulphate of Iron	25 grains.
Carbonate of Potassium	30 grains.
Myrrh, Refined Sugar of each	60 grains.
Spirit of Nutmeg	4 fld. drachms.
Rose Water	9½ fld. ounces.

Powder the myrrh, and add the Pot. carb. and sugar, triturate with a portion of the water, and add the spirit of nutmeg; then the sulphate of iron, dissolved in the remainder of the water.

MISTURA GUAIACI.

Guaiacum Resin, Refined Sugar of each	½ ounce.
Gum Acacia, powdered	¼ ounce.
Cinnamon Water	1 pint.

Triturate.

MISTURA OLEI RICINI.

Castor Oil	6 fld. drachms.
Oil of Lemon	10 minims.
Oil of Cloves	2 minims.
Syrup	1½ fld. drms.
Solution of Potash	1 fld. drachm.
Orange-flower Water	2 fld. ounces.

Mix the oils in a mortar, add one-third of sol. potash and incorporate, then add the syrup and an additional third of the sol. potash, add gradually the orange-flower water and remainder of the sol. potash, and make up with the orange-flower water that is left.

MISTURA SCAMMONII.

Scammony, in powder	6 grains.
Milk	2 fld. ounces.

Triturate.

MISTURA SENNÆ COMPOSITA.

Sulphate of Magnesia	4 ounces.
Liquid Extract of Liquorice	1 fld. ounce.
Tincture of Senna	2½ fld. ounces.
Compound Tincture of Cardamoms	1½ fld. ounces.
Infusion of Senna	15 fld. ounces.

Dissolve the Mag. sulph. in infusion of senna with gentle heat, then add the extract and the tinctures.

MISTURA SPIRITUS VINI GALLICI.

French Brandy, Cinnamon Water — of each	4 fld. ounces.
The Yolks of two Eggs	
Refined Sugar	½ ounce.

Rub the yolks and sugar together, then add the cinnamon water and spirit.

MUCILAGO ACACIÆ.

Gum Acacia, in small pieces	4 ounces.
Distilled Water	6 fld. ounces.

JCILAGO AMYLI.

Starch	120 grains.
Distilled Water	10 fld. ounces

Triturate, then boil for a few minutes.

JCILAGO TRAGACANTHÆ.

Tragacanth, in powder	60 grains.
Distilled Water	10 fld. ounces.
Rectified Spirit	2 fld. drachms.

Mix the tragacanth with the spirit, add the water, and shake vigorously.

EATUM HYDRARGYRI.

Yellow Oxide of Mercury	1 part.
Oleic Acid	9 parts.

To the oleic acid, kept stirred, add gradually the oxide of mercury, and triturate until dissolved.

IEATUM ZINCI.

Oxide of Zinc	1 part.
Oleic Acid	9 parts

EUM PHOSPHORATUM.

Phosphorus in Solution in Oil of Almonds	1 per cent.

YMEL.

Clarified Honey	8 parts.
Acetic Acid	1 fld. part.
Distilled Water	1 fld. part.

Liquify the honey, and mix with the other ingredients.

YMEL SCILLÆ.

Vinegar of Squill	1 pint.
Clarified Honey	2 pounds.

Mix and evaporate. S.G. 1·32.

LULA ALOES BARBADENSIS.

Barbadoes Aloes, in powder	2 ounces.
Hard Soap, in powder	1 ounce.

Oil of Caraway	1 fld. drachm.
Confection of Roses	1 ounce.

PILULA ALOES ET ASAFŒTIDÆ.

Socotrine Aloes, in powder	1 ounce.
Asafœtida	1 ounce.
Hard Soap, in powder	1 ounce.
Confection of Roses	about 1 ounce or q.s.

PILULA ALOES ET FERRI.

Sulphate of Iron	1½ ounces.
Barbadoes Aloes	2 ounces.
Compound Powder of Cinnamon	3 ounces.
Confection of Roses	4 ounces.

PILULA ALOES ET MYRRHÆ.

Socotrine Aloes	2 ounces.
Myrrh	1 ounce.
Saffron, dried	½ ounce.
Treacle	1 ounce.
Glycerine	q.s.

PILULA ALOES SOCOTRINÆ.

Socotrine Aloes	2 ounces.
Hard Soap	1 ounce.
Volatile Oil of Nutmeg	1 fld. drachm.
Confection of Roses	1 ounce.

PILULA ASAFŒTIDÆ COMPOSITA.

Asafœtida, Galbanum, Myrrh, of each	2 ounces.
Treacle, by weight	1 ounce.

Heat all together, by means of a water-bath, to a proper consistence.

PILULA COLOCYNTHIDIS COMPOSITA.

Colocynth Pulp, in powder	4 parts.
Barbadoes Aloes	8 parts.
Resin of Scammony, in powder	8 parts.
Sulphate of Potassium, in powder	1 part.
Oil of Cloves	1 fld. part.
Distilled Water	q.s.

PILULA COLOCYNTHIDIS ET HYOSCYAMI.

Compound Pill of Colocynth . . .	2 parts.
Extract of Henbane	1 part.

PILULA CONII COMPOSITA.

Extract of Hemlock	5 parts.
Ipecacuanha, in powder	1 part.
Treacle	q.s.

PILULA FERRI CARBONATIS.

Saccharated Carbonate of Iron . .	4 parts.
Confection of Roses	1 part.

PILULA FERRI IODIDI.

Fine Iron Wire	40 grains.
Iodine	80 grains.
Refined Sugar	70 grains.
Liquorice Root, in powder . . .	140 grains.
Distilled Water	50 minims.

Agitate the iron with the iodine and water in a strong bottle, until the froth becomes white. Pour it upon the sugar in a mortar, triturate, and add the liquorice.

PILULA GAMBOGIÆ COMPOSITA.

Gamboge	1 ounce.
Barbadoes Aloes	1 ounce.
Compound Powder of Cinnamon . .	1 ounce.
Hard Soap, in powder	2 ounces.
Syrup	q.s.

PILULA HYDRARGYRI.

Mercury, by weight	2 parts.
Confection of Roses	3 parts.
Liquorice Root, in powder . . .	1 part.

PILULA HYDRARGYRI SUBCHLORIDI COMPOSITA.

Subchloride of Mercury	1 part.
Sulphureted Antimony	1 part.
Guaiacum Resin	2 parts.
Castor Oil	1 fld. part or q.s.

PILULA IPECACUANHÆ CUM SCILLA.

Compound Powder of Ipecacuanha	3 parts.
Squill, in powder	1 part.
Ammoniacum, in powder	1 part.
Treacle	1 part.

PILULA PHOSPHORI.

Phosphorus	3 grains.
Balsam of Tolu	120 grains.
Yellow Wax	57 grains.
Curd Soap	90 grains.

Place the phosphorus and tolu in a mortar about half full of hot water, and when they have become sufficiently soft, rub them well together. Add the wax, and allow to cool without contact with the air.

When dispensed, add one grain of curd soap to two grains of the mass, and if necessary a few drops of S.V.R. to soften.

Three grains of the mass, with soap, contains one-thirtieth of a grain of phosphorus.

PILULA PLUMBI CUM OPIO.

Acetate of Lead	6 parts.
Opium	1 part.
Confection of Roses	1 part.

PILULA RHEI COMPOSITA.

Rhubarb Root, in powder	6 parts.
Socotrine Aloes, in powder	4½ parts.
Myrrh, in powder	3 parts.
Hard Soap, in powder	3 parts.
Oil of Peppermint	½ part.
Glycerine	2 parts.
Treacle	6 parts.

PILULA SAPONIS COMPOSITA.

Opium, in powder	1 part.
Hard Soap	4 parts.
Glycerine	q.s.

PILULA SCAMMONII COMPOSITA.

Resin of Scammony	1 part.
Resin of Jalap	1 part.
Curd Soap, in powder	1 part.
Strong Tincture of Ginger	1 fld. part.
Rectified Spirit	2 fld. parts.

Add the spirit and tincture to the soap and resins, and dissolve with heat, then evaporate until the mass is a suitable consistence.

PILULA SCILLÆ COMPOSITA.

Squill, in powder	1¼ parts.
Ginger, in powder	1 part.
Ammoniacum, in powder	1 part.
Hard Soap, in powder	1 part.
Treacle, by weight	2 parts, or q.s.

PULVIS AMYGDALÆ COMPOSITUS.

Sweet Almonds	8 parts.
Refined Sugar, in powder	4 parts.
Gum Acacia	1 part.

Blanch the almonds and rub them to a smooth consistence, then add the other ingredients.

PULVIS ANTIMONIALIS.

Oxide of Antimony	1 part.
Phosphate of Calcium	2 parts.

Mix.

PULVIS CATECHU COMPOSITUS.

Catechu, in powder	4 ounces.
Kino, in powder	2 ounces.
Rhatany Root, in powder	2 ounces.
Cinnamon Bark, in powder	1 ounce.
Nutmeg, in powder	1 ounce.

Mix.

PULVIS CINNAMOMI COMPOSITUS.

Cinnamon Bark, in powder	1 ounce.
Cardamom Seeds, in powder	1 ounce.
Ginger, in powder	1 ounce.

Mix.

PULVIS CRETÆ AROMATICUS.

Cinnamon Bark, in powder	4 ounces.
Nutmeg, in powder	3 ounces.
Saffron, in powder	3 ounces.
Cloves, in powder	1½ ounces.
Cardamom Seeds	1 ounce.
Refined Sugar	25 ounces.
Prepared Chalk	11 ounces.

Mix, and pass through a sieve.

PULVIS CRETÆ AROMATICUS CUM OPIO.

Aromatic Powder of Chalk	39 parts.
Opium, in powder	1 part.

Mix, and pass through a sieve.

PULVIS ELATERINI COMPOSITUS.

Elaterin	1 part.
Sugar of Milk	39 parts.

Mix.

PULVIS GLYCYRRHIZÆ COMPOSITUS.

Senna, in fine powder	2 ounces.
Liquorice Root, in fine powder	2 ounces.
Fennel Fruit, in fine powder	1 ounce.
Sublimed Sulphur	1 ounce.
Refined Sugar, in powder	6 ounces.

Mix, and pass through a sieve.

PULVIS IPECACUANHÆ COMPOSITUS.

Ipecacuanha, in powder	1 part.
Opium, in powder	1 part.
Sulphate of Potassium, in powder	8 parts.

Mix, and pass through a fine sieve.

PULVIS JALAPÆ COMPOSITUS.

Jalap, in powder	5 parts.
Acid Tartrate of Potassium	9 parts.
Ginger, in powder	1 part.

Mix, and pass through a sieve.

PULVIS KINO COMPOSITUS.

Kino, in powder	15 parts.
Opium, in powder	1 part.
Cinnamon Bark, in powder	4 parts.

Mix, and pass through a sieve.

PULVIS OPII COMPOSITUS.

Opium, in powder	3 parts.
Black Pepper, in powder	4 parts.
Ginger, in powder	10 parts.
Caraway Fruit, in powder	12 parts.
Tragacanth, in powder	1 part.

Mix, and rub through a sieve.

PULVIS RHEI COMPOSITUS.

Rhubarb Root, in powder	2 parts.
Light Magnesia	6 parts.
Ginger	1 part.

Mix, and pass through a sieve.

PULVIS SCAMMONII COMPOSITUS.

Scammony Resin, in powder	4 parts.
Jalap, in powder	3 parts.
Ginger, in powder	1 part.

Mix, and pass through a sieve.

PULVIS SODÆ TARTARATÆ EFFERVESCENS.

Tartarated Soda, in dry powder	120 grains.
Bicarbonate of Sodium, in dry powder	40 grains.

Mix, and wrap in blue paper.

Tartaric Acid, in dry powder	38 grains.

Wrap in white paper.

PULVIS TRAGACANTHÆ COMPOSITUS.

Tragacanth, in powder Gum Acacia, in powder Starch, in powder	of each . .	1 part.
Refined Sugar, in powder	. . .	3 parts.

Rub well together.

PYROXYLIN.

Cotton Wool	. . . . .	1 ounce.
Sulphuric Acid Nitric Acid	of each . . .	5 fld. ounces.

SODII CITRO-TARTRAS EFFERVESCENS.

Bicarbonate of Soda, in powder . .	17 parts.
Tartaric Acid, in powder . . .	9 parts.
Citric Acid, in powder	6 parts.
Refined Sugar, in powder . . .	5 parts.

Mix the powders, place in a suitable pan heated to between 200° F. and 220° F., and stir till the powder assumes a granular form.

SODII PHOSPHAS EFFERVESCENS.

Phosphate of Soda, in crystals . .	100 parts.
Bicarbonate of Sodium, in powder . .	100 parts.
Tartaric Acid, in powder . . .	54 parts.
Citric Acid, in powder	36 parts.

The final product should weigh about 50 ounces, or 200 parts.

Dry the phosphate of sodium until it has lost about 60 per cent. of its weight, powder it, and mix with the other ingredients, and proceed as above.

SODII SULPHAS EFFERVESCENS.

Sulphate of Sodium, in crystals . .	100 parts.
Bicarbonate of Sodium, in powder . .	100 parts.
Tartaric Acid, in powder . . .	54 parts.
Citric Acid, in powder	36 parts.

The final product should weigh about 50 ounces, or 200 parts.

Dry the sulphate of sodium until it has lost about 56 per cent. of its weight, powder, and mix with the other ingredients.

SPIRITUS ÆTHERIS.

Ether	10 fld. ounces.
Rectified Spirit	1 pint.

S.G. 0·809.

SPIRITUS ÆTHERIS COMPOSITUS.

Syn.: Hoffman's Anodyne. Gradually mix thirty-six fluid ounces of sulphuric acid with forty fluid ounces of rectified spirit, and let the mixture stand for twenty-four hours. Then distil until the fluid in the retort begins to blacken. Shake the distillate with lime water to neutralize any acid, and remove the supernatant liquor, and expose it to the air for about twelve hours. Pour three drachms of the resulting liquid into a mixture of eight fluid ounces of ether and sixteen fluid ounces of rectified spirit.

SPIRITUS ÆTHERIS NITROSI.

Nitric Acid	3 fld. ounces.
Sulphuric Acid	2 fld. ounces.
Copper, in fine wire	2 ounces.
Rectified Spirit	q.s

It should yield when freshly prepared seven times its volume of nitric oxide gas, and even after the vessel containing it has occasionally been opened, it should yield not much less than five times its volume of the gas.

S.G. 0·840 to 0·845.

SPIRITUS AMMONIÆ AROMATICUS.

Carbonate of Ammonium	4 ounces.
Strong Solution of Ammonia	8 fld. ounces.

Volatile Oil of Nutmeg	4½ fld. drms.
Oil of Lemon	6½ fld. drms.
Rectified Spirit	6 pints.
Water	3 pints.

S.G. 0·886. Prepared by distillation.

SPIRITUS AMMONIÆ FŒTIDUS.

Asafœtida	1½ ounces.
Strong Solution of Ammonia	2 fld. ounces.
Rectified Spirit	q.s.

S.G. 0·847.

SPIRITUS ARMORACIÆ COMPOSITUS.

Horseradish Root, scraped Bitter Orange Peel, cut small, and bruised	of each 20 ozs.
Nutmeg, bruised	½ ounce.
Proof Spirit	1 gallon.
Water	3 pints.

Mix, and distil a gallon.
S.G. about 0·920.

SPIRITUS CAJUPUTI.

Oil of Cajuput	1 fld. ounce.
Rectified Spirit	49 fld. ounces.

Dissolve.

SPIRITUS CAMPHORÆ.

Camphor	1 ounce.
Rectified Spirit	9 fld. ounces.

Dissolve. S.G. 0·850.

SPIRITUS CHLOROFORMI.

Chloroform	1 fld. ounce.
Rectified Spirit	19 fld. ounces.

Dissolve. S.G. 0·871.

SPIRITUS CINNAMOMI.

Oil of Cinnamon	1 fld. ounce.
Rectified Spirit	49 fld. ounces.

?PIRITUS JUNIPERI.

Oil of Juniper	1 fld. ounce.
Rectified Spirit	49 fld. ounces.

?PIRITUS LAVANDULÆ.

Oil of Lavender	1 fld. ounce.
Rectified Spirit	49 fld. ounces.

?PIRITUS MENTHÆ PIPERITÆ.

Oil of Peppermint	1 fld. ounce.
Rectified Spirit	49 fld. ounces.

?PIRITUS MYRISTICÆ.

Volatile Oil of Nutmeg	1 fld. ounce.
Rectified Spirit	49 fld. ounces.

?PIRITUS RECTIFICATUS.

S.G. 0·838.

?PIRITUS ROSMARINI.

Oil of Rosemary	1 fld. ounce.
Rectified Spirit	49 fld. ounces.

?PIRITUS TENUOIR.

Rectified Spirit	5 pints.
Distilled Water	3 pints.

Mix. S.G. 0·920.

It contains, by weight, about 49 per cent., and by volume about 57 per cent., of absolute alcohol.

?PIRITUS VINI GALLICI.

Distilled from French Wine.

JCCUS BELLADONNÆ.

Fresh leaves of Belladonna	7 pounds.
Rectified Spirit	q.s.

Bruise the belladonna in a mortar, press out juice, and to every three measures of juice add one of the spirit. Set aside for seven days and filter.

SUCCUS CONII.

Fresh Leaves and Branches of Hemlock .	7 pounds.
Rectified Spirit	q.s.

SUCCUS HYOSCYAMI.

Fresh Leaves and flowering Tops of Henbane	7 pounds.
Rectified Spirit	q.s.

SUCCUS SCOPARII.

Fresh Broom Tops	7 pounds.
Rectified Spirit	q.s.

SUCCUS TARAXACI.

Fresh Dandelion Root	7 pounds.
Rectified Spirit	q.s.

SUPPOSITORIA ACIDI CARBOLICI CUM SAPONE.

Carbolic Acid	12 grains.
Curd Soap, in powder	180 grains.
Glycerine of Starch	40 grs., or q.s.

Divide into twelve suppositories.

SUPPOSITORIA ACIDI TANNICI.

Tannic Acid	36 grains.
Oil of Theobroma	144 grains.

Divide into twelve suppositories.

SUPPOSITORIA ACIDI TANNICI CUM SAPONE.

Tannic Acid	36 grains.
Glycerine of Starch	30 grains.
Curd Soap, in powder	100 grains.
Starch in powder	q.s.

Divide into twelve suppositories.

SUPPOSITORIA HYDRARGYRI.

Ointment of Mercury	60 grains.
Oil of Theobroma	120 grains.

Divide into twelve suppositories.

SUPPOSITORIA GLYCERINI.

Gelatine, cut small	½ ounce.
Glycerine, by weight	2½ ounces.
Distilled Water	q.s.

Soak the gelatine to soften it, then add the glycerine and dissolve over a water-bath until the mixture weighs 1,560 grains. Make into half-drachm, drachm, or two-drachm suppositories.

SUPPOSITORIA IODOFORMI.

Iodoform, in powder	36 grains.
Oil of Theobroma	144 grains.

Divide into twelve suppositories.

SUPPOSITORIA MORPHINÆ.

Hydrochlorate of Morphine	6 grains.
Oil of Theobroma	174 grains.

Divide into twelve suppositories.

SUPPOSITORIA MORPHINÆ CUM SAPONE.

Hydrochlorate of Morphine	6 grains.
Glycerine of Starch	30 grains.
Curd Soap, in powder	100 grains.
Starch, in powder	q.s.

Divide into twelve suppositories.

SUPPOSITORIA PLUMBI COMPOSITA.

Acetate of Lead	36 grains.
Opium, in powder	12 grains.
Oil of Theobroma	132 grains.

Divide into twelve suppositories.

SYRUPUS.

Refined Sugar	5 pounds.
Distilled Water	2 pints.

Dissolve with the aid of heat. Make up with water to weigh, on cooling, seven and a half pounds.

S.G. 1·330.

SYRUPUS AURANTII.

Tincture of Orange Peel	1 fld. ounce.
Syrup	7 fld. ounces.

Mix. S.G. should be about 1·282.

SYRUPUS AURANTII FLORIS.

Orange-flower Water	8 fld. ounces.
Refined Sugar	3 pounds.
Distilled Water	16 fld. ounces, or q.s.

Product should weigh four and a half pounds.
S.G. about 1·330.

SYRUPUS CHLORAL.

Hydrate of Chloral	80 grains.
Distilled Water	1½ fld. drms.
Simple Syrup	q.s.

Mixed product should measure one fluid ounce.
S.G. about 1·320.

SYRUPUS FERRI IODIDI.

Iron	1 ounce.
Iodine	2 ounces.
Refined Sugar	28 ounces.
Distilled Water	13 fld. ounces.

Product should weigh about two pounds eleven ounces.
S.G. about 1·385.

SYRUPUS FERRI PHOSPHATIS.

Granulated Sulphate of Iron	224 grains.
Phosphate of Sodium	200 grains.
Bicarbonate of Sodium	56 grains.
Concentrated Phosphoric Acid	1¼ fld. ounces.
Refined Sugar	8 ounces.
Distilled Water	8 fld. ounces.

The product should measure exactly twelve fluid ounces. Contains equivalent

of about one grain anhydrous phosphate of iron in one fluid drachm.
S.G. about 1·305.

SYRUPUS FERRI SUBCHLORIDI.

Iron Wire	300 grains.
Hydrochloric Acid	2 fld. ounces.
Citric Acid	10 grains.
Distilled Water	10 fld. drms.
Syrup	q.s.

Mix the hydrochloric acid with one ounce of the water in a flask, add the iron wire, and apply gentle heat. Remove the flask and add the citric acid, filter it into ten fluid ounces of the syrup, then pass the remainder of water through the small filter into the syrup. To the product add sufficient syrup to form one pint of the mixed fluid.
S.G. about 1·340.

SYRUPUS HEMIDESMI.

Hemidesmus Root, bruised	4 ounces.
Refined Sugar	28 ounces.
Boiling Distilled Water	1 pint.

Product should weigh two pounds ten ounces.
S.G. about 1·335.

SYRUPUS LIMONIS.

Fresh Lemon Peel	2 ounces.
Lemon Juice, strained	1 pint.
Refined Sugar	2¼ pounds.

Product should weigh three and a half pounds.
S.G. about 1·340.

SYRUPUS MORI.

Mulberry Juice	1 pint.
Refined Sugar	2¼ pounds.
Rectified Spirit	2½ fld. ounces.

Product should weigh three pounds six ounces.
S.G. about 1·330.

SYRUPUS PAPAVERIS.

Poppy Capsules, freed from the seeds, and reduced to No. 20 powder . . .	36 ounces.
Rectified Spirit	16 fld. ounces.
Refined Sugar	4 pounds.
Boiling Distilled Water	q.s.

Product should weigh six and a half pounds.
S.G. about 1·330.

SYRUPUS RHEI.

Rhubarb Root, in No. 20 powder Coriander Fruit, in No. 20 powder } of each	2 ounces.
Refined Sugar	24 ounces.
Rectified Spirit	8 fld. ounces.
Distilled Water	24 fld. ounces.

The product should weigh two and a half pounds.
S.G. about 1·310.

SYRUPUS RHŒADOS.

Fresh Red Poppy Petals	13 ounces.
Refined Sugar	2¼ pounds.
Distilled Water	1 pint, or q.s.
Rectified Spirit	2½ fld. ounces.

The product should weigh three pounds ten ounces.
S.G. about 1·330.

SYRUPUS ROSÆ GALLICÆ.

Dried Red Rose Petals	2 ounces.
Refined Sugar	30 ounces.
Boiling Distilled Water	1 pint.

The product should weigh two pounds fourteen ounces.
S.G. about 1·335.

SYRUPUS SCILLÆ.

Vinegar of Squill	1 pint.
Refined Sugar	2½ pounds.

Dissolve with the aid of heat.
S.G. about 1·345.

SYRUPUS SENNÆ.

Senna, broken small	16 ounces.
Oil of Coriander	3 minims.
Refined Sugar	24 ounces.
Distilled Water	5 pints, or q.s.
Rectified Spirit	3 fld. ounces.

The product should weigh two pounds ten ounces.
S.G. about 1·310.

SYRUPUS TOLU.

Balsam of Tolu	1¼ ounces.
Refined Sugar	2 pounds.
Distilled Water	1 pint, or q.s.

The product should weigh three pounds.
S.G. about 1·330.

SYRUPUS ZINGIBERIS.

Strong Tincture of Ginger	6 fld. drms.
Syrup	19 fld. ounces.

Mix, with agitation.

TINCTURA ACONITI.

Aconite Root, from plants cultivated in Britain, in No. 40 powder	2½ ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, then percolate, mix, and make up to one pint.

TINCTURA ALOES.

Socotrine Aloes, coarse powder	½ ounce.
Extract of Liquorice	1½ ounces.
Proof Spirit	q.s.

Macerate seven days, filter, and make up to one pint.

TINCTURA ARNICÆ.

Arnica Rhizome, in No. 40 powder . .	1 ounce.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, mix, and make up to one pint.

TINCTURA ASAFŒTIDÆ.

Asafœtida, in small fragments . .	2½ ounces.
Rectified Spirit	q.s.

Macerate seven days, filter, and make up to one pint.

TINCTURA AURANTII.

Bitter Orange Peel, cut small and bruised	2 ounces.
Proof Spirit	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint.

TINCTURA AURANTII RECENTIS.

Bitter Orange	6 ounces.
Rectified Spirit	q.s.

Macerate for a week, press, filter, and make up to one pint.

TINCTURA BELLADONNÆ.

Belladonna Leaves, in No. 20 powder .	1 ounce
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, filter, mix, and make up to one pint.

TINCTURA BENZOINI COMPOSITA.

Benzoin, in coarse powder . . .	2 ounces.
Prepared Storax	1½ ounces.
Balsam of Tolu	½ ounce.
Socotrine Aloes	160 grains.
Rectified Spirit	1 pint.

Macerate seven days, filter, and make up to one pint.

TINCTURA BUCHU.

Buchu Leaves, in No. 20 powder . .	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, filter, and make up to one pint.

TINCTURA CALUMBÆ.

Calumba Root, cut small . . .	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, filter, and make up to one pint.

TINCTURA CAMPHORÆ COMPOSITA.

Opium, in powder	40 grains.
Benzoic Acid	40 grains.
Camphor	30 grains.
Oil of Anise	½ fld. drachm.
Proof Spirit	1 pint.

Macerate seven days, filter, and make up to one pint. Contains one-quarter of a grain of opium to one fluid drachm.

TINCTURA CANNABIS INDICÆ.

Extract of Indian Hemp . . .	1 ounce.
Rectified Spirit	1 pint.

Dissolve.

TINCTURA CANTHARIDIS.

Cantharides, in coarse powder . .	¼ ounce
Proof Spirit	1 pint.

Macerate seven days, filter, and make up to one pint.

TINCTURA CAPSICI.

Capsicum Fruit, bruised	¾ ounce.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CARDAMOMI COMPOSITA.

Cardamom Seeds, bruised	¼ ounce.
Caraway Fruit, bruised	¼ ounce.
Raisins, freed from seeds	2 ounces.
Cinnamon Bark, bruised	½ ounce.
Cochineal, in powder	55 grains.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CASCARILLÆ.

Cascarilla Bark, in No. 40 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CATECHU.

Catechu, in coarse powder	2½ ounces.
Cinnamon Bark, bruised	1 ounce.
Proof Spirit	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint.

TINCTURA CHIRATÆ.

Chiretta, cut small and bruised	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CHLOROFORMI COMPOSITA.

Chloroform	2 fld. ounces.
Rectified Spirit	8 fld. ounces.
Compound Tincture of Cardamoms	10 fld. ounces

Mix.

TINCTURA CHLOROFORMI ET MORPHINÆ.

		Contains in 10 minims
Chloroform	1 fld. ounce	1¼ min.
Ether	2 fld. drms.	⅓ min.
Rectified Spirit	1 fld. ounce	1¼ min.
Hydrochlorate of Morphine	8 grains	$\frac{1}{48}$ grs.

		Contains in 10 minims
Diluted Hydrocyanic Acid	½ fld. ounce	⅝ min.
Oil of Peppermint	4 minims	$\frac{1}{80}$ min.
Liquid Extract of Liquorice	1 fld. ounce	1¼ min.
Treacle	1 fld. ounce.	
Syrup	q.s.	

Dissolve the morphine and oil in the spirit, and add the chloroform and ether. Then add the liquorice and treacle, with three ounces of syrup, mix, and add the hydrocyanic acid, and make up to eight fluid ounces with syrup.

TINCTURA CIMICIFUGÆ.

Cimicifuga, in No. 40 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CINCHONÆ.

Red Cinchona Bark, in No. 40 powder	4 ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CINCHONÆ COMPOSITA.

Red Cinchona Bark, No. 40 powder	2 ounces.
Bitter Orange Peel, bruised	1 ounce.
Serpentary Root, bruised	½ ounce.
Saffron	55 grains.
Cochineal, in powder	28 grains.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CINNAMOMI.

Cinnamon Bark, in coarse powder	2½ ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA COCCI.

Cochineal, in powder	2½ ounces.
Proof Spirit	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint.

TINCTURA COLCHICI SEMINUM.

Colchicum Seeds, finely comminuted	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CONII.

Hemlock Fruit, finely comminuted.	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CROCI.

Saffron	1 ounce.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA CUBEBÆ.

Cubebs, in powder	2½ ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA DIGITALIS.

Foxglove Leaves, in No. 20 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA ERGOTÆ.

Ergot, finely comminuted	5 ounces
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA FERRI ACETATIS.

Strong Solution of Acetate of Iron . .	5 fld. ounces.
Acetic Acid	1 fld. ounce.
Rectified Spirit	5 fld. ounces.
Distilled Water	9 fld. ounces.

Mix, and add distilled water to make one pint.

TINCTURA FERRI PERCHLORIDI.

Strong Solution of Perchloride of Iron .	5 fld. ounces.
Rectified Spirit	5 fld. ounces.
Distilled Water	10 fld. ounces.

Mix, and add distilled water to make one pint.

TINCTURA GALLÆ.

Galls, in No. 40 powder . . .	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA GELSEMII.

Gelsemium, in No. 40 powder . . .	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA GENTIANÆ COMPOSITA.

Gentian Root, cut small and bruised .	1½ ounces.
Bitter Orange Peel, cut small and bruised	¾ ounce.
Cardamom Seeds, bruised . . .	¼ ounce.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA GUAIACI AMMONIATA.

Guaiacum Resin, in powder . . .	4 ounces.
Aromatic Spirit of Ammonia . . .	q.s.

Macerate seven days, filter, and make up to one pint.

TINCTURA HAMAMELIDIS.

Hamamelis Bark, in No. 20 powder .	2 ounces.
Proof Spirit	q.s.

Macerate twenty-four hours, percolate to make one pint of tincture.

TINCTURA HYDRASTIS.

Hydrastis Rhizome, in No. 60 powder .	2 ounces.
Proof Spirit	q.s.

Macerate twenty-four hours, and percolate until one pint of tincture has been obtained.

TINCTURA HYOSCYAMI.

Henbane Leaves, or Flowering Tops, in No. 20 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA IODI.

Iodine	½ ounce.
Iodide of Potassium	½ ounce.
Rectified Spirit	1 pint.

Dissolve.

TINCTURA JABORANDI.

Jaborandi, in No. 40 powder . . .	5 ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA JALAPÆ.

Jalap, in No. 40 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA KINO.

Kino, in coarse powder	2 ounces.
Glycerine	3 fld. ounces.
Distilled Water	5 fld. ounces.
Rectified Spirit	12 fld. ounces.

Macerate seven days, filter, and make up to one pint.

TINCTURA KRAMERIÆ.

Rhatany Root, in No. 40 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA LARICIS.

Larch Bark, in No. 40 powder	2½ ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA LAVANDULÆ COMPOSITA.

Oil of Lavender	1½ fld. drms.
Oil of Rosemary	10 minims.
Cinnamon Bark, bruised	150 grains.
Nutmeg	150 grains.
Red Sandal-wood	300 grains.
Rectified Spirit	2 pints.

Macerate seven days, strain, press, dissolve the oils, filter, and make up to one pint.

TINCTURA LIMONIS.

Fresh Lemon Peel, cut small	2½ ounces.
Proof Spirit	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint.

TINCTURA LOBELIÆ.

Lobelia, in No. 40 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA LOBELIÆ ÆTHEREA.

Lobelia, in coarse powder	2½ ounces.
Spirit of Ether	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint.

TINCTURA LUPULI.

Hop	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA MYRRHÆ.

Myrrh, in coarse powder	2½ ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA NUCIS VOMICÆ.

Extract of Nux Vomica	133 grains.
Distilled Water	4 fld. ounces.
Rectified Spirit	q.s.

Mix the spirit with the water to form twenty ounces, and dissolve the extract in it. Contains one grain of the alkaloids to one fluid ounce.*

TINCTURA OPII.

Opium, in powder	1½ ounces.
Proof Spirit	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint. Contains thirty-three grains of opium, nearly, in one fluid ounce.

TINCTURA OPII AMMONIATA.

Opium, in powder	100 grains.
Saffron, cut small	180 grains.
Benzoic Acid	180 grains.
Oil of Anise	1 fld. drachm.
Strong Solution of Ammonia	4 fld. ounces.
Rectified Spirit	16 fld. ounces.

Macerate seven days, strain, press, filter, and make up to one pint. Contains 0·62 grain of opium in one fluid drachm, or five grains to the ounce.

TINCTURA PODOPHYLLI.

Resin of Podophyllum	160 grains.
Rectified Spirit	1 pint.

Dissolve and filter.

TINCTURA PYRETHRI.

Pellitory Root, in No. 40 powder	4 ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA QUASSIÆ.

Quassia Wood, in chips	¾ ounce.
Proof Spirit	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint.

TINCTURA QUININÆ.

Hydrochlorate of Quinine	160 grains.
Tincture of Orange Peel	1 pint.

Dissolve. Contains one grain of quinine hydrochlorate in one drachm.

TINCTURA QUININÆ AMMONIATA.

Sulphate of Quinine	160 grains.
Solution of Ammonia	2½ fld. ounces.
Proof Spirit	17½ fld. ounces.

Dissolve.

TINCTURA RHEI.

Rhubarb Root, in No. 20 powder	2 ounces.
Cardamom Seeds, bruised	¼ ounce.
Coriander Fruit, bruised	¼ ounce.
Saffron	¼ ounce.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA SABINÆ.

Savin Tops, dried and coarsely powdered	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA SCILLÆ.

Squill, bruised	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA SENEGÆ.

Senega Root, in No. 40 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA SENNÆ.

Senna, broken small	2½ ounces.
Raisins, freed from seeds	2 ounces.
Caraway Fruit, bruised	½ ounce.
Coriander Fruit, bruised	½ ounce.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA SERPENTARIÆ.

Serpentary Rhizome, in No. 40 powder	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA STRAMONII.

Stramonium Seeds, bruised . . .	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA STROPHANTHI.

Strophanthus, in No. 30 powder, and dried at 110° F.	1 ounce.
Pure Ether Rectified Spirit } of each . . .	q.s.

Pack in a percolator, and moisten with ether. Macerate twenty-four hours, then allow percolation to go on until the fluid passes through colourless. Dry the marc, powder it, pack in percolator, moisten with spirit, and macerate forty-eight hours. Then percolate until half-a-pint of tincture is obtained. Dilute with rectified spirit to one pint.

TINCTURA SUMBUL.

Sumbul Root, in No. 40 powder . .	2½ ounces
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA TOLUTANA.

Balsam of Tolu	2½ ounces.
Rectified Spirit	q.s.

Macerate six hours, then filter, and make up to one pint.

TINCTURA VALERIANÆ.

Valerian Rhizome, in No. 40 powder .	2½ ounces.
Proof Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA VALERIANÆ AMMONIATA.

Valerian Rhizome, in No. 40 powder .	2½ ounces.
Aromatic Spirit of Ammonia . . .	1 pint.

Macerate seven days, strain, press, filter, and make up to one pint.

TINCTURA VERATRI VIRIDIS.

Green Hellebore Rhizome, No. 40 powder	4 ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA ZINGIBERIS.

Ginger, in powder	2½ ounces.
Rectified Spirit	1 pint.

Macerate forty-eight hours, percolate, press, filter, and make up to one pint.

TINCTURA ZINGIBERIS FORTIOR.

Ginger, in fine powder	10 ounces.
Rectified Spirit	q.s.

Percolate until one pint of tincture has been collected.

TROCHISCI ACIDI BENZOICI.

Benzoic Acid	360 grains.
Refined Sugar, in powder . . .	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage Gum Acacia	2 fld. ounces.
Distilled Water	q.s.

Divide into 720 lozenges, containing half a grain of benzoic acid in each.

TROCHISCI ACIDI TANNICI.

Tannic Acid	360 grains.
Tincture of Tolu	½ fld. ounce.
Refined Sugar, in powder . . .	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Acacia	2 fld. ounces.
Distilled Water	1 fld. ounce.

Divide into 720 lozenges, containing half a grain of tannic acid in each.

TROCHISCI BISMUTHI.

Subnitrate of Bismuth	1,440 grains.
Carbonate of Magnesia	4 ounces.
Precipitated Carbonate of Calcium	6 ounces.
Refined Sugar	29 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	2 fld. ounces.
Rose Water	q.s.

Divide into 720 lozenges, containing two grains of subnitrate of bismuth in each.

TROCHISCI CATECHU.

Catechu, in powder	720 grains.
Refined Sugar, in powder	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	2 fld. ounces.
Distilled Water	q.s.

Divide into 720 lozenges, containing one grain of catechu in each.

TROCHISCI FERRI REDACTI.

Reduced Iron	720 grains.
Refined Sugar, in powder	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Acacia	2 fld. ounces.
Distilled Water	1 fld. ounce, or q.s.

Divide into 720 lozenges, containing one grain of reduced iron in each.

TROCHISCI IPECACUANHÆ.

Ipecacuanha, in powder	180 grains.
Refined Sugar, in powder	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	2 fld. ounces.
Distilled Water	1 fld. ounce, or q.s.

Divide into 720 lozenges, containing one quarter of a grain of ipecacuanha in each.

TROCHISCI MORPHINÆ.

Hydrochlorate of Morphine	20 grains.

Tincture of Tolu	½ fld. ounce.
Refined Sugar, in powder	24 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	q.s.
Distilled Water	½ fld. ounce.

Divide into 720 lozenges, containing one thirty-sixth of a grain of morphine hydrochlorate in each.

TROCHISCI MORPHINÆ ET IPECACUANHÆ.

Hydrochlorate of Morphine	20 grains.
Ipecacuanha, in fine powder	60 grains.
Tincture of Tolu	½ fld. ounce.
Refined Sugar, in powder	24 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	q.s.
Distilled Water	½ fld. ounce.

Divide into 720 lozenges, containing one thirty-sixth of a grain of morphine hydrochlorate and one-twelfth of a grain of ipecacuanha in each.

TROCHISCI OPII.

Extract of Opium	72 grains.
Tincture of Tolu	½ fld. ounce.
Refined Sugar, in powder	16 ounces.
Gum Acacia, in powder	2 ounces.
Extract of Liquorice	6 ounces.
Distilled Water	q.s.

Divide into 720 lozenges, containing one-tenth of a grain of extract of opium, or one-fiftieth of a grain of morphine in each.

TROCHISCI POTASSII CHLORATIS.

Chlorate of Potassium, in powder	3,600 grains.
Refined Sugar, in powder	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	2 fld. ounces.
Distilled Water	1 fld. ounce, or q.s.

Divide into 720 lozenges, containing five grains of potassium chlorate in each.

TROCHISCI SANTONINI.

Santonin	720 grains.
Refined Sugar, in powder	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	2 fld. ounces.
Distilled Water	q.s.

Divide into 720 lozenges, containing one grain of santonin in each.

TROCHISCI SODII BICARBONATIS.

Bicarbonate of Sodium, in powder	3,600 grains.
Refined Sugar, in powder	25 ounces.
Gum Acacia, in powder	1 ounce.
Mucilage of Gum Acacia	2 fld. ounces.
Distilled Water	1 fld. ounce.

Divide into 720 lozenges, containing five grains of sodium bicarbonate in each.

TROCHISCI SULPHURIS.

Precipitated Sulphur	3,600 grains.
Acid Tartrate of Potassium	720 grains.
Refined Sugar, in powder	5,760 grains.
Gum Acacia, in powder	720 grains.
Tincture of Orange Peel	720 minims.
Mucilage of Acacia	720 minims

Divide into 720 lozenges, containing five grains of sulphur in each.

UNGUENTUM ACIDI BORICI.

Boric Acid, in fine powder	1 part.
Soft Paraffin	4 parts.
Hard Paraffin	2 parts.

(1—7.)

UNGUENTUM ACIDI CARBOLICI.

Carbolic Acid	1 part.
Soft Paraffin	12 parts.
Hard Paraffin	6 parts.

(1—19.)

UNGUENTUM ACIDI SALICYLICI.

Salicylic Acid	1 part.
Soft Paraffin	18 parts.
Hard Paraffin	9 parts.

(1—28.)

UNGUENTUM ACONITINÆ.

Aconitine	8 grains.
Rectified Spirit	½ fld. drachm.
Benzoated Lard	1 ounce.

UNGUENTUM ANTIMONII TARTARATI.

Tartarated Antimony, in fine powder	1 part.
Simple Ointment	4 parts.

UNGUENTUM ATROPINÆ.

Atropine	8 grains.
Rectified Spirit	½ fld. drachm.
Benzoated Lard	1 ounce.

UNGUENTUM BELLADONNÆ.

Alcoholic Extract of Belladonna	1 part.
Benzoated Lard	9 parts.

UNGUENTUM CALAMINÆ.

Prepared Calamine	1 part.
Benzoated Lard	5 parts.

UNGUENTUM CANTHARIDIS.

Cantharides, Yellow Wax, of each	1 part.
Olive Oil	6 fld. parts.

Infuse the cantharides in the oil for twelve hours, then place the vessel in boiling water for fifteen minutes, strain through muslin, and add the wax, previously melted.

UNGUENTUM CETACEI.

Spermaceti	5 ounces.
White Wax	2 ounces.

Almond Oil	1 pint.
Benzoin, in coarse powder	½ ounce.

UNGUENTUM CHRYSAROBINI.

Chrysarobin	1 part.
Benzoated Lard	24 parts.

(1—25.)

UNGUENTUM CONII.

Juice of Hemlock	2 fld. ounces.
Hydrous Wool Fat	¾ ounce.
Boric Acid, in powder	10 grains.

Evaporate the juice to two drachms, at temperature not exceeding 140° F.; add the acid and wool fat.

UNGUENTUM CREASOTI.

Creasote	1 part.
Simple Ointment	8 parts.

(1—9.)

UNGUENTUM ELEMI.

Elemi	1 part.
Simple Ointment	4 parts.

(1—5.)

UNGUENTUM EUCALYPTI.

Oil of Eucalyptus, by weight	1 part.
Soft Paraffin, Hard Paraffin, of each	2 parts.

(1—5.)

UNGUENTUM GALLÆ.

Galls, in fine powder	80 grains.
Benzoated Lard	1 ounce.

UNGUENTUM GALLÆ CUM OPIO.

Ointment of Galls	1 ounce.
Opium, in powder	32 grains.

UNGUENTUM GLYCERINI PLUMBI SUBACETATIS.

Glycerine of Subacetate of Lead	4½ ounces.
Soft Paraffin	18 ounces.
Hard Paraffin	6 ounces.

UNGUENTUM HAMAMELIDIS.

Liquid Extract of Hamamelis	1 fld. part.
Simple Ointment	9 parts.

UNGUENTUM HYDRARGYRI.

Mercury, Prepared Lard (of each)	1 pound.
Prepared Suet	1 ounce.

UNGUENTUM HYDRARGYRI AMMONIATI.

Ammoniated Mercury	1 part.
Simple Ointment	9 parts.

UNGUENTUM HYDRARGYRI COMPOSITUM.

Ointment of Mercury	6 parts.
Yellow Wax, Olive Oil (of each)	3 parts.
Camphor	1½ parts.

UNGUENTUM HYDRARGYRI IODIDI RUBRI.

Red Iodide of Mercury, in fine powder	16 grains.
Simple Ointment	1 ounce.

UNGUENTUM HYDRARGYRI NITRATIS.

Mercury, by weight	4 ounces.
Nitric Acid	12 fld. ounces.
Prepared Lard	15 ounces.
Olive Oil	32 fld. ounces.

Dissolve the mercury in the acid with a little heat, melt the lard in the oil, and while the mixture is at 212° F., add the solution of mercury, and mix well. If it does not froth up, increase the heat. Stir till cold.

UNGUENTUM HYDRARGYRI NITRATIS DILUTUM.

Nitrate of Mercury Ointment	1 part.
Soft Paraffin	2 parts.

UNGUENTUM HYDRARGYRI OXIDI RUBRI.

Red Oxide of Mercury, in very fine powder	62 grains.
Hard Paraffin	¼ ounce.
Soft Paraffin	¾ ounce.

UNGUENTUM HYDRARGYRI SUBCHLORIDI.

Subchloride of Mercury	80 grains.
Benzoated Lard	1 ounce.

UNGUENTUM IODI.

Iodine	32 grains.
Iodide of Potassium	32 grains.
Glycerine	1 fld. drachm.
Prepared Lard	2 ounces.

UNGUENTUM IODOFORMI.

Iodoform	1 ounce.
Benzoated Lard	9 ounces.

UNGUENTUM PICIS LIQUIDÆ.

Tar	5 ounces.
Yellow Wax	2 ounces.

UNGUENTUM PLUMBI ACETATIS.

Acetate of Lead, in powder . . .	12 grains.
Benzoated Lard	1 ounce.

UNGUENTUM PLUMBI CARBONATIS.

Carbonate of Lead, in powder. . . .	62 grains.
Simple Ointment	1 ounce.

UNGUENTUM PLUMBI IODIDI.

Iodide of Lead, in powder . . .	62 grains.
Simple Ointment	1 ounce.

UNGUENTUM POTASSÆ SULPHURATÆ.

Sulphurated Potash	30 grains.
Hard Paraffin	¼ ounce.
Soft Paraffin	¾ ounce.

UNGUENTUM POTASSII IODIDI.

Iodide of Potassium	64 grains.
Carbonate of Potassium	4 grains.
Water	1 fld. drachm.
Benzoated Lard	1 ounce.

UNGUENTUM RESINÆ.

Resin, in coarse powder	4 parts.
Yellow Wax	2 parts.
Simple Ointment	8 parts.
Almond Oil	1 fld. part.

UNGUENTUM SABINÆ.

Fresh Savin Tops, bruised	8 ounces.
Yellow Wax	3 ounces.
Benzoated Lard	16 ounces.

Melt the lard and wax together, add the savin, and digest for twenty minutes. Express through calico.

UNGUENTUM SIMPLEX.

White Wax	2 ounces.
Benzoated Lard	3 ounces.
Almond Oil	3 fld. ounces.

UNGUENTUM STAPHISAGRIÆ.

Stavesacre Seeds, crushed	1 part.
Benzoated Lard	2 parts.

Macerate the seeds in the melted lard for two hours, and strain. Contains about 10 per cent. of oil of stavesacre.

UNGUENTUM SULPHURIS.

Sublimed Sulphur	1 ounce.
Benzoated Lard	4 ounces.

UNGUENTUM SULPHURIS IODIDI.

Iodide of Sulphur	30 grains.
Hard Paraffin	¼ ounce.
Soft Paraffin	¾ ounce.

UNGUENTUM TEREBINTHINÆ.

Oil of Turpentine	8 fld. parts.
Resin, in powder	1 part.
Yellow Wax	4 parts.
Prepared Lard	4 parts.

UNGUENTUM VERATRINÆ.

Veratrine	8 grains.
Hard Paraffin	¼ ounce.
Soft Paraffin	¾ ounce.
Olive Oil	1 fld. drachm.

UNGUENTUM ZINCI.

Oxide of Zinc	80 grains.
Benzoated Lard	1 ounce.

UNGUENTUM ZINCI OLEATI.

Oleate of Zinc	1 part.
Soft Paraffin	1 part.

POR ACIDI HYDROCYANICI.

Diluted Hydrocyanic Acid	10 to 15 mins.
Water, cold	1 fld. drachm.

POR CHLORI.

Chlorinated Lime	2 ounces.
Water, cold	q.s.

POR CONINÆ.

Juice of Hemlock	½ fld. ounce.
Solution of Potash	1 fld. drachm.
Distilled Water	1 fld. ounce.

POR CREASOTI.

Creasote	12 minims.
Boiling Water	8 fld. ounces.

POR IODI.

Tincture of Iodine	1 fld. drachm.
Water	1 fld. ounce.

VAPOR OLEI PINI SYLVESTRIS.

Fir Wool Oil		40 minims.
Light Carbonate of Magnesia		20 grains.
Water	q.s. to produce	1 fld. ounce.

VINUM ALOES.

Socotrine Aloes		1½ ounce.
Cardamom Seeds, freed from the pericarps and bruised Ginger, in coarse powder	of each	80 grains.
Sherry		2 pints.

Macerate seven days, filter, and make up to two pints.

VINUM ANTIMONIALE.

Tartarated Antimony	40 grains.
Sherry	1 pint.

Dissolve.

VINUM COLCHICI.

Colchicum Corm, sliced, dried, and bruised	4 ounces.
Sherry	1 pint.

VINUM FERRI.

Fine Iron Wire (about No. 35)	1 ounce.
Sherry	1 pint.

Macerate thirty days, then filter.

VINUM FERRI CITRATIS.

Citrate of Iron and Ammonia	160 grains.
Orange Wine	1 pint.

Dissolve, allow to remain three days, and filter.

VINUM IPECACUANHÆ.

Ipecacuanha, in powder	1 ounce.
Acetic Acid	1 ounce.
Distilled Water	q.s.
Sherry	1 pint.

Macerate the ipecacuanha in the acid for

twenty-four hours. Transfer to a percolator, and pass sufficient distilled water through to produce one pint of liquor. Evaporate the product to dryness over a water-bath. Powder the residue, and macerate it in the sherry for forty-eight hours, with occasional agitation, then filter.

INUM OPII.

Extract of Opium, bruised		1 ounce.
Cinnamon Bark, bruised Cloves, bruised	of each	75 grains.
Sherry		1 pint.

Macerate seven days, and filter. Contains nearly twenty-two grains of extract of opium in one fluid ounce.

INUM QUININÆ.

Sulphate of Quinine	20 grains.
Citric Acid	30 grains.
Orange Wine	1 pint.

Dissolve the acid first, and then the quinine, in the wine. Stand three days, and filter.

INUM RHEI.

Rhubarb Root, in coarse powder	1½ ounces.
Canella Alba Bark	60 grains.
Sherry	1 pint.

Macerate seven days, then strain, press, filter, and make up to one pint.

POSOLOGICAL TABLE AND DOSES

OF THE

BRITISH PHARMACOPŒIA.

Acetum	℥i to ℥i.
Acetum Ipecacuanhæ	5 to 40 mins.
,, Scillæ	15 to 40 mins.
Acetanilidum	3 to 10 grains.
Acidum Aceticum Dilutum	℥i to ℥i.
,, Arseniosum	$\frac{1}{60}$ to $\frac{1}{12}$ grain.
,, Boricum	5 to 30 grains.
,, Carbolicum	1 to 3 grains.
,, ,, Liquidum	1 to 4 mins.
,, Citricum	10 to 30 grains.
,, Gallicum	2 to 10 grains.
,, Hydrobromicum Dilutum	15 to 50 mins.
,, Hydrochloricum Dilutum	10 to 30 mins.
,, Hydrocyanicum Dilutum	2 to 8 mins.
,, Lacticum Dilutum	$\frac{1}{2}$ to 2 drachms.
,, Nitricum Dilutum	10 to 30 mins.
,, Nitro-Muriaticum Dilutum	5 to 20 mins.
,, Phosphoricum Concentratum	2 to 5 mins.
,, ,, Dilutum	10 to 30 mins.
,, Salicylicum	5 to 30 grains.
,, Sulphuricum Aromaticum	5 to 30 mins.
,, ,, Dilutum	5 to 30 mins.
,, Sulphurosum	$\frac{1}{2}$ to 1 drachm.
,, Tannicum	2 to 10 grains.
,, Tartaricum	10 to 30 grains.
Æther	20 to 60 mins.

Ether Aceticus	20 to 60 mins.
Aloe Barbadensis	2 to 6 grains.
,, Socotrina	2 to 6 grains.
Aloin	$\frac{1}{2}$ to 2 grains.
Alumen	10 to 20 grains.
Ammoniacum	10 to 20 grains.
Ammonii Benzoas	10 to 20 grains.
,, Bromidum	2 to 20 grains.
,, Carbonas	3 to 10 grains.
,, Chloridum	5 to 20 grains.
,, Phosphas	5 to 20 grains.
Amyl Nitris (by inhalation)	2 to 5 mins.
,, ,, (by mouth)	$\frac{1}{2}$ to 1 min.
Antimonii Oxidum	1 to 4 grains.
Antimonium Sulphuratum	1 to 5 grains.
,, Tartaratum (as a diaphoretic)	$\frac{1}{10}$ to $\frac{1}{8}$ grain.
,, ,, (as an emetic)	1 to 2 grains.
Aqua Camphoræ	1 to 2 ounces.
,, Chloroformi	$\frac{1}{2}$ to 2 ounces.
,, Laurocerasi	$\frac{1}{2}$ to 2 drachms.
Argenti Nitras	$\frac{1}{6}$ to $\frac{1}{3}$ grain.
,, Oxidum	$\frac{1}{2}$ to 2 grains.
Arsenii Iodidum	$\frac{1}{30}$ grain.
Assafœtida	5 to 20 grains.
Balsamum Peruvianum	10 to 15 mins.
,, Tolutanum	10 to 20 mins.
Beberiæ Sulphas	1 to 10 grains.
Bismuthi Carbonas	5 to 20 grains.
,, Citras	2 to 5 grains.
,, et Ammonii Citratis	2 to 5 grains.
,, Oxidum	5 to 15 grains.
,, Subnitras	5 to 20 grains.
Butyl-Chloral Hydras	5 to 15 grains.
Caffeina	1 to 5 grains.
Caffeinæ Citras	2 to 10 grains.
Calcii Carbonas Præcipitata	10 to 60 grains.
,, Chloridum	3 to 10 grains.
,, Hypophosphis	5 to 10 grains.
,, Phosphas	10 to 20 grains.
Calumbæ Radix	5 to 20 grains.
Calx Sulphurata	$\frac{1}{10}$ to 1 grain.
Cambogia	1 to 4 grains.

Camphora	1 to 10 grains.
Carbo Ligni	20 to 60 grains.
Catechu	10 to 30 grains.
Cerevisiæ Fermentum	½ to 1 oz.
Cerii Oxalas	1 to 2 grains.
Chloral Hydras	5 to 30 grains.
Chloroformum	3 to 10 mins.
Chrysarobinum	⅛ to ½ grain.
Cinchonidinæ Sulphas	1 to 10 grains.
Cinchoninæ Sulphas	1 to 10 grains.
Coca	½ to 2 drachms.
Cocainæ Hydrochloras	⅙ to 1 grain.
Codeina	¼ to 2 grains.
Colchici Cormus (pulv.)	2 to 8 grains.
Colocynthidis Pulpa	2 to 8 grains.
Confectio Opii	5 to 20 grains.
,, Piperis	60 to 120 grains.
,, Scammonii	10 to 30 grains.
,, Sennæ	60 to 120 grains.
,, Sulphuris	60 to 120 grains.
,, Terebinthinæ	60 to 120 grains.
Conii Folia (pulv.)	2 to 8 grains.
Copaiba	½ to 1 fld. drm.
Copaibæ Oleum	5 to 20 mins.
Coriandri Fructus	10 to 30 grains.
Cortex Winteri	30 to 60 grains.
Creasotum	1 to 3 mins.
Creta Præparata	10 to 60 grains.
Crocus	20grs. and upwards.
Cubeba (pulv.)	30 to 120 grains.
Cubebæ Oleum	5 to 20 mins.
Cupri Sulphas (as an astringent or tonic)	¼ to 2 grains.
,, ,, (as an emetic)	5 to 10 grains.
Cusparia (pulv.)	10 to 40 grains.
Cusso	¼ to ½ oz.
Decoctum Aloes Compositum	½ to 2 fld. ozs.
,, Sarsæ Compositum	2 to 10 fld. ozs.
,, Scoparii	2 to 4 fld. ozs.
,, Taraxaci	2 to 4 fld. ozs.
,, Ulmi	2 to 4 fld. ozs.
Decocta not enumerated may be given in doses from	1 to 2 fld. ozs.

Digitalinum	$\frac{1}{60}$ to $\frac{1}{30}$ grain.
Digitalis Folia	$\frac{1}{2}$ to $1\frac{1}{2}$ grains.
Elaterium	$\frac{1}{16}$ to $\frac{1}{2}$ grain.
Ergota (the powdered Ergot)	20 to 30 grains.
Essentia Anisi	10 to 20 mins.
Essentia Menthæ Piperitæ	10 to 20 mins.
Extractum Aconiti (from juice)	1 to 2 grains.
,, Aloes Barbadensis	2 to 6 grains.
,, Aloes Socotrinæ	2 to 6 grains.
,, Anthemidis	2 to 10 grains.
,, Belæ Liquidum	1 to 2 fld. drms.
,, Belladonnæ	$\frac{1}{4}$ to 1 grain.
,, Calumbæ	2 to 10 grains.
,, Cannabis Indicæ	$\frac{1}{4}$ to 1 grain.
,, Cinchonæ Flavæ Liquidum	10 to 30 mins.
,, Colchici	$\frac{1}{2}$ to 2 grains.
,, Colchici Aceticum	$\frac{1}{2}$ to 2 grains.
,, Colocynthidis Compositum	3 to 10 grains.
,, Conii	2 to 6 grains.
,, Ergotæ Liquidum	10 to 30 mins.
,, Filicis Liquidum	15 to 30 mins.
,, Gentianæ	2 to 10 grains.
,, Glycyrrhizæ	10 to 30 grains.
,, Glycyrrhizæ Liquidum	60 to 120 mins.
,, Hæmatoxyli	10 to 30 grains.
,, Hyoscyami	5 to 10 grains.
,, Jalapæ	5 to 15 grains.
,, Krameriæ	5 to 20 grains.
,, Lactucæ	5 to 15 grains.
,, Lupuli	5 to 15 grains.
,, Nucis Vomicæ	$\frac{1}{2}$ to 2 grains.
,, Opii	$\frac{1}{2}$ to 2 grains.
,, Opii Liquidum	10 to 40 mins.
,, Papaveris	2 to 5 grains.
,, Pareiræ	10 to 20 grains.
,, Pareiræ Liquidum	$\frac{1}{2}$ to 2 fld. drms.
,, Physostigmatis	$\frac{1}{16}$ to $\frac{1}{4}$ grain.
,, Quassiæ	3 to 5 grains.
,, Rhei	5 to 15 grains.
,, Sarsæ Liquidum	2 to 4 fld. drms.
,, Stramonii	$\frac{1}{4}$ to $\frac{1}{2}$ grain.
,, Euonymi Siccum	1 to 4 grains.

Extractum Hamamelis Liquidum	2 to 5 mins.
,, Hydrastis Liquidum	5 to 30 mins.
,, Taraxaci	5 to 30 grains.
Fel Bovinum	5 to 10 grains.
Ferri Arsenias	$\frac{1}{16}$ to $\frac{1}{2}$ grain.
,, Carbonas Saccharata	5 to 20 grains.
,, et Ammonii Citras	5 to 10 grains.
,, et Quininæ Citras	5 to 10 grains.
,, Iodidum	1 to 5 grains.
,, Oxidum Magneticum	5 to 10 grains.
,, Perchloridum Liquidum	3 to 10 mins.
,, Pernitratis Liquidum	30 to 60 mins.
,, Peroxidum	10 to 60 grains.
,, Peroxidum Humidum	$\frac{1}{4}$ to $\frac{1}{2}$ oz.
,, ,, Hydratum	5 to 30 grains.
,, Phosphas	5 to 10 grains.
,, Sulphas	1 to 5 grains.
,, ,, Exsiccata	$\frac{1}{2}$ to 3 grains.
,, ,, Granulata	1 to 5 grains.
Ferrum Redactum	1 to 5 grains.
,, Tartaratum	5 to 10 grains.
Filix (pulv. rad.)	60 to 120 grains.
Galbanum	10 to 30 grains.
Gentianæ (pulv.)	10 to 30 grains.
Glycerinum	1 to 2 fld. drms.
Guaiaci Resina	10 to 30 grains.
Hydrargyri Iodidum Rubrum	$\frac{1}{16}$ to $\frac{1}{4}$ grain.
,, ,, Viride	1 to 3 grains.
,, Perchloridum	$\frac{1}{16}$ to $\frac{1}{8}$ grain.
,, Subchloridum	$\frac{1}{2}$ to 5 grains.
Hydrargyrum cum Cretâ	3 to 8 grains.
,, Sulphureti (for fumigation)	30 grains and upwards.
Homatropinæ Hydrobromas	$\frac{1}{30}$ to $\frac{1}{20}$ grain.
Infusa. Those not enumerated may be given in doses from	1 to 2 fld. ozs.
Infusum Anthemidis	1 to 4 fld. ozs.
,, Buchu	1 to 4 fld. ozs.
,, Caryophylli	1 to 4 fld. ozs.
,, Cusso	4 to 8 fld. ozs.
, Digitalis	2 to 4 fld. drms.
Inula (pulv.)	30 to 60 grains.

Iodum	½ grain, gradually increased.
Ipecacuanha (pulv.), (as emetic) . .	15 to 30 grains.
,, ,, (as expectorant) .	½ to 2 grains.
Jalapa (powder)	10 to 30 grains.
Jalapæ Resina	2 to 5 grains.
Kamala	30 grains to ¼ oz.
Kino (in powder)	10 to 30 grains.
Krameria (in powder)	20 to 60 grains.
Lactucarium	5 to 30 grains.
Liquor Ammoniæ	10 to 30 mins.
,, ,, Fortior . . .	3 to 10 mins., freely diluted.
,, ,, Acetatis . . .	2 to 6 fld. drms.
,, ,, Citratis . . .	2 to 6 fld. drms.
,, Arsenicalis	2 to 8 mins.
,, Arsenici et Hydrargyri Hydriodatis (Donovan's Solution) .	10 mins. to ½ fld. drm.
,, Arsenici Hydrochloricus . .	2 to 8 mins.
,, Bismuthi et Ammoniæ Citratis .	½ to 1 fld. drm.
,, Calcis	1 to 4 fld. ozs.
,, Calcis Saccharatus . . .	15 to 60 mins.
,, Chlori	10 to 20 mins.
,, Ferri Perchloridi . . .	10 to 30 mins.
,, Ferri Pernitratis . . .	10 to 40 mins.
,, Hydrargyri Perchloridi . .	½ to 2 fld. drms.
,, Lithiæ Effervescens . . .	5 to 10 fld. ozs.
,, Magnesiæ Carbonatis. . .	1 to 2 fld. ozs.
,, ,, Citratis . . .	5 to 10 fld. ozs.
,, Morphinæ Acetatis . . .	10 to 60 mins.
,, Cocainæ Hydrochloratis . .	2 to 10 mins.
,, Morphinæ Sulphas . . .	10 to 60 mins.
,, Morphinæ Hydrochloratis . .	10 to 60 mins.
,, Potassæ	15 to 60 mins.
,, Potassæ Effervescens . . .	5 to 10 fld. ozs.
,, Potassæ Permanganatis . .	2 to 4 fld. drms.
,, Sodæ	10 mins. to 1 fld. drm.
,, Sodæ Arseniatis . . .	5 to 10 mins.
,, Sodæ Chloratæ	10 to 20 mins.
,, Sodæ Effervescens . . .	5 to 10 fld. ozs.
, Strychninæ	5 to 10 mins.

Liquor Trinitrini	½ to 2 mins.
Lithiæ Carbonas	3 to 6 grains.
,, Citras	5 to 10 grains.
Lupulin	5 to 10 grains.
Magnesia	10 to 60 grains.
Magnesiæ Carbonas	10 to 60 grains.
,, ,, Levis	10 to 60 grains.
,, Sulphas	60 grains to ½ oz. or more.
,, Effervescens	¼ to 1 oz.
Manganesii Sulphas (as a purgative)	60 to 120 grains.
Manna	60 grains to 1 oz.
Mastiche (resin, in powder)	20 to 40 grains.
Matico (in powder)	30 to 60 grains.
Misturæ. Those omitted may be given in doses from	1 to 2 fld. ozs.
Mistura Ammoniaci	½ to 1 fld. oz.
,, Gentianæ	½ to 1 fld. oz.
,, Guaiaci	½ to 2 fld. ozs.
,, Scammonii	½ to 2 fld. ozs., for a child.
,, Sennæ Composita	1 to 1½ fld. ozs.
Morphiæ Acetas	⅛ to ½ grain.
,, Hydrochloras	⅛ to ½ grain.
Moschus	5 to 10 grains.
Mucilago Acaciæ	ad libitum.
,, Tragacanthæ	1 fld. oz., and upwards.
Myristica (in powder)	5 to 15 grains.
Myrrh (in powder)	10 to 30 grains.
Nux Vomica (in powder)	1 to 3 grains.
Olea. Those omitted may be given in doses from	1 to 5 mins.
Oleum Amygdalæ	1 fld. drm. to ½ fld. oz.
,, Copaibæ	5 to 20 mins.
,, Crotonis	⅛ to 1 min.
,, Cubebæ	5 to 20 mins.
,, Juniperi	1 to 10 mins.
,, Morrhuæ	1 to 8 fld. drms.
,, Olivæ	1 fld. drm. to 1 fld. oz.

leum Phosphoratum	5 to 10 mins.
,, Ricini	1 to 8 fld. drms.
,, Terebinthinæ (as stimulant and diuretic)	10 to 20 mins.
,, ,, (as an anthelmintic purgative)	2 to 6 fld. drms.
pium (powdered)	½ to 2 grains.
xymel	1 to 2 fld. drms.
,, Scillæ	½ to 1 fld. drm.
araldehydum	½ to 1½ fld. drms.
areira (in powder)	30 to 60 grains.
epsin	2 to 10 grains.
henacetinum	5 to 10 grains.
henazonum	3 to 20 grains.
hosphorus	$\frac{1}{40}$ to $\frac{1}{10}$ grain.
icrotoxinum	$\frac{1}{100}$ to $\frac{1}{30}$ grain.
lulæ. The dose of those omitted is	5 to 10 grains.
lula Ferri	1 to 4 pills.
,, ,, Carbonatis	5 to 20 grains.
,, ,, Iodidi	3 to 8 grains.
,, Hydrargyri	3 to 8 grains.
,, Phosphori	3 to 6 grains.
,, Plumbi cum Opio	3 to 5 grains.
,, Quiniæ	2 to 10 grains.
,, Saponis Composita	3 to 5 grains.
,, Scammonii Composita	5 to 15 grains.
mento	5 to 20 grains.
per Nigrum	5 to 15 grains.
perina	1 to 10 grains.
umbi Acetas	1 to 4 grains.
,, Iodidum	¼ to 1 grain.
odophylli Resina	¼ to 1 grain.
otassii Acetas	10 to 20 grains.
,, Bicarbonas	10 to 40 grains.
,, Bromidum	5 to 30 grains.
,, Carbonas	10 to 30 grains.
,, Chloras	10 to 30 grains.
,, Citras	20 to 60 grains.
,, Iodidum	2 to 10 grains.
,, Nitras	10 to 30 grains.
,, Sulphas (as a purgative)	15 to 60 grains.
,, Sulphurata	3 to 6 grains.

Potassii Tartras	60 grains to ½ oz.
,, ,, Acida	20 to 60 grains.
Pulvis Amygdalæ Compositus	60 to 120 grains.
,, Antimonialis	3 to 10 grains.
,, Aromaticus	10 to 30 grains.
,, Catechu Compositus	20 to 40 grains.
,, Cretæ Aromaticus	10 to 60 grains.
,, ,, cum Opio	10 to 40 grains.
,, Elaterini Compositus	½ to 5 grains.
,, Glycyrrhizæ Compositus	30 to 60 grains.
,, Ipecacuhanæ Compositus	5 to 15 grains.
,, Jalapæ Compositus	20 to 60 grains.
,, Kino Compositus	5 to 20 grains.
,, Opii Compositus	2 to 5 grains.
,, Rhei Compositus	20 to 60 grains.
,, Scammonii Compositus	10 to 20 grains.
,, Tragacanthæ Compositus	20 to 60 grains.
Quassia (pulv.)	10 to 20 grains.
Quiniæ Sulphas	1 to 10 grains.
,, Valerianas	1 to 5 grains.
Rhei Radix	5 to 20 grains.
Rhus Toxicodendron (powdered leaves)	½ to 1 grain.
Ruta (powdered leaves)	20 to 40 grains.
Sabinæ Cacumina	4 to 10 grains.
Sagapenum (the gum resin)	10 to 30 grains.
Santonica (worm seed)	10 to 60 grains.
Santoninum (Santonin—crystallized)	2 to 6 grains.
Sapo Durus, or Sapo Mollis (as antacids)	5 to 20 grains.
Scammoniæ Resina	3 to 8 grains.
Scammonium (gum resin in powder)	5 to 10 grains.
Scilla	1 to 3 grains.
Senega (in powder)	20 to 60 grains.
Senna (powdered leaves)	30 to 120 grains.
Serpentaria (in powder)	10 to 20 grains.
Sinapis (as an emetic)	from a dessert- to a table-spoonful.
Soda Tartarata	¼ to ½ oz.
Sodæ Acetas	20 to 60 grains.
,, Arsenias	$\frac{1}{16}$ to ⅛ grains.
,, Biboras	10 to 60 grains.
,, Bicarbonas	10 to 60 grains.
,, Carbonas	5 to 30 grains.

Sodæ Carbonas Exsiccata	3 to 10 grains.
,, Citro-tartras Effervescens	60 grains to ¼ oz.
,, Hypophosphis	5 to 10 grains.
,, Phosphas	¼ to 1 oz.
,, Sulphas	¼ to 1 oz.
,, Sulphis	20 to 60 grains.
,, Valerianas	1 to 5 grains.
Sodii Nitris	2 to 5 grains.
,, Phosphas Effervescens	¼ to ½ oz.
,, Sulphas Effervescens	¼ to ½ oz.
Spigelia (in powder)	60 to 120 grains.
Spiritus Ætheris	30 to 90 mins.
,, ,, Nitrosi.	30 min. to 2 fld. drm.
,, Ammoniæ Aromaticus	30 min. to 1 fld. drm.
,, ,, Fœtidus	½ to 1 fld. drm.
,, Armoraciæ Compositus	1 to 2 fld. drms.
,, Cajuputi	½ to 1 fld. drm.
,, Camphoræ	10 to 30 mins.
,, Chloroformi (Chloric Ether)	20 to 60 mins.
,, Juniperi	30 mins. to 1½ fld. drms.
,, Lavandulæ	½ to 1 fld. drm.
,, Menthæ Piperitæ	30 to 60 mins.
,, Myristicæ	30 to 60 mins.
,, Rosmarini	10 to 50 mins.
Staphisagriæ	3 to 10 grains.
Stramonium (pulv. fol.)	1 grain.
Strychnina	$\frac{1}{30}$ to $\frac{1}{12}$ grain.
Styrax Præparatus	5 to 20 grains.
Succus Belladonnæ	5 to 15 mins.
,, Conii	30 to 60 mins.
,, Hyoscyami	30 to 60 mins.
,, Scoparii	1 fld. drm. to ½ oz.
,, Taraxaci	1 to 2 fld. drms.
Sulphonal	15 to 40 grains.
Sulphid. Ammon.	3 mins.
Sulphuris Iodidum	½ to 2 grains.
Sulphur Præcipitatum	20 grs. to 1 drm.
,, Sublimatum	20 grs. to 1 drm.
Sumbul (pulv.)	20 to 60 grains.
Syrupi. Where omitted the dose is	1 fld. drm.
Syrupus Chloral	½ to 2 fld. drms.

Syrupus Ferri Iodidi	½ to 1 fld. drm.
,, ,, Subchloridi . . .	½ to 1 fld. drm.
,, Rhei	1 to 4 fld. drms.
,, Scillæ	½ to 1 fld. drm.
,, Sennæ	1 to 4 fld. drms.
,, Violæ	½ to 2 fld. drms.
Tamarindus	½ oz., and upwards.
Tinctura Aconiti	5 to 15 mins.
,, Actææ Racemosæ . . .	30 to 60 mins.
,, Asafœtidæ	30 to 60 mins.
,, Belladonnæ	5 to 20 mins.
,, Benzoini Composita . . .	30 to 60 mins.
,, Camphoræ Composita . .	15 mins. to 1 fld. dr.
,, Cannabis Indicæ . . .	5 to 20 mins.
,, Cantharidis	5 to 20 mins.
,, Capsici	10 to 20 mins.
,, Castorei	30 to 60 mins.
,, Chloroformi Composita . .	20 to 60 mins.
,, Colchici Seminum . . .	10 to 30 mins.
,, Conii	20 to 60 mins.
,, Digitalis	10 to 30 mins.
,, Ergotæ	10 to 60 mins.
,, Ferri Acetatis	5 to 30 mins.
,, ,, Perchloridi . . .	10 to 30 mins.
,, Guaiaci Ammoniata . . .	½ to 1 fld. drm.
,, Hamamelidis	5 to 60 mins.
,, Hellebori (*Lond.* 1851) . .	30 mins. to 1 fld. drm.
,, Hydrastis	20 to 60 mins.
,, Hyoscyami	½ to 1 fld. drm.
,, Iodi	5 to 20 mins.
,, Laricis	15 to 30 mins.
,, Lobeliæ	10 mins. to ½ fld. drm.
,, ,, Ætherea . . .	10 mins. to ½ fld. dr.
,, Myrrhæ	½ to 1 fld. drm.
,, Nucis Vomicæ	10 to 20 mins.
,, Opii	5 to 40 mins.
,, ,, Ammoniata . . .	½ to 1 fld. drm.
,, Rhei (as a stomachic) . .	1 to 2 fld. drms.
,, ,, (as a purgative) . .	4 to 8 fld. drms.
,, Sabinæ	20 mins. to 1 fld. dr.

Tinctura Scillæ	10 to 30 mins.
,, Sennæ	1 fld. drm. to 4 fld. ozs.
,, Stramonii	10 to 30 mins.
,, Strophanthi	2 to 10 mins.
,, Sumbul	10 to 30 mins.
,, Tolutana	20 to 40 mins.
,, Valerianæ Ammoniata . .	½ to 1 fld. drm.
,, Veratri Viridis . . .	5 to 20 mins.
,, Zingiberis	15 mins. to 1 fld. drm.
,, ,, Fortior . . .	5 to 20 mins.
Tormentilla (in powder)	20 to 60 grains.
Tragacantha (powder)	20 grs. & upwards.
Trochisci. The dose of those omitted is from	*one* to *six*.
Trochisci Ipecacuanhæ	*one* to *three*.
Uva Ursæ (powdered leaves) . . .	10 to 30 grains.
Valeriana (in powder)	10 to 30 grains.
Veratrina (the alkaloid)	$\frac{1}{12}$ to $\frac{1}{8}$ grain.
Veratrum Viride (powdered rhizome) .	1 to 3 grains.
Vinum Aloes	1 to 2 fld. drms.
,, Antimoniale (in febrile affections)	5 mins. to 1 fld. drm. (?)
,, ,, (as an emetic) . .	½ to 1 fld. oz.
,, Colchici	10 to 30 mins.
,, Ferri	1 to 4 fld. drms.
,, ,, Citratis	1 to 4 fld. drms.
,, Ipecacuanhæ (as an expectorant) .	5 to 40 mins.
,, ,, (as an emetic) . .	3 to 6 fld. drms.
,, Opii	10 to 40 mins.
,, Quiniæ	½ to 1 fld. oz.
,, Rhei	1 to 2 fld. drms.
Zinci Acetas	1 to 2 grains.
,, ,, (as an emetic) . . .	10 to 20 grains.
,, Carbonas	1 to 5 grains.
,, Chloridum	½ to 2 grains.
,, Oxidum	2 to 10 grains.
,, Sulphas (tonic or astringent) . .	1 to 3 grains.
,, ,, (as an emetic) . .	10 to 30 grains.
,, Valerianas	1 to 3 grains.
Zingiber (pulv.)	10 to 30 grains.

THE UNOFFICIAL FORMULARY

OF THE

BRITISH PHARMACEUTICAL CONFERENCE

CHLORAL CUM CAMPHORÂ.

Chloral with Camphor.

Take of

Camphor	1 ounce.
Hydrate of Chloral . . .	1 ounce.

Rub together in a warm mortar until completely liquified, and filter if necessary.

CHLOROFORMUM ACONITI.

Chloroform of Aconite.

Take of

Aconite Root	20 ounces.
Strong Solution of Ammonia . .	1½ fld. ounces.
Distilled Water	1 pint.
Chloroform	q.s.

Bruise the aconite root, and moisten thoroughly with the solution of ammonia and distilled water previously mixed. Macerate for four hours, dry carefully, and reduce to No. 40 powder. Pack tightly in a percolator provided with a tap and closely-fitting cover. Macerate for twenty-four hours with

wenty fluid ounces of chloroform, percolating slowly until thirty uid ounces are obtained.

CHLOROFORMUM BELLADONNÆ.

Chloroform of Belladonna.

Take of

Belladonna Root, in No. 60 powder	20 ounces.
Strong Solution of Ammonia .	1½ fld. ounces.
Distilled Water	1 pint.
Chloroform	q.s.

Moisten the belladonna thoroughly with the solution of mmonia and distilled water previously mixed. Macerate for our hours, dry carefully, and reduce to No. 60 powder again. ack tightly in a percolator provided with a tap and closely-tting cover. Macerate for twenty-four hours with twenty uid ounces of chloroform ; then pour on successive quantities f chloroform, percolating slowly until thirty fluid ounces are btained.

CHLOROFORMUM CAMPHORATUM.

Camphorated Chloroform.

Take of

Camphor	2 ounces.
Chloroform	1 fld. ounce.

Dissolve.

COLLODIUM BELLADONNÆ.

Collodion of Belladonna.

Syn. : Emplast. Belladonnæ Fluidum.

Take of

Alcoholic Extract of Belladonna .	960 grains or q.s.
Rectified Spirit	q.s.

Dissolve the extract in nine fluid ounces of spirit, then dd—

Pure Ether (S.G. 0·72) . . .	9 fld. ounces.

Mix, set aside for twelve hours, decant, and dissolve in the mixture—

Camphor	130 grains.
Pyroxylin	½ ounce.

Then add—

Rectified Spirit } in equal volumes sufficient to	
Pure Ether } produce one pint.	

COLLODIUM STYPTICUM.

Styptic Collodion.

Take of

Benzoin	44 grains.
Absolute Alcohol	1 fld. ounce.

Dissolve and filter. In the filtrate dissolve—

Tannic Acid	1 ounce.

And add—

Pure Ether (S.G. 0·72)	4 fld. ounces.
Pyroxylin	44 grains.

Mix, set aside for three days, and decant.

ELIXIR CASCARÆ SAGRADÆ.

Elixir of Cascara Sagrada.

Take of

Tincture of Fresh Orange Peel	2 fld. ounces.
Rectified Spirit	1 fld. ounce.
Cinnamon Water	3 fld. ounces.
Syrup	6 fld. ounces.
Liquid Extract of Cascara Sagrada	8 fld. ounces.

Mix.

Dose.—15 minims to 2 fluid drachms.

ELIXIR GUARANÆ.

Elixir of Guarana.

Take of

Guarana, in No. 60 powder	4 ounces.
Light Magnesia	½ ounce.

Oil of Cinnamon	6 minims.
Syrup	2 fld. ounces.
Proof Spirit	q.s.

Mix intimately the powders, and moisten them with three fluid ounces of proof spirit. After twenty-four hours' maceration, mix with eight ounces of coarse sand, and pack in a percolator ; pass through proof spirit until sixteen ounces are obtained, then transfer the mass to a press-bag and apply pressure. To the percolate add the syrup and oil of cinnamon, and make up to one pint by addition of the expressed liquid, previously reduced by evaporation if necessary.

Dose.—½ to 2 fluid drachms.

ELIXIR GLUSIDI.

Elixir of Saccharin.

Take of

Gluside	480 grains.
Bicarbonate of Sodium . . .	240 grains.
Rectified Spirit	2½ fld. ounces.
Distilled Water	q.s.

Rub the gluside and bicarbonate of sodium in a mortar, with half-a-pint of distilled water gradually added. When dissolved, add the spirit, filter, and wash the filter with sufficient distilled water to produce one pint of elixir.

Each fluid drachm contains three grains of gluside.

Dose.—5 to 20 minims.

ELIXIR PHOSPHORI.

Elixir of Phosphorus.

Take of

Compound Tincture of Phosphorus	4 fld. ounces.
Glycerine	16 fld. ounces.

Add the tincture to the glycerine, and shake well. This elixir should be preserved from the light. Each fluid drachm contains one-fiftieth of a grain of phosphorus.

Dose.—15 minims to 1 fluid drachm.

ELIXIR RHEI.

Elixir of Rhubarb.

Take of

Rhubarb Root, in No. 12 powder		5 ounces.
Fennel Fruit, bruised		2 ounces.
Glycerine		3 fld. ounces.
Refined Sugar		4 ounces.
Rectified Spirit, 1 volume Distilled Water, 3 volumes	of each	q.s.

Moisten the rhubarb and fennel with fifteen fluid ounces of the mixed spirit and water, macerate for forty-eight hours, and express. Break up the marc, and add to it sufficient of the same menstruum to furnish, with the previous pressing, fifteen fluid ounces of clear product. Express again after twenty-four hours' maceration. Unite the liquors, allow to stand for two days, and filter into the sugar and glycerine. Dissolve without heat ; then, if necessary, add sufficient of the above menstruum to make the product measure one pint.

Dose.—1 to 3 fluid drachms.

ELIXIR SENNÆ.

Elixir of Senna.

Take of

Alexandrian Senna		1 pound.
Rectified Spirit Distilled Water	of each	q.s.
Refined Sugar, in coarse powder		12 ounces.

Mix four fluid ounces of rectified spirit with twelve fluid ounces of water, and with it moisten evenly the senna. Pack tightly in a closed vessel, and macerate for three days. Express forcibly, and pour the product on the sugar. Break up the marc, and add to it sufficient of the same menstruum to furnish in all sixteen fluid ounces of product. Express again after twenty-four hours' maceration, add the liquor to the previously-obtained product, and the sugar, heat in a closed vessel, by means of a water-bath, to 200° F., and maintain at that temperature for ten minutes. When cold, strain and add, after mixing—

Chloroform	24 minims.
Oil of Coriander	2½ minims.
Tincture of Capsicum	½ fld. drachm.
Rectified Spirit	3 fld. drachms.

Agitate thoroughly, and if necessary add proof spirit to make the product measure twenty-four fluid ounces.

Dose.—1 to 3 fluid drachms.

ELIXIR SIMPLEX.

Simple Elixir.

Take of

Oil of Bitter Orange	30 minims.
Rectified Spirit	6 fld. ounces.

Dissolve and add—

Distilled Cinnamon Water	7 fld. ounces.
Syrup	7 fld. ounces.

Mix. Filter through paper moistened with proof spirit, and well sprinkled with kaolin, returning the first portions of filtrate until it passes through bright.

Dose.—20 to 60 minims.

EMULSIO OLEI MORRHUÆ, II.

Emulsion of Cod Liver Oil.

Take of

Cod Liver Oil	8 fld. ounces.
The Yolks of Two Eggs	
Tragacanth, in powder	16 grains.
Elixir of Saccharin	1 fld. drachm.
Simple Tincture of Benzoin	1 fld. drachm.
Spirit of Chloroform	4 fld. drachms.
Essential Oil of Bitter Almonds	8 minims.
Distilled Water, sufficient to produce	16 fld. ounces.

Measure five fluid ounces of the distilled water, place the tragacanth in powder in a dry mortar, and triturate with a little of the cod liver oil; then add the yolks of eggs, and stir briskly, adding water as the mixture thickens. When of a suitable consistence, add the remainder of the oil and water alter-

nately, with constant stirring, avoiding frothing. Transfer to a pint bottle, add the elixir of saccharin, tincture of benzoin, spirit of chloroform, and oil of almonds, previously mixed; shake well, and add distilled water, if necessary, to make the product measure sixteen fluid ounces.

Dose.—2 to 8 fluid drachms.

EXTRACTUM BELLADONNÆ FOLII ALCOHOLICUM.

Alcoholic Extract of Belladonna Leaf.

Take of

Belladonna Leaf, in No. 60 powder	1 pound.
Rectified Spirit	q.s.

Moisten the powder with twelve fluid ounces of the spirit, pack it tightly in a percolator, and pour on sufficient menstruum to saturate the powder and leave a stratum above it. When the liquid begins to drop, close the lower orifice and macerate for forty-eight hours; then allow percolation to proceed, gradually adding menstruum until the belladonna is exhausted. Distil off most of the spirit, and evaporate the residue over a water-bath to the consistence of an extract.

EXTRACTUM GRINDELIÆ LIQUIDUM.

Liquid Extract of Grindelia.

Take of

Grindelia, in No. 20 powder . .	20 ounces.
Rectified Spirit	q.s.

Moisten the powder with eight fluid ounces of the spirit, pack it tightly in a percolator, and pour on sufficient menstruum to saturate the powder and leave a stratum above it. When the liquid begins to drop, close the lower orifice and macerate for forty-eight hours; then allow percolation to proceed, gradually adding menstruum until the grindelia is exhausted. Reserve the first seventeen fluid ounces of the percolate, distil off the spirit from the remainder, and evaporate the residue to a soft extract; dissolve this in the reserved portion, and add enough menstruum to make the liquid extract measure one pint.

Dose.—20 to 30 minims.

EXTRACTUM HÆMATOXYLI LIQUIDUM.

Liquid Extract of Logwood.

Take of

Unfermented Logwood, in No. 16 powder	20 ounces.
Distilled Water	6 pints.

Boil the logwood with two pints of water in a covered copper or enamelled pan for half-an-hour, and strain. Add two pints of water, boil for another half-hour, and again strain. Repeat the process for a third time, and having mixed the strained liquors, evaporate over a water-bath (or preferably *in vacuo*) until the product measures one pint. Set aside for seven days, and then decant the clean liquor by means of a syphon from any sediment that may have been deposited.

Dose.—½ to 2 fluid drachms.

EXTRACTUM TRITICI LIQUIDUM.

Liquid Extract of Triticum.

Take of

Triticum, in No. 20 powder . .	10 ounces.
Rectified Spirit } of each . .	q.s.
Distilled Water }	

Moisten the powder with four fluid ounces of distilled water, pack in a percolator and pour boiling distilled water upon it until it is exhausted. Evaporate the percolate to fifteen fluid ounces, add to it five fluid ounces of rectified spirit, mix, and set aside for forty-eight hours. Then filter the liquid and add to the filtrate enough of a mixture composed of three fluid parts of distilled water and one of rectified spirit to make the liquid extract measure one pint.

Dose.—1 to 6 fluid drachms.

GLYCERINUM BELLADONNÆ.

Glycerine of Belladonna.

Take of

Extract of Belladonna . . .	1 ounce.
Boiling Distilled Water . .	1 fld. drachm.

Rub down in a warm mortar and add—

Glycerine . .	q.s. to produce 2 fld. ounces.

INJECTIO CURARE HYPODERMICA.

Hypodermic Injection of Curare.

Take of

Curare (the South American Indian Arrow Poison)	5 grains.
Distilled Water	q.s.

Reduce the curare to powder in such a way as to prevent its coming into contact with the naked hand, and add distilled water to form a thin paste. Transfer to a small funnel plugged with absorbent wool, and gradually pour upon it distilled water until one fluid drachm is obtained. If the injection be required in haste, proceed in the following manner—

To the five grains of curare reduced to powder, add one fluid drachm of distilled water, throw on a filter, and when the liquor ceases to drop, pour over the contents of the filter distilled water sufficient to produce one fluid drachm.

Dose.—1 to 6 minims.

LINIMENTUM OPII AMMONIATUM.

Ammoniated Liniment of Opium.

Take of

Soap Liniment	6 fld. ounces.
Compound Camphor Liniment .	6 fld. ounces.
Tincture of Opium . . .	6 fld. ounces.
Belladonna Liniment . . .	1 fld. ounce.
Stronger Solution of Ammonia .	1 fld. ounce.

Mix, allow to stand a week, and filter quickly.

LIQUOR BROMO-CHLORAL COMPOSITUS.

Compound Solution of Bromo-Chloral.

Take of

Hydrate of Chloral . . .	1,600 grains.
Tincture of Indian Hemp . .	400 minims.
Tincture of Fresh Orange Peel .	400 minims.
Juice of Henbane	1,600 minims.
Syrup	3¾ fld. ounces.
Liquid Extract of Liquorice . .	½ fld. ounce.

Dissolve.

Take of

Bromide of Potassium . . .	1,600 grains.
Distilled Water	q.s.

Dissolve the bromide of potassium in seven fluid ounces of distilled water, and add to the former solution ; filter, and wash the filter with sufficient distilled water to produce one pint.

This preparation should be shaken whenever any of it is to be dispensed.

LIQUOR FERRI HYPOPHOSPHITIS FORTIS.

Strong Solution of Hypophosphite of Iron.

Take of

Sulphate of Iron	760 grains.
Hypophosphite of Barium . .	830 grains.
(Containing not less than 95 per cent. of Ba2 $(PH_2O_2)H_2O$.)	
Diluted Sulphuric Acid . . .	100 minims.
Distilled Water	1 pint.

Put the sulphate of iron with five fluid ounces of distilled water in a tall twenty-four ounce bottle, and shake till dissolved. Dissolve the hypophosphite of barium in the remaining fifteen fluid ounces of distilled water, and add slowly to the former solution. Shake and add the diluted sulphuric acid ; again shake and set aside for two days, then syphon off the clear liquid. Keep it in bottles quite full and in a dark place.

Each fluid drachm contains about five grains of hypophosphite of iron. The solution has an acid reaction, and it should not give more than a faint precipitate, if any, with either diluted sulphuric acid, or solution of chloride of barium.

Dose.—10 to 30 minims.

LIQUOR HYPOPHOSPHITUM COMPOSITUS.

Compound Solution of Hypophosphites.

Syn. : Liquor Ferri Hypophosphitis Compositus.

Take of

Hypophosphite of Calcium . .	320 grains.
Hypophosphite of Sodium . .	320 grains.

Hypophosphite of Magnesium .	160 grains.
Strong Solution of Hypophosphite of Iron	6 fld. ounces.
Hypophosphorous Acid, 30 per cent.	½ fld. ounce.
Distilled Water	q.s.

Dissolve the hypophosphites of calcium, sodium, and magnesium in twelve fluid ounces of distilled water; add the solution of hypophosphite of iron and the hypophosphorous acid. Filter, and make up to one pint by the addition of distilled water.

Each fluid drachm contains about two grains each of hypophosphite of sodium and calcium, one grain of hypophosphite of magnesium, and one and a half grains of hypophosphite of iron.

Dose.—½ to 2 fluid drachms.

LIQUOR PICIS CARBONIS.

Solution of Coal Tar.

Take of

Quillaia Bark, in No. 20 powder .	2 ounces.
Rectified Spirit	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours in a closed vessel. Then pack in a percolator, and gradually pour rectified spirit upon it until one pint of percolate is obtained. To this add

Prepared Coal Tar . . .	4 ounces.

Digest at a temperature of 120° F. for two days, allow to become cold, and decant or filter.

PIX CARBONIS LIQUIDA PRÆPARATA.

Prepared Coal Tar.

Place commercial coal tar in a shallow vessel, and heat at a temperature of 120° F. for one hour, stirring frequently.

SYRUPUS ACIDI HYDRIODICI.

Syrup of Hydriodic Acid.

Take of

Iodide of Potassium	152 grains.
Hypophosphite of Potassium	12 grains.
Tartaric Acid	140 grains.
Water	200 minims.
Proof Spirit, Syrup, of each	q.s.

Dissolve the potassium salts in the water and the acid in five drachms of proof spirit. Mix the solutions, shake well, and place in ice water for thirty minutes, shaking occasionally. Filter and wash with proof spirit until filtrate ceases to produce more than a faint cloudiness when dropped into a solution of nitrate of silver. Evaporate in a tared capsule over a water-bath to 600 grains, and mix it, when cold, with syrup sufficient to produce one pint.

Contains about one per cent. by weight of hydriodic acid.

Dose.—20 to 60 minims, well diluted.

SYRUPUS APOMORPHINÆ HYDROCHLORATIS.

Syrup of Hydrochlorate of Apomorphine.

Take of

Hydrochlorate of Apomorphine	5 grains.
Dilute Hydrochloric Acid	2 fld. drachms.
Rectified Spirit	7 fld. drachms.
Distilled Water	7 fld. drachms.
Syrup	18 fld. ounces.

Mix the rectified spirit and distilled water, dissolve the hydrochlorate of apomorphine in the mixture by agitation ; add the hydrochloric acid, and mix with the syrup.

Dose.—½ to 1 fluid drachm.

SYRUPUS BUTYL-CHLORAL.

Syrup of Butyl-Chloral.

Take of

Hydrate of Butyl-Chloral	320 grains.
Syrup	q.s. to produce 1 pint.

Dissolve the hydrate of butyl-chloral in the syrup previously made hot.

Dose.—1 to 4 fluid drachms.

SYRUPUS CALCII HYPOPHOSPHITIS.

Syrup of Hypophosphite of Calcium.

Take of

Hypophosphite of Calcium . .	160 grains.
Distilled Water	9 fld. ounces.

Dissolve and filter. To the filtered solution add

Refined Sugar, in coarse powder .	1 pound.

Dissolve with the aid of a little heat, strain, and add after cooling

Hypophosphorous Acid . .	20 minims.
Distilled Water .	q.s. to produce 1 pint.

Mix. Each fluid drachm contains one grain of hypophosphite of calcium.

Dose.—1 to 4 fluid drachms.

SYRUPUS CASCARÆ SAGRADÆ.

Syrup of Cascara Sagrada.

Take of

Liquid Extract of Cascara Sagrada	4 fld. ounces.
Liquid Extract of Liquorice . .	3 fld. ounces.
Carminative Tincture . . .	2 fld. drachms.
Syrup . . .	q.s. to produce 1 pint.

Mix.

Dose.—1 to 4 fluid drachms.

SYRUPUS CODEINÆ.

Syrup of Codeine.

Take of

Codeine, in powder . . .	20 grains.
Proof Spirit	1¼ fld. ounces.
Distilled Water	1¼ fld. ounces.

Dissolve, and add

Syrup . .	q.s. to produce 1 pint.

Dose.—½ to 2 fluid drachms.

SYRUPUS FERRI BROMIDI.

Syrup of Bromide of Iron.

Take of

Iron Wire, free from oxide . .	½ ounce.
Bromine	533 grains.
Refined Sugar	14 ounces.
Distilled Water	q.s.

Dissolve the sugar in six ounces of distilled water, by the heat of a water-bath. Put the iron wire with four ounces of distilled water into a glass flask, having a capacity of at least one pint, and surround it with cold water. Then add the bromine in successive quantities; shake occasionally until the froth becomes white, and the reaction is complete. Filter the solution into the warm syrup, and add, if necessary, distilled water sufficient to produce one pint.

Each fluid drachm contains about four and a half grains of bromide of iron.

Dose.—½ to 1 fluid drachm.

SYRUPUS FERRI HYPOPHOSPHITIS.

Syrup of Hypophosphite of Iron.

Take of

Strong Solution of Hypophosphite of Iron	4 fld. ounces.
Syrup	16 fld. ounces.

Mix. Each fluid drach contains about one grain of hypophosphite of iron.

Dose.—½ to 2 fluid drachms.

SYRUPUS FERRI ET QUININÆ HYDROBROMATUM.

Syrup of the Hydrobromates of Iron and Quinine.

Syn.: Syrupus Ferri Bromidi cum Quinina.

Take of

Acid Hydrobromate of Quinine .	160 grains.
Diluted Hydrobromic Acid . .	1 fld. ounce.
Distilled Water	1 fld. ounce.

Mix the diluted hydrobromic acid with the distilled water, and in the mixture dissolve the acid hydrobromate of quinine.

Then add

Syrup of Bromide of Iron, q.s. to produce	1 pint.

Each fluid drachm contains one grain of acid hydrobromate of quinine, and about four grains of bromide of iron.

Dose.—½ to 1 fluid drachm.

SYRUPUS FERRI PHOSPHATIS COMPOSITUS.

Compound Syrup of Phosphate of Iron.

Take of

Iron Wire, free of rust . . .	37½ grains.
Concentrated Phosphoric Acid (S.G. 1·5.)	1 fld. ounce.
Distilled Water	5 fld. drachms.

Put these into a glass flask, so that the liquid completely covers the iron wire, plug the neck with cotton wool, and heat gently till dissolved. Add this solution to the following when the latter has cooled—

Precipitated Carbonate of Calcium .	120 grains.
Concentrated Phosphoric Acid .	4 fld. drachms.
Distilled Water	2 fld. ounces.

Mix and add

Bicarbonate of Potassium . .	9 grains.
Phosphate of Sodium . . .	9 grains.

Filter and set aside. Then take of

Cochineal	30 grains.
Distilled Water	7½ fld. ounces.

Boil for fifteen minutes and filter, pouring over the filter a sufficient quantity of distilled water to produce seven fluid ounces of filtrate.

To this add

Refined Sugar	14 ounces.

Heat till dissolved, and strain. When cold, add the former filtrate set aside, and a sufficient quantity of distilled water to make the whole measure one pint. Thus made, the syrup will contain in each fluid drachm about half a grain of phosphate of iron, and four-fifths of a grain of phosphate of calcium, with

small quantities of the phosphates of potassium and sodium. It should be kept in bottles quite full.

Dose.—½ to 2 fluid drachms.

SYRUPUS FERRI QUININÆ ET STRYCHNINÆ HYDROBROMATUM.

Syrup of the Hydrobromates of Iron, Quinine, and Strychnine.

SYN.: SYRUPUS FERRI BROMIDI CUM QUININA ET STRYCHNINA.

Take of

Strychnine, in powder . . .	2½ grains.
Acid Hydrobromate of Quinine .	160 grains.
Diluted Hydrobromic Acid . .	1 fld. ounce.
Distilled Water	1 fld. ounce.

Mix the diluted hydrobromic acid with the distilled water, and in the mixture dissolve the strychnine and acid hydrobromate of quinine, by the aid of a gentle heat. Then add

Syrup of Bromide of Iron, q.s. to produce	1 pint.

Each fluid drachm contains one sixty-fourth of a grain of strychnine, one grain of acid hydrobromate of quinine, and about four grains of bromide of iron.

Dose.—½ to 1 fluid drachm.

SYRUPUS FERRI QUININÆ ET STRYCHNINÆ PHOSPHATUM.

Syrup of the Phosphates of Iron, Quinine, and Strychnine.

Take of

Iron Wire, free from oxide . .	75 grains.
Concentrated Phosphoric Acid (S.G. 1·5)	10 fld. drachms.
Strychnine, in powder . . .	5 grains.
Phosphate of Quinine . . .	120 grains.
Simple Syrup	14 fld. ounces.
Distilled Water	q.s.

Place the iron wire and the phosphoric acid, previously

diluted with an equal volume of distilled water, in a small flask, plug the neck with cotton wool, and heat gently until the wire is dissolved. Then add the strychnine and phosphate of quinine, and when these are dissolved filter into the syrup and finally add a sufficient quantity of distilled water to make the product measure one pint.

Each fluid drachm will contain one grain of phosphate of iron, three-quarters of a grain of phosphate of quinine, and one thirty-second of a grain of strychnine.

Dose.—½ to 1 fluid drachm.

SYRUPUS HYPOPHOSPHITUM COMPOSITUS.

Compound Syrup of Hypophosphites.

Take of

Quinine (alkaloid) . . .	20 grains.
Strychnine	1 grain.
Hypophosphorous Acid, 30 per cent.	2 fld. drachms.
Strong solution of hypophosphite of iron	3 fld. ounces.

Dissolve, and add

Hypophosphite of calcium . .	80 grains.
Hypophosphite of manganese. .	40 grains.
Hypophosphite of potassium . .	40 grains.

Dissolve, filter, and add

Syrup sufficient to produce . .	1 pint.

Mix. Each fluid drachm contains one-hundredth of a grain of strychnine, and one-eighth of a grain of quinine.

Dose.—½ to 2 fluid drachms.

SYRUPUS IPECACUANHÆ ACETICUS.

Acetic Syrup of Ipecacuanha.

Take of

Vinegar of Ipecacuanha . .	1 pint.
Refined Sugar	2¼ pounds.

Dissolve by the aid of a gentle heat. S.G. about 1·33.

Dose.—½ to 2 fluid drachms.

SYRUPUS PRUNI VIRGINIANÆ.

Syrup of Wild Cherry.

Take of

Wild Cherry Bark, in No. 20 powder	3 ounces.
Refined Sugar, in coarse powder	15 ounces.
Glycerine	1¼ fld. ounces.
Distilled Water	q.s.

Moisten the powder with distilled water and macerate for twenty-four hours in a close vessel, then pack it in a percolator and gradually pour distilled water upon it until nine fluid ounces of percolate are obtained. Dissolve the sugar in the liquid by agitation, without heat, add the glycerine, strain, and, if necessary, pour sufficient distilled water over the strainer to produce one pint of syrup.

Dose.—½ to 2 fluid drachms.

SYRUPUS SODII HYPOPHOSPHITIS.

Syrup of Hypophosphite of Sodium.

Take of

Hypophosphite of Sodium	160 grains.
Distilled Water	3 fld. drachms.

Dissolve, filter, and wash the filter with distilled water, one fluid drachm. To the filtered solution add

Syrup	q.s. to produce 1 pint.

Mix. Each fluid drachm contains one grain of hypophosphite of sodium.

Dose.—1 to 4 fluid drachms.

TINCTURA BENZOINI SIMPLEX.

Simple Tincture of Benzoin.

Take of

Benzoin, in powder	2 ounces.
Rectified Spirit	1 pint.

Macerate for twenty-four hours with frequent agitation; then filter, and add sufficient rectified spirit, if required, to produce one pint.

TINCTURA BRYONIÆ.

Tincture of Bryony.

Take of

Fresh Bryony Root Rectified Spirit Distilled Water	of each . .	q.s.

Ascertain the percentage of moisture in the root by drying one hundred grains of it over a water-bath. Bruise the remainder, after having calculated the moisture it contains, and reckon this as part of the water to form, with rectified spirit, a mixture equal in strength to proof spirit. Produce a tincture, by macerating for seven days, of such a strength that ten fluid ounces shall represent one ounce of the dried root.

Dose.—1 to 10 minims.

TINCTURA CALENDULÆ FLORUM.

Tincture of Marigold Flowers.

Take of

Marigold Flowers, dried, in No. 20 powder	4 ounces.
Proof Spirit	q.s.

Moisten the powder with eight fluid ounces of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour proof spirit upon it until one pint of tincture is obtained.

Dose.—5 to 20 minims.

TINCTURA CAPSICI FORTIOR.

Stronger Tincture of Capsicum.

Take of

Capsicum Fruit, in No. 40 powder	10 ounces.
Rectified Spirit	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours in a closed vessel; then pack in a percolator, and gradually pour rectified spirit upon it until one and a half pints of tincture are obtained.

Dose.—1 to 3 minims. Used externally.

TINCTURA CARMINITIVA.

Carminative Tincture.

Take of

Cardamom Seeds, bruised . .	600 grains.
Stronger Tincture of Ginger . .	1¼ fld. ounces.
Oil of Cinnamon	100 minims.
Oil of Caraway	100 minims.
Oil of Clove	100 minims.
Rectified Spirit .	q.s. to produce 1 pint.

Macerate the cardamoms in fifteen fluid ounces of the spirit for a week, decant, express, and dissolve the oils in the mixed tinctures, making up to one pint with rectified spirit.

Dose.—2 to 10 minims.

TINCTURA CONVALLARIÆ.

Tincture of Lily of the Valley.

Take of

Lily of the Valley Flowers and Stalks, dried, in No. 20 powder .	2½ ounces.
Proof Spirit	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours ; then pack in a percolator, and gradually pour proof spirit upon it until one pint of tincture is obtained.

Dose.—5 to 20 minims.

TINCTURA COTO.

Tincture of Coto.

Take of

Coto Bark, bruised . . .	2 ounces.
Rectified Spirit	1 pint.

Macerate for seven days, with occasional agitation ; then press, filter, and add sufficient rectified spirit to produce one pint.

Dose.—10 to 30 minims.

TINCTURA ERGOTÆ AMMONIATA.

Ammoniated Tincture of Ergot.

Take of

Ergot, in No. 20 powder . .	10 ounces.
Aromatic Spirit of Ammonia . .	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twelve hours; then pack in a percolator, and gradually pour aromatic spirit of ammonia upon it until one pint of tincture is obtained.

Dose.—10 to 60 minims.

TINCTURA ERYTHROPHLŒI.

Tincture of Casca.

Take of

Casca Bark, in No. 20 powder .	2 ounces.
Rectified Spirit	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour rectified spirit upon it until one pint of tincture is obtained.

Dose.—5 to 10 minims.

TINCTURA EUCALYPTI.

Tincture of Eucalyptus.

Take of

Eucalyptus Leaves, in No. 20 powder	4 ounces.
Rectified Spirit	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour rectified spirit upon it until one pint of tincture is obtained.

Dose.—15 minims to 2 fluid drachms.

TINCTURA EUONYMI.

Tincture of Euonymus.

Take of

Euonymus Bark, in No. 20 powder	4 ounces.
Rectified Spirit	1 pint.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour rectified spirit upon it until one pint of tincture is obtained.

Dose.—10 to 40 minims.

TINCTURA EUPHORBIÆ PILULIFERÆ.

Tincture of Euphorbia.

Take of

Euphorbia, in No. 20 powder .	4 ounces.
Proof Spirit	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour proof spirit upon it until one pint of tincture is obtained.

Dose.—10 to 30 minims.

TINCTURA IODI DECOLORATA.

Decolorized Tincture of Iodine.

Take of

Iodine	250 grains.
Rectified Spirit	5½ fld. ounces.

Dissolve by the aid of a gentle heat. When cold transfer to a stoppered bottle, and add of

Stronger Solution of Ammonia .	10 fld. drachms.

Keep the mixture in a warm place until decolorized, after which dilute it with

Rectified Spirit .	q.s. to produce 1 pint.

TINCTURA PHOSPHORI COMPOSITA.

Compound Tincture of Phosphorus.

Take of

Phosphorus	12 grains.
Chloroform	2½ fld. ounces.

Place in a stoppered bottle, and apply the heat of a water-bath until dissolved. Then add the solution to

Ethylic alcohol	12½ fld. ounces.

Shake well. This tincture should be preserved from the light, in accurately-stoppered bottles.

Each fluid drachm contains one-tenth of a grain of phosphorus.

Dose.—3 to 12 minims.

TINCTURA PRUNI VIRGINIANÆ.

Tincture of Wild Cherry.

Take of

Wild Cherry Bark, in No. 20 powder	4 ounces.
Distilled Water . . .	7½ fld. ounces.

Macerate for twenty-four hours, in a closed vessel, and add

Rectified Spirit	12½ fld. ounces.

Macerate for seven days; then press, filter, and add

Proof Spirit . .	q.s. to produce 1 pint.

Dose.—20 to 60 minims.

UNGUENTUM HYDRARGYRI OLEATI.

Ointment of Oleate of Mercury.

Take of

Oleate of Mercury	1 ounce.
Simple Ointment	1 ounce.

Mix without heat.

UNGUENTUM OLEO-RESINÆ CAPSICI.

Ointment of Oleo-Resin of Capsicum.

Take of

Oleo-Resin of Capsicum . .	1 ounce.

Yellow Wax	½ ounce.
Benzoated Lard	4 ounces.

Melt the wax and lard at a low temperature, add the oleo-resin, mix thoroughly, and, if necessary, strain through muslin. Stir until cold.

As a mild counter-irritant, the ointment will bear dilution from three to six times.

VINUM AURANTII DETANNATUM.

Detannated Orange Wine.

Take of

Orange Wine	1 gallon.
Gelatine, cut small . . .	½ ounce.

Macerate for fourteen days, and decant.

VINUM XERICUM DETANNATUM.

Detannated Sherry.

Take of

Sherry	1 gallon.
Gelatine, cut small . . .	½ ounce.

Macerate for fourteen days, and decant.

SPRAY INHALATIONS

OF THE

THROAT HOSPITAL PHARMACOPŒIA.

Nebula Acid. Carbol.	3 grs.	water	1 oz.
,, ,, Lactic.	30 mins.	,,	,,
,, ,, Sulphurosi.	40 to 60 mins. at a time.		
,, ,, Tannici	5 grs.	,,	,,
,, Alkalina	Bicarb. Soda 15 grs. Borax 15 grs. Acid. Carbol. 4 grs. Glycerine 45 mins.	,,	,,
,, Aluminii Chlor.	Sol. Chlor. of Alum 3 mins.	,,	,,
,, Aluminii	Alum 8 grs.	,,	,,
,, Calcis	Aq. Calc. q.s.		
,, Ferri Perchlorid.	Iron Perchlorid. 3 rs.	,,	,,
,, ,, Sulph.	Iron Sulphate 2 grs.	,,	,,
,, Ferro-Aluminis	Iron Alum 3 grs.	,,	,,
,, Iodi cum Acid. Tannic.	Tr. Iodine 3 mins. Glycer. Ac. Tan. 12 m.	,,	,,
,, Iodoformi	Iodoform 40 grs.	Ether ·735	1 oz.
,, Potass. Chlor.	Chlor. Potass 20 grs.	water	1 oz.
,, ,, Permangan.	Pot. Permang. 5 grs.	,,	,,
,, Potassi Bromid.	Pot. Bromid. 20 grs.	,,	,,
,, Sodæ Benzoat	Sodæ Benz. 20 grs.	,,	,,
,, ,, Salicylas	Sodæ Sal. 20 grs.	,,	,,
,, Sodii Chlorid.	Sodii Chlor. 5 grs.	,,	,,
,, Zinci Iodat.	Iodat. Zinc Caustic 2 mins.	,,	,,
,, ,, Chlor.	Zinc Chlor. 2 grs.	,,	,,
,, ,, Sulph.	Zinc Sulph. 5 grs.	,,	,,
,, ,, Sulphocarb.	,, Sulph. 5 grs.	,,	,,

LOZENGES OF THE THROAT HOSPITAL PHARMACOPŒIA.

All the lozenges of the T.H.P. are made with fruit paste, excepting those containing Acid Carbolic and Althææ.

Troch. Acid. Benzoici .	½ gr.	Troch. Guaiaci . .	2 grs.
,, ,, Carbolici	1 gr.	,, Kino . .	2 grs.
,, ,, Tannici .	1½ grs.	,, Krameriæ .	3 grs.
,, Aconiti . .	½ min.	,, Lactucæ . .	1 gr.
,, Althææ . .	2 grs.	,, Potass. Chlor. .	3 grs.
,, Ammon. Chlorid.	2 grs.	,, ,, Citratis	3 grs.
,, Boracis . .	3 grs.	,, ,, Tart. Acid.	3 grs.
,, Catechu . .	2 grs.	,, Pyrethri . .	1 gr.
,, Cubebæ . .	½ gr.	,, Sedativi	$\frac{1}{10}$ Ext. Opii.

HYPODERMIC INJECTIONS.

	Strength.	Dose.
Aconitine . .	1 gr. in ½ oz. water .	1 or 2 mins.
Antim. Tart. . .	1 gr. in 24 min. water	5 mins.
Antipyrine & Cocaine	——	8 to 30 mins.
Apomorphine . .	2 grs. in 1 drachm .	2 to 3 mins.
Argent . . .	Argent. Chlor. 0·5 grm. Soda Hyposulph. 3grms. Aq. Distill. 100 c.c.	2 to 10 mins.
Atropine Sulph. .	1 gr. in 4 drachms .	2 to 3 mins.
Caffeine . . .	1 gr. in 3 mins. . .	1 to 3 mins.
Chloral Hydrate .	80 grs. in 160 mins. .	14 to 40 mins.
Cocaine Hydrochlor.	1 gr. in 20 mins. . .	2 to 10 mins.
Codeine . . .	Codein. Phosph. 1 gr. in 6 mins.	2 to 6 mins.
Colchicine . .	$\frac{1}{32}$ gr. in 15 mins. . .	10 to 15 mins.
Conine . . .	1 gr. in 20 mins. . .	1 to 3 mins.
Curare . . .	5 grs. in 60 mins. . .	1 to 6 mins.
Ergotine . .	1 gr. in 2 m. (Aq. Camph.)	5 to 10 mins.

	Strength.	Dose.
Homatropine . .	1 gr. in 120 mins. . .	1 to 6 mins.
Hydrarg. Bichlor. .	1 gr. in 160 mins. . .	20 to 49 mins.
Hyd. et Sod. Iodid .	1 gr. in 70 mins. . .	10 mins.
Hyoscyamine . .	1 gr. in 2 drachms. .	1 to 4 mins.
Iodi . . .	¾ gr. free Iodine in 1 min.	3 to 5 mins.
Morphine (B.P.) .	1 gr. in 10 mins. . .	1 to 5 mins.
Physostigmine .	5 grs. in 2 drachms with S.V.R. and mucilage.	3 to 12 mins.
Picrotoxine . .	1 gr. in 360 mins. .	3 to 6 mins.
Pilocarpine . .	1 gr. in 20 mins. water .	2 to 6 mins.
Quinine, freshly prepared	12 grs. in 1 drachm of ether	5 mins.
Sal. Alembroth. .	⅓ gr. in 10 mins. . .	⅓ gr.
Strychnine . .	1 gr. in 4 drachms water	2 to 3 mins.

MODERN REMEDIES.

Name.	Characters, etc.	Solubility, etc.
Acidum Agaricum (syn. : Agaricin)	minute white crystals	dose : ⅛ to 1 gr., in pill.
Acidum Camphoricum	white powder .	dose : 10 to 20 grs.
Acidum Cresoticum	white needles .	soluble in alcohol, ether and chloroform.
Acidum Osmicum .	yellow crystals .	soluble in water 1 in 50.
Acidum Trichloraceticum	in deliquescent crystals	soluble in glycerin.
Agathin . .	whitish crystals .	dose : 4 to 8 grs., in cachet.
Alumnol . .	astringent and antiseptic	soluble in water. Dose : 5 to 15 grs.
Amylene Hydras .	colourless liquid .	soluble in water 1 in 8, and alcohol.
Amylene Hydrate	——	soluble in water 1 in 19.
Analgene . .	white powder	dose : 15 grs.

Name.	Characters, etc.	Solubility, etc.
Anemonin . .	dose : $\frac{1}{60}$ to $\frac{1}{12}$ gr.	given in pills.
Anthrarobin .	straw-coloured .	with lanoline ; soluble in 10% sol. of borax.
Antitoxin or Anti-diphtheritic Serum, prepared from the blood serum of the horse or other animals rendered immune to the disease	——	dose 10 to 15 c.c., hypodermically.
Antipyrine Amygdalate (syn. : Tussol)	in crystals . .	dose : 5 to 10 c.c.
Antispasmin .	whitish powder .	dose : $\frac{1}{6}$ to $1\frac{1}{2}$ grs.
Antithermin .	——	given in pills and powders.
Antivenene . .	the blood serum of animals immunized from snake venom.	——
Apiol . . .	green oily liquid .	in capsules.
Apocodeinæ Hydrochloras	greyish powder .	dose : $\frac{1}{10}$ gr., gradually increased to 1 gr.
Aseptol (Sozolic Acid)	slightly soluble in water	in mixture with Pulv. Trag. Co.
Asparagin . .	hard crystals .	soluble in water 1 in 12.
Atropine Oleate .	formula : Atropine 1, Oleic Acid 30, Olive Oil 50.	——
Auri Bromidum .	brown powder .	dose : $\frac{1}{60}$ to $\frac{1}{10}$ gr., well diluted.
Benzanilide . .	white scales, insoluble in water	dose : 3 to 12 grs.
Benzosol (syn.: Benzoate of Guaiacol)	——	——
Betol . . .	——	given in pills or powders.
Bromal Hydras .	——	dose : 2 to 5 grs.
Bromalin . .	crystalline powder	soluble in water.

Name.	Characters, etc.	Solubility, etc.
Bromethyl .	colourless volatile liquid	as inhalation.
Bromoform . .	colourless liquid .	slightly soluble in water.
Bromol . .	in needles . .	dose : ½ to 2 grs. in pill.
Cannabina . .	brown liquid .	dose : 1 to 5 grs.
Cantharidine .	——	soluble 1 in 84 chloroform, and 1 in 38 acetone.
Carbonis Tetrachlorid	a heavy liquid .	used for inhalation.
Carpaine . .	alkaloid . .	dose : $\frac{1}{30}$ to $\frac{1}{6}$ gr.
Caulophyllin .	brown powder .	dose : 1 to 4 grs. in pill with Glycer. Trag.
Cerebrin and Myelin	brain and spinal cord extracts	dose : 5 to 20 mins.
Chinolinum . .	colourless oily liquid, insoluble in water	dose : 3 to 10 mins.
Chloralamide .	dose : 20 to 50 grs.	soluble in water 1 in 20.
Chloralimide .	colourless liquid	dose : 5 to 30 mins.
Chloralose . .	white crystals .	dose : 3 to 10 grs., in cachet.
Citrophen . .	white powder .	dose : 15 to 30 grs., soluble in water.
Cocainæ Nitras .	crystals . .	dose : ⅛ to 1 gr.
,, Phenas .	pasty compound .	dose : ⅛ to 1 gr.
,, Salicylas	white crystals .	dose : ⅛ to 1 gr.
Coninæ Hydrobromas	colourless prisms	dose : ⅓ gr., soluble in water 1 in 2 nearly.
Convallamarin .	whitish - brown powder	dose : ½ to 2 grs., soluble in water.
Cornutine . .	brownish-grey alkaloid	dose : ⅙ gr. daily.
Cotoin . . .	pale yellow powder	dose : ½ to 2 grs.
Cresol Salicylas (syn. : Cresalol)	white crystals ——	dose : 2 to 10 grs., insoluble in water, readily in spirit.

Name.	Characters, etc.	Solubility, etc.
Creolin . .	tar-like, brown, syrupy liquid	soluble in alcohol.
Curare . .	——	dose : $\frac{1}{20}$ to $\frac{1}{2}$ gr.
Daturine . .	dose : $\frac{1}{120}$ to $\frac{1}{60}$ gr.	in solution with Acid Sulph. Dil.
Delphina . .	dose : $\frac{1}{4}$ to $\frac{1}{2}$ gr. .	in pill with Glyc. Trag.
Diaphtherin . .	yellow crystals or powder	antiseptic in 1 or 2 % solution.
Diuretin . .	white powder .	dose : 10 to 15 grs.
Duboisiæ Sulph.	dose : $\frac{1}{120}$ to $\frac{1}{30}$ gr.	——
Emetin . .	——	dose : $\frac{1}{15}$ to $\frac{1}{10}$ gr. expectorant, $\frac{1}{2}$ to 1 gr. emetic, in pill or solution.
Erythrophlœiæ Hydroch.	dose : $\frac{1}{40}$ to $\frac{1}{24}$ gr.	soluble in water.
Euphorin . .	white crystals .	dose : 3 to 6 grs.
Europhen . .	yellow powder .	insoluble in water, soluble in oil and alcohol.
Exalgin . .	dose : 2 to 6 grs.	soluble in water 1 in 60.
Ferratin (syn. : Ferri Albuminous Ac.)	——	tonic properties.
Ferripyrin . .	orange - coloured powder	soluble in water.
Fluorescein (syn. : Resorcin Phthalein)	red crystalline powder	——
Formanilide . .	colourless crystals	dose : 1 to 4 grs., soluble in water.
Fuchsine (syn. : Rosaniline)	dose : $\frac{1}{2}$ to 4 grs.	in pill with Glycer. Trag.
Gallacetophenone .	yellowish - brown powder or needles	freely soluble in hot water, alcohol, and glycerin.
Gallobromal .	whitish crystals	dose : 5 to 15 grs., soluble in water 1 in 10.
Guaiacol . .	colourless liquid .	dose : 1 min., with cod-liver oil, alcohol, or water.

Name.	Characters, etc.	Solubility, etc.
Helenin . .	colourless needles	dose : $\frac{1}{6}$ gr.
Hydracetin . .	a white powder .	soluble in water 1 in 50, given in pill.
Hydrargyri Carbolas	dose : $\frac{1}{3}$ to $\frac{1}{2}$ gr. .	in pill, with Ext. Glyc. and coated with tolu.
Hydrargyri Cyandum	dose : $\frac{1}{20}$ to $\frac{1}{4}$ gr.	soluble in water 1 in 8.
Hydrargyri Salicylas	dose : 1 gr. daily	soluble in water with 5% of Sod. chloride.
Hydrargyri Succinimas	contains 50% of mercury.	soluble in water.
Hydroquinone .	dose : $\frac{1}{2}$ to 5 grs.	soluble in water 1 in 20.
Hydroxylamine .	external use .	soluble in water.
Hyoscine Hydrobrom.	white crystals .	dose : $\frac{1}{300}$ to $\frac{1}{50}$ gr., in pill or solution.
Hypnal . .	dose : 15 grs. .	in cachet or water.
Hypnone . .	colourless liquid, in capsules.	dose : 3 to 5 mins.
Ichthyol . .	dose : 4 to 20 min.	in capsules or mixture. Sodium compound used for pills.
Iodine Trichloride	orange needles .	supplied in sealed tubes.
Iodol . . .	dose : 1 to 3 grs.	soluble in glycerin 1 in 34. Pills with Ext. Glycyr.
Iodophenin . .	dark brown powder	soluble in alcohol, insoluble in water.
Iodopyrin . .	dose : 5 to 20 grs.	soluble in water.
Kairin . . .	white powder .	dose : 10 to 20 grs., in pills or cachets.
Lactophenin .	white crystals .	dose : 5-15 grs., soluble in water 1 in 330.
Listerine . .	antiseptic preparation said to contain Thyme, Eucalyptus, Baptisia, Gaultheria and Mentha Arvensis, with Benzoboracic Acid.	for internal or external use.

Name.	Characters, etc.	Solubility, etc.
Lipanin	straw-coloured oil dose : ℥i. to ℥iii.	substitute for cod-liver oil.
Loretin(syn.: Iodo-oxyquinoline)	——	application for wounds.
Losophan . .	greyish crystalline powder	soluble in alcohol and chloroform.
Lycetol .	——	dose : 4 to 10 grs.
Lysidin . .	light red crystals	dose : 5 to 15 grs.
Lysol . . .	dark-coloured liquid	antiseptic.
Malakine	light yellow needles, soluble in water	dose : 10 to 15 grs., in cachet.
Mallein . .	diagnostic agent for glanders in horses.	——
Megranin .	double citrate of antipyrine and caffeine.	——
Menispermin .	——	dose : 1 to 5 grs., in pills, with Glycer. Trag.
Menyanthes (Bog-bean)	——	infusion and extract.
Metaldehyde .	white crystals .	dose : 2 to 8 grs., in cachets or pills.
Methacetin . .	white scaly crystals	dose : 2 to 6 grs., in cachet, soluble in water 1 in 260.
Methylal . .	dose : 15 to 30 min., in mixture or ointment	soluble in water.
Methylene Bichloride	——	as inhalation.
Methylene Blue .	bronze green crystals	dose : 1 to 4 grs.
Mollin . . .	white ointment base.	——
Muscarinæ Nitras	dose : $\frac{1}{2}$ to $\frac{1}{3}$ gr. .	hypodermically.
Myricin . .	dose : 2 to 5 grs.	in pill with Glycer. Trag.
Naphthalene .	dose : 2 to 15 grs.	in cachets or pills.

Name.	Characters, etc.	Solubility, etc.
Naphthalene Tetrachloride	dose : 3 to 12 grs.	in cachets or pills.
β Naphthol . .	shining needles .	dose : 2 to 15 grs. in cachets.
Narceina . .	silky crystals .	dose : $\frac{1}{8}$—$\frac{1}{2}$ gr., in pill.
Neurodin . .	colourless crystals	dose : 5 to 15 grs.
Nosophene . .	yellow powder .	used as an insufflation.
Orchitic Fluid .	prepared from the testes of animals	dose : 15 mins., hypodermically, 30 mins. by mouth.
Orexine . .	whitish powder .	dose : 3 grs., in pills coated.
Oxynaphthoic Acid	white needles .	in ointment or collodion
Oxysparteina .	white crystals .	dose : $\frac{1}{2}$ to 1$\frac{1}{2}$ grs.
Pancreatinum .	yellowish powder	dose : 2 to 4 grs.
Papaverina . .	alkaloid . .	dose : $\frac{1}{12}$ to $\frac{1}{3}$ gr.
Paracotoin . .	laminar crystals .	dose : 1$\frac{1}{2}$ to 3 grs.
Paraldehyde .	colourless . .	dose : $\frac{1}{2}$ to 1 dr., in mixture with brandy or water. Soluble in water 1 in 12.
Pelletierine . .	dose : 3 to 6 grs.	syrupy liquid.
Phenacetin . .	white powder .	dose : 8 to 20 grs., in cachets or mixture, with P. Trag. Co.
Phenocoll Hydrochlor.	dose : 7 to 15 grs.	in solution or cachet.
Phenosalyl . .	a mixture of Carbolic, Salicylic, and Benzoic Acids dissolved in Lactic Acid	antiseptic, soluble in water.
Picrotoxin . .	white needles .	dose : $\frac{1}{100}$ to $\frac{1}{30}$ gr.
Pixol . . .	pine-wood tar treated with soap and caustic potash	soluble in water.
Piperazine . .	dose : 4 to 10 grs.	soluble in water 1 in 4.
Prunin . . .	——	dose : 1 to 5 grs.
Pyoktanin (syn. : Methyl-Violet)	green crystalline powder	——

Name.	Characters, etc.	Solubility, etc.
Pyridine . .	colourless liquid .	dose : 5 to 10 mins. daily.
Rubidii Bromidum	white crystals .	dose : 5 to 30 grs., soluble in water 1 in 1.
Rumicin . .	dose : 1 to 4 grs. .	in pill with Glyc. Trag.
Sal. Alembroth (double chloride of mercury and ammonia)	——	powerful antiseptic.
Salacetol . .	shining crystals .	dose : 10 to 30 grs., in cachet or suspended.
Salicylamide .	small white crystals	dose : 2 to 6 grs., in cachet, soluble in water 1 in 250
Salipyrin . .	dose : 15 to 30 grs.	in cachets.
Salithymol . .	white crystalline powder	soluble in alcohol and ether.
Salocoll . .	white silky crystals	dose : 10 to 30 grs.
Salophen . .	white powder .	slightly soluble in water. Dose : 10 to 15 grs.
Sanguinarin . .	brown resinoid powder	dose : $\frac{1}{4}$ to 1 gr.
Scopolamine Hydrobromate	an alkaloid . .	used in solution for ophthalmic purposes. Strength, 1 or 2 per 1,000.
Sodii-di-thio-Salicylas (syn. : Dithion)	greyish-powder	dose : 3 grs., soluble in water 1 in 1.
Sodii Taurocholas.	2 to 6 grs. in pill	coat with keratin.
Sodii Telluras .	$\frac{1}{3}$ to $\frac{2}{3}$ gr. in pill	——
Somnal . .	liquid . .	dose : 30 min.
Sozal . . .	pale reddish-brown mass	dose : 3 to 8 grs., soluble in water
Sparteinæ Sulph. .	colourless crystals	$\frac{1}{4}$ to 1 gr. in pill.
Spermin (syn. : Orchidin)	extract prepared from testicles of animals	——
Stilligin . .	brown powder .	dose : 1 to 3 grs.

Name.	Characters, etc.	Solubility, etc.
Stypticin (Cotarnine hydrochlor.)	——	10% sol. for injection. Internally, $\frac{1}{10}$ gr.
Sub-Gallate of Bismuth (syn.: Dermatol)	yellow insoluble powder	——
Sulphaminol. .	greenish-yellow powder	antiseptic.
Sulphonal . .	dose: 15 to 40 grs.	in cachets or suspended with mucilage.
Supra-renal Extract	prepared from supra-renal bodies	dose: in extract, gr. i., in tincture m xv.
Tannigen . .	greyish-white powder, insoluble	dose: 3 to 8 grs., in cachet.
Tetronal . .	dose: 10 to 20 grs.	in cachets.
Thalline . .	white granular crystals	dose: 3 to 8 grs.
Thermodin . .	colourless crystals	dose: 5 to 15 grs.
Thiol . . .	dose: 2 to 10 grs.	in pill.
Thyroid Extract .	prepared from the fresh thyroid glands of the sheep	tablets containing 4 grs. of extract, or glycerin extract. Dose: 4 m. to ℥i.
Tolypyrin . .	white crystals .	dose: 5 to 20 grs., soluble in water 1 in 10.
Tolysal . .	small white crystals	dose: 5 to 20 grs.
Trimethylamine .	dose: 20 to 60 min.	
Trimethylamine Hydrochlor.	dose: 2 to 3 grs.	in pill, with Althæa P. and Glycer. Trag. varnished.
Trichlorophenol .	——	strong antiseptic.
Trional . .	dose: 10 to 15 grs.	in cachets.
Tribromophenol Bismuth	greenish-yellow powder, insoluble	dose: 5 to 20 grs. ——
Tumenol . .	black viscid body	for external use.
Uralium . .	dose: 15 to 45 grs.	——
Urethane . .	colourless crystals	dose: 10 to 60 grs., soluble in water

TABLE

SHOWING PROPORTIONS OF THE ACTIVE INGREDIENTS IN SOME OF THE MORE POWERFUL PREPARATIONS OF THE BRITISH PHARMACOPŒIA.

Antimony in Pil. Hydrarg. Subchlor. Co. .	1 in 5.
,, in Pulv. Antimonialis . .	1 in 3.
,, in Vin. Antimoniale . . .	1 gr. in ½ oz.
Arsenious Acid in Liq. Arsenic . .	1 in 100.
,, ,, in ,, ,, Hydro. .	1 in 100.
Atropine in Liq. Atropine	1 in 100.
,, in ,, ,, Sulph. . .	1 in 100,
,, in Ung. Atropine	1 gr. in ℥i.
Belladonna Root in Lin. Belladon. . .	1 in 1.
,, **Leaves** in Tr. ,, . .	1 in 20.
Cantharides in Acetum	1 in 10.
,, in Charta Epispast. . .	1 in 8.
,, in Emplast. Calefac. . .	1 in 24.
,, in ,, Cantharidis . .	1 in 3.
,, in Liq. Epispastic . . .	1 in 2½.
,, in Tr. Cantharides . . .	1 in 88.
,, in Ung. ,, . . .	1 in 8.
Chloroform in Lin. Chlorof. . . .	1 vol. in 2.
,, in Spiritus Chlorof. . . .	1 vol. in 20.
,, in Tinct. Chlorof. Co. . .	1 vol. in 10.
Digitalis in Infus. Digitalis . . .	3 grs. in 1 oz.
,, in Tinct. ,, . . .	1 in 8.
Opium in Confect. Opii	1 in 40.
,, in Emplast. ,, ...	1 in 10.
,, in Enema ,, ...	15 m. in 1 oz.
,, in Extract. ,, ...	2 in 1.
,, in ,, ,, Liq. . . .	1 in 20.
,, in Linim. ,, ...	1 in 2.
,, in Pil. Ipec. c. Scillæ . . .	1 in 24.
,, in ,, Plumbi c. Opio . . .	1 in 8.
,, in ,, Saponis Co.	1 in 5.

Opium in Pulv. Cretæ Aromat. c. Opio .	1 in 40.
,, in Pulv. Ipec. Co.	1 in 10.
,, in ,, Kino. Co.	1 in 20.
,, in ,, Opii Co.	1 in 10.
,, in Tinct. Camph. Co. . . .	1 gr. in ½ oz.
,, in ,, Opii	33 grs. in 1 oz.
,, in ,, ,, Ammon. . . .	1 gr. in 96.
,, in Troch. Opii.	$\frac{1}{10}$ gr. in each loz.
,, in Vin. ,, ...	1 in 20.
Morphine Acet. in Liq. Morph. Acet. .	1 in 100.
,, **Hydroch.** in Liq. Morph. Hydroc.	1 in 100.
,, ,, in Troch. Morph. .	$\frac{1}{30}$ gr. in each.
,, ,, in ,, ,, et Ipec.	$\frac{1}{30}$ gr. in each.
Mercury in Hydrarg. c. Cretâ . . .	1 in 3.
,, in Liq. Hydr. Nit. Ac. . .	1 in 1½.
,, in ,, ,, Perchlor. . .	½ gr. in 1 oz.
,, in Lotio Hydr. Flav. . . .	9 grs. in 5 ozs.
,, in ,, ,, Nig. . . .	3 grs. in 1 oz.
,, in Pil. ,, ...	1 in 3.
,, in ,, ,, Subchlor. Co. .	1 in 5.

FORMULÆ FOR UNOFFICINAL TINCTURES.

	Strength.	Dose.
Tr. Aconiti Ferocis . .	1 in 8 rect. sp. .	1 min.
,, Aconiti Heterophylli .	1 in 8 ,, .	10 to 60 min.
,, Agarici Alb. . .	1 in 10 proof sp.	20 to 60 min.
,, Alstoniæ Constrictæ .	1 in 10 ,,	½ to 2 drms.
,, Alstoniæ Scholaris .	1 in 10 ,,	1 to 2 drms.
,, Anacardii Occident .	1 in 10 rect. sp. .	2 to 10 min.
,, Anthoxanthi . .	Fresh plant. 1 to 9 rect. sp.	2 to 5 min.
,, Apis Mellificæ . .	Posterior halves of female bees recently killed by chloroform. 1 in 10 rect. sp.	1 min.

	Strength.	Dose.
Tr. Apocyni . . .	1 in 10 proof sp.	5 to 60 min.
,, Asclepias Cornuti .	1 in 10 ,,	5 to 40 min.
,, Asclepias Incarnatæ .	1 in 10 ,,	5 to 40 min.
,, Asclepias Tuberosæ .	1 in 10 ,,	5 to 40 min.
,, Boldo . . .	2 in 10 rect. sp. .	10 to 20 min.
,, Capsici (Turnbull)* .	1 in 3 rect. sp. .	outward use.
,, Cocculi Indici . .	1 in 8 rect. sp. .	1 to 2 min.
,, Colchici Flor. . .	fresh flowers, 1 lb. rect. sp. 12 oz.	10 to 30 min.
,, Droseræ Rotund. .	1 in 10 proof sp. .	5 to 15 min.
,, Gossypii rad.* . .	1 in 4 proof sp. .	60 min.
,, Guaranæ . . .	1 in 4 ,,	30 to 60 min.
,, Ignatii . . .	1 in 10 rect. sp. .	3 to 20 min.
,, Kavæ Kavæ* . .	1 in 2 ,,	30 to 60 min.
,, Koromiko . .	2 in 10 proof sp.	30 to 120 min.
,, Phosphori . .	saturated solution in absolute alcohol (=1 in 550)	3 to 12 min.
,, Phosphori Æther. .	saturated solution in rectified ether ·730 (=1 in 200)	1 to 4 min.
,, Pulsatillæ . .	1 in 10 proof sp.	1 to 5 min.
,, Quebracho . .	2 in 10 ,,	30 to 60 min.
,, Quillaiæ . . .	2 in 10 ,,	emulsifying agent.
,, Rhus Toxicodend. .	1 in 10 ,,	1 to 5 min.
,, Rumicis . . .	1 in 10 ,,	1 to 10 min.
,, Sanguinaræ . .	1 in 10 rect. sp.	5 to 20 min.
,, Tayuyæ* . . .	1 in 4 proof sp.	6 to 15 min.
,, Thujæ (Arbor Vitæ) .	2 in 10 rect. sp. Using fresh tops.	2 to 5 min.
,, Verbasci . . .	1 in 8 proof sp.	20 to 60 min.
,, Visci Alb. . .	4 in 10 proof sp. Using dried mistletoe.	15 to 30 min.

* Best prepared by percolation.

METRICAL WEIGHTS AND MEASURES.

The Metre = 1 yard $3\frac{37}{100}$ inches.

It is divided into the *decimetre*, or one-tenth of a metre (not used).

The *centimetre* (c.m.), or one-hundredth of a metre = $\frac{39}{100}$ of an inch. Five c.m. = nearly 2 inches.

The *millimetre* (m.m.), or one-thousandth of a metre.

Its multiples might be expressed as Decametre (10 metres), Hectometre (100 metres), Kilometre (1,000 metres), and Myriametre (10,000 metres). The only multiple actually used is

The Kilometre (1,000 metres) = 1,093½ yards, or nearly five-eighths of an English mile. Eight kilometres correspond closely to 5 English miles.

The Cubic Centimetre,

Often written "c.c." or "c.cm.," is the most frequently used scientific measure for small quantities of fluids. It is equivalent to 16¼ minims. Four c.c. are therefore a little more than 1 fluid drachm.

The Gramme

Is the weight of a cubic centimetre of water at 4° C. It is equal to $15\frac{43}{100}$ grains.

The divisions of the gramme are:

The *milligramme* = $\frac{1}{1000}$th gramme. It is about equal to the $\frac{1}{60}$th of a grain.

The *decigramme* ($\frac{1}{10}$th gramme) = 1½ grains—not generally used; the *centigramme* ($\frac{1}{100}$th gramme) = $\frac{1}{6}$th grain.

The only multiple of the gramme in ordinary use is

The Kilogramme (1,000 grammes) = 2 lbs. 3 oz. 120 grains.

The terms *quintal métrique* (100 kilogrammes) and *tonneau métrique* (1,000 kilogrammes) are also used in commerce.

It is nearly accurate to reckon that 6 centigrammes = 1 grain; that 4 grammes = 1 drachm (60 grains); that 28 grammes = 1 oz. avoirdupois; and that 453½ grammes = 1 lb. avoirdupois.

The Litre,

Which is the standard for fluid measure, is the measure of a cubic decimetre. It is about equal to $1\frac{3}{4}$ pints.

These divisions and multiples are but rarely met with—

The *decilitre* ($\frac{1}{10}$th litre).	The Decalitre (10 litres).
The centilitre ($\frac{1}{100}$th litre).	The Hectolitre (100 litres).

The Are,

The standard for surface measure, is 100 square metres.

The *centiare* ($\frac{1}{100}$th are) is the only division ever used.	The Hectare (100 ares) = 2 acres 2,280 square yards, and is the usual land measure.

The Stere,

Which is a cubic metre, is the standard measure for wood.

Decistere ($\frac{1}{10}$th stere).	Decastere (10 steres).

Are sometimes used.

ENGLISH AND METRICAL WEIGHTS AND MEASURES.

Table of Comparison.

	Grains.	Av. ozs., B.P.	Troy ozs., P.L.
1 Centigramme =	0·154		
1 Decigramme =	1·543		
1 Gramme =	15·432		
1 Kilogramme =	15432·349	= 35·274	= 32·151

	Fl. drachms.	Fl. ounces.	Pint.
1 Litre =	281·720	= 35·215	= 1·761

		Grammes.			Litres.
1 Grain	=	0·605	1 Fluid drachm	=	0·0035
1 Av. ounce, B.P.	=	28·349	1 Fluid ounce	=	0·0284
1 Av. pound, B.P.	=	453·593	1 Pint	=	0·5679
1 Troy drachm, P.L.	=	3·888	1 Gallon	=	4·5434
1 Troy ounce, P.L.	=	31·103			
1 Troy pound, P.L.	=	373·242			

NOTE.—For all practical purposes we may regard—

The centigramme as equal to one-seventh of a grain;
,, decigramme ,, 1½ grains;
,, gramme ,, 15½ grains;
,, kilogramme ,, { 35 ounces Avoirdupois, B.P., or 32 ounces Troy, P.L.;
,, litre ,, 35¼ fluid ounces;
,, ounce Av., B.P. ,, 28 grammes;
,, ounce Troy, P.L. ,, 31 grammes.

To reduce avoirdupois *ounces* to *grains*:—Multiply by 44 and add a cipher to the product.

To convert grains into avoirdupois ounces:—Multiply by 23 and cancel four figures on the right of the product.

To convert French grammes into English grains:—Multiply by 154 and cancel the last figure of the product.

To convert English grains into French grammes:—Multiply by 65 and cancel three figures on the right of the product.

To convert cubic centimetres into fluid drachms:—Multiply by 28 and cancel two figures on the right of the product.

To convert fluid drachms into cubic centimetres:—Multiply by 35 and cancel the last figure of the product.

The results are not in each case absolutely exact, but these rules are simple, and are usually sufficiently accurate for practical purposes.

WEIGHTS AND MEASURES.

Apothecaries' Weights.

Denomination.	Weight in grains in terms of the Imperial Standard pound, which contains 7,000 such grains.	Denomination.	Weight in grains in terms of the Imperial Standard pound, which contains 7,000 such grains.
Ounces 10	4,800 grains	Scruple 1½ or ½ drm.	30 grains
,, 8	3,840 ,,	Scruple 1	20 ,,
,, 6	2,880 ,,	,, ½	10 ,,
,, 4	1,920 ,,	Grains 6	6 ,,
,, 2	960 ,,	,, 5	5 ,,
,, 1	480 ,,	,, 4	4 ,,
Drachms 4 or ½ oz.	240 ,,	,, 3	3 ,,
Drachms 2	120 ,,	,, 2	2 ,,
,, 1	60 ,,	,, 1	1 ,,
Scruples 2	40 ,,	,, ½	·05

Apothecaries' Measures.

Denomination.	Containing the following weight of distilled water :— Temperature . = 62° Fahr. Barometer . . = 30 inches. Imperial pound . = 7,000 grains.
A fluid ounce and the multiples thereof from 1 to 40 oz. Half a fluid ounce	One fluid ounce contains 437·5 grains weight, or $\frac{1}{160}$th Imperial gallon
A fluid drachm and the multiples thereof from 1 to 16 drachms . . . . . Half a fluid drachm	One fluid drachm equals $\frac{1}{8}$th fluid ounce
A minim and the multiples thereof from 1 to 60 minims	One minim equals $\frac{1}{60}$th fluid drachm

NOTE.—The Executive authorities have recognized the impossibility of attaining *absolute accuracy*, and have issued tables showing the amount of error in excess and in deficiency which will be tolerated. These will be found in the *London Gazette* of 1882, July 4.

STAINS FOR MICROSCOPIC OBJECTS.

Kleinenberg's Hæmatoxylin.

Hæmatoxylin, 2½ grammes ; crystallized calcium chloride, 20 grammes in 10 c.c. of distilled water ; alum, 3 grammes in 16 c.c. of distilled water ; rectified spirit, 240 c.c. Dissolve the calcium chloride and the alum in their respective quantities of water by the aid of heat ; mix the solutions and immediately dilute with rectified spirit ; after an hour filter and add the hæmatoxylin. This makes a good working solution.

Ammoniated Hæmatoxylin (Squire).

Hæmatoxylin, 15 grammes ; ammonium carbonate, 3 grammes ; proof spirit, 300 c.c. Place in a large bottle and shake at intervals for three days, leaving the stopper out between the shakings. Allow the solution to evaporate to dryness in an open dish at the temperature of the air, and (substituting the crystalline product thus obtained for hæmatoxylin in the ordinary formula) dissolve in the following mixture :—absolute alcohol, 750 c.c. ; glycerin, 750 c.c. ; distilled water, 750 c.c. ; ammonia alum, 15 grammes ; glacial acetic acid, 75 c.c.

Colour Produced by Hæmatoxylin.

Hæmatoxylin solutions stain the nuclei violet, and in order to change this into blue it is usual to soak the sections in water taken from the house supply (not distilled water), but as the

alkalinity of the water varies in different localities, a better and more uniform result is obtained by using a weak solution of bicarbonate of sodium (½ grain to the ounce).

Ammonia Picro-carmine.

Carmine, 1 gramme; strong solution of ammonia, 3 c.c.; distilled water, 5 c.c. Dissolve the carmine in the ammonia and water with a gentle heat, then add saturated aqueous solution of picric acid, 200 c.c.: heat to boiling and filter.

Picro-Lithium Carmine.

Lithium carmine solution, 100 c.c.; saturated solution of picric acid, 270 c.c.

Aniline Nuclear Stains.

There are several aniline dyes which are used for nuclear staining: methylene blue, methyl green, safranine, gentian violet, vesuvine, fuchsine, and Hoffmann's blue. The usual process is to stain in ¼ or ½ per cent. aqueous solutions, and wash in methylated spirit.

Contrast Stains.

Very frequently other dyes are used to stain the ground a colour which is a good contrast to that employed for the nuclei. Brown, orange, or pink are used after nuclear blue or green; carmine red is generally counterstained yellow or indigo-blue, and fuchsine red, as in tubercle bacilli, is counterstained with nuclear blue. It is important that the ground stain should be made weaker than the principal stain, so that the whole tissue may be shown without detracting from the nuclei or bacilli, as the case may be.

The following colours are used as counterstains for animal sections, but they are not so appropriate to vegetable work:—benzopurpurine, eosine, erythrosine, orange, acid rubin, and picric acid.

As examples of specific stains may be mentioned fuchsine, methylene blue, and gentian violet for bacteria ; osmic acid for fatty elements ; victoria blue and rose bengale for demonstrating elastic fibres ; methyl violet, iodine, and safranine for amyloid degeneration.

Cellulose Reactions.

After the nuclear stains, probably the most important reagents to the worker in botany are those which affect cellulose and its modifications.

Pure cellulose is coloured yellow by iodine, the colour being changed to a blue on the addition of slightly diluted sulphuric acid (about 2 volumes of strong acid to 1 of water), or a strong solution of chloride of zinc.

Chlor-zinc Iodine (Improved Formula).

Zinc chloride solution (S.G. 1·85), 70 c.c. ; potassium iodide, 10 grammes ; iodine, 0·1 gramme.

The solution can only be used as a reagent, not as a dye. Structures stained with it cannot be mounted in any of the ordinary mounting media, but they can be kept for a short time by mounting them in some of the fluid and ringing the preparation with caoutchouc cement.

Cellulose can be stained permanently by carmine, hæmatoxylin, nigrosine, methylene blue, safranine, and fuchsine.

When picric acid is used with carmine, nigrosine, or Hoffmann's blue, the picric acid dyes the ligneous portion, and the others colour the unlignified structure red, black, and blue respectively. (*Squire.*)

Heneage Gibbe's Double Stain.

Magenta	2 parts.
Methylene Blue	1 part.

Rub well, and add

Aniline Oil	3 fld. parts.
Dissolve in Rectified Spirit . . .	15 fld. parts.
Then add	
Distilled Water	15 fld. parts.

Koch's Methylene Blue Stain.

Saturated alcoholic solution of Methylene Blue	1 fld. part.
Solution of Caustic Potash (10 per cent.)	$\frac{1}{5}$ fld. part.
Distilled Water	200 fld. parts.

Glycerin Jelly Medium.

White French Gelatine . . .	10 parts.
Chloroform Water	q.s.
Glycerin	75 parts.
White of Fresh Egg	5 parts.

MEDIA FOR MOUNTING SECTIONS.

Glycerin.

Glycerin alone is very awkward to manipulate for permanent preparations, though for temporary examination of vegetable tissues, when somewhat diluted (two fluid parts to one of distilled water), it is a very satisfactory medium. If, however, it be desired to gain the fullest advantage from the use of glycerin it must be used in a more concentrated form, either alone or with as little water as experience shows to be desirable with the particular class of objects in hand at any time. Each section, after being washed in distilled water to remove any alcohol, should be soaked in glycerin. A ring of Miller's caoutchouc cement is then made in the middle of a clean slide

and allowed to dry. Next, place the section in position within the ring, cover it with a drop of glycerin, give another coating to the cement ring, and having gently breathed upon a clean cover-glass, invert it on the object in such a manner as to avoid introducing air-bubbles. The cover will soon be firmly held by the cement, and any superfluous glycerin may afterwards be washed off the slide by a gentle stream of water from a wash-bottle. Finally, carefully brush round the cover another ring of the cement, and, when this is properly set, the process may be repeated with any finishing varnish that may be desired. If the object is to be mounted in glycerin jelly, as much water as possible should be drained away after placing the section in position on the slide, and the jelly, just sufficient of which has been melted, should be dropped on the section, and a cover, previously breathed upon as before, placed over it. The slide is afterwards to be set aside until the jelly becomes firm, when the cover may be ringed with Bell's cement. Other convenient preparations of glycerin, which set at the edges of the cover and thus fix it to the slide, contain gum arabic as an ingredient. Hoyer's medium contains in addition chloral hydrate or acetate of potash, according as it is to be used with sections stained with carmine or hæmatoxylin, or with aniline colours.

Canada Balsam.

Of resinous media, Canada balsam is at once the type and the best in use. The raw material is not very suitable, however, since it contains a certain amount of oily matter, which prevents it setting satisfactorily. It is therefore desirable to heat it gently in an oven, until it is of such consistence that it becomes brittle when cold. By then dissolving in benzol, or xylol, in the proportion of about 100 grammes to 50 c.c., it is rendered fit for use. If the menstruum be required to evaporate very slowly, xylol should be employed; but for general purposes the benzol solution will be found preferable. Before these solutions can be applied to the sections, the latter must be dehydrated by means of methylated or absolute alcohol. When the former is employed, the sections must afterwards be "cleared" by immersion in oil of bergamot or oil of cloves, before mounting.

After absolute alcohol, however, oil of cedar or xylol will act more satisfactorily. Oil of cloves is very generally used, but it is apt to dissolve out aniline colours and render objects very brittle, if they are left in it very long. As a rule, it is best to leave them in the clearing liquid just long enough to effect the desired purpose (entire removal of alcohol, indicated by the sections appearing perfectly translucent), then remove and mount straightway, by placing upon clean cover-glasses, covering with a drop of the benzol-balsam, and immediately inverting upon a clean slide which has been slightly warmed to remove the film of surface moisture always present upon glass exposed to ordinary temperatures. If any air-bubbles appear, gentle warming and careful manipulation of the cover-glass with a mounted needle will generally remove them. Balsam-mounted objects require no ring of cement to retain the covers in position, but the application of one or two coats of Bell's cement will prevent the cedar-wood oil, used with immersion objectives, dissolving out the balsam at the edge of the covers. (*Squire.*)

FOREIGN PRESCRIPTIONS.

HINTS TO DISPENSING FRENCH PRESCRIPTIONS.

In dispensing prescriptions written by French practitioners, the assistance of the Codex or French Pharmacopœia is indispensable. A study of this work will give the dispenser an insight into the method of making most of the preparations at present used in French pharmacy.

Many bear the same name in both countries, but vary considerably in strength, a point it is well to note.

The metrical system of weights and measures is always used, and it must be remembered *that liquids*, as well as solids, are *to be weighed.*

In compounding a mixture, the bottle is first tared (small

shot being generally used for this purpose), and the ingredients weighed into it, the conventional order being first the solids, then the liquids, and finally the vehicle. As may be supposed, the quantities ordered often result in a mixture that will not fill any bottle of the usual capacity; it is, therefore, sent out in a bottle that will hold the quantity nearest to it.

The directions are usually written in French. Of the various forms of preparations met with in dispensing liquids, "sirops," "drops," and "mixtures," are perhaps the most common. There are also the "electuaire," "alcoolats," cachets, pills, granules, etc. Under the name "espèces" mixtures of various dried leaves, roots, etc., are frequently ordered for the preparation of "tisanes." The ingredients are cut up small and sent out in packets. Liniments, lotions, oils, suppositories, gargles, and wines are also met with.

Of the forms of administration used in French pharmacy, the following include those which are perhaps least known to the English dispenser.

Alcoolats are preparations which result from the distillation of alcohol over one or more medicinal substances, and may be simple or compound. Sometimes the simple alcoolats are replaced by the "solutions d'essences" in alcohol at 90°, and called "teintures d'essences."

Alcoolat de Garas.

Aloes	5 grammes.
Myrrhe	2 grammes.
Girofles	5 grammes.
Muscades	10 grammes.
Canelle de Ceylan	20 grammes.
Safran	5 grammes.
Alcool à 80°	5,000 grammes.

Prepared by maceration and distillation.

Alcoolatures are prepared by macerating the fresh leaves, flowers, or flowering tops, etc., of certain plants in alcohol at 90°, in the proportion of 1 to 1, for 10 days; then pressing and filtering. For example—

Alcoolature d'Aconit.

Feuilles fraîches d'aconit napel cueillies au commencement de la Floraison .	1,000 grammes.
Alcool à 90c	1,000 grammes.

Alcoolature of Arnica, Belladonna, Bryony, Colchicum, Digitalis, Stramonium, etc., are prepared in the same manner and strength.

Apozèmes are preparations made similar to the English decoctions.

Cérats have for a base a mixture of wax and oil, and serve as media for various medicinal substances. For example—

Cérat de Galien.

Cire Blanche	100 grammes.
Huile d'Amande Douce . . .	400 grammes.
Eau Distillée de Rose	300 grammes.

Cérat Laudanisé.

Laudanum de Sydenham (Vin. Opii. Co.)	10 grammes.
Cérat de Galien	90 grammes.

Cérat à la Rose.

Pommade pour les Lèvres.

Cire Blanche	50 grammes.
Huile d'Amande Douce . . .	100 grammes.
Carmin	0·50 centigrms.
Huile Volatile de Rose . . .	10 gouttes.

Cérat Saturne.

Cérat de Goulard.

Sous-Acétate de Plomb . . .	10 grammes.
Cérat de Galien	90 grammes.

Crayons Médicamenteux are pencils medicated with nitrate of

silver or tannin, etc. They are moulded into small sticks as directed.

The **Electuaires** are similar preparations to the confections of British pharmacy.

Espèces is the name given to a mixture of leaves or other parts of plants, cut up and mixed, and used for making an infusion. For example—

Espèces Carminatives.

Fruits d'Anis ,, de Carvi ,, de Coriandre ,, de Fenouil	a.a. . .	part. equal.

Mêlez.

Oléosaccharures are prepared by mixing a certain proportion of a volatile oil with sugar by trituration.

Oléosaccharure d'Anis.

Huile Volatile d'Anis	1 gramme.
Sucre Blanc	20 grammes.

Pommades are prepared with a base of lard or vaseline, and similar in consistence to ointments.

Potions are preparations which vary largely in composition. They are always prescribed by the medical practitioner like our mixtures, for immediate administration to the patient. They may take the form of a Julep or Looch.

The general directions for the proportions of leaves, flowers, etc., for preparing infusions or decoctions used in potions are, for leaves and flowers, 2 in 100 ; for barks, woods, 4 in 100. Gum-water for use in potions is prepared in the proportion of 4 in 100.

Potion Cordiale.

Vin de Banyuls	110 grammes.
Sirop d'Écorce d'Orange Amère . .	40 grammes.
Teinture de Cannelle	10 grammes.

Mêlez.

Potion Gommeuse.

Gomme Pulvérisée	10 grammes.
Sirop Simple	30 grammes.
Eau Distillée de Fleur d'Oranger .	10 grammes.
Eau Distillée	100 grammes.

Potion Pectorale.

Infusé de Fleurs Pectorales . . .	120 grammes.
Sirop de Gomme	30 grammes.

Mêlez.

Tisanes vary much in composition, and are usually made just when required for the patient, according to the order of the medical practitioner.

Tisane de Bourrache.

Dried Borage Leaves	10 grammes.
Boiling Distilled Water . .	1,000 grammes.

Infuse for half-an-hour, and strain.

Tisanes of Anis Fruits, Buchu, Coca, Eucalyptus, Jaborandi, Lin Sem. Scabieuse, Thé, Uva Ursi, Valériane, Violette (fleurs), etc., etc., are prepared of the same strength and in the same manner.

GERMAN PRESCRIPTIONS.

In dispensing prescriptions written by German practitioners, the main fact to be borne in mind is the difference in chemical nomenclature and measurement. The metric system is universally used in Germany as in France, and *all* ingredients must be weighed. As in England, mixtures predominate in German prescribing, but pills, powders, ointments, syrups, and elixirs are also often met with. In dispensing a mixture, the

tare of the bottle is first taken, then the various solids and liquids weighed into it.

As in preparing French prescriptions, the chief difficulty to the English dispenser lies in the difference in the nomenclature, and a German pharmacopœia is absolutely necessary. The following list will be found of use, which shows the difference in name of some of the commoner drugs.

For Acetum Saturninum, read Liq. Plumbi Subacet.
,, Aqua Amygdalarum Amar., read Aqua Lauro-Cerasi.
,, Aqua Phagœdenica, read Lotio Hydrargyri Flava.
,, Aqua Fontana, read Aqua Pura.
,, Calcaria Usta, read Calx.
,, Cortex Chinæ, read Cinchona.
,, Chininum read Quinina.
,, Flores Benzöes, read Acid. Benzoicum.
,, Flores Cinæ, read Santonica.
,, Flores Naphæ, read Flores Aurantii.
,, Flores Zinci, read Zinci Oxidum.
,, Gutti, read Cambogia.
,, Hydrargyrum Amidato-bichloratum, read Hydrargyrum Ammon.
,, Lapis Infernalis, read Argenti Nitras.
,, Magisterium Bismuthi, read Bismuthi Subnitras.
,, Natro Kali-tartaricum, read Soda Tartarata.
,, Nihilum Album, read Zinci Oxidum.
,, Pulvis Kurellæ, read Pulv. Glycyrrh. Co.
,, Tartarus Depuratus, read Potass. Bitartras.
,, Tartarus Natronatus, read Soda Tartarata.
,, Tr. Thebaica, read Tr. Opii.

The following preparations are frequently used in Germany :—

ACETUM AROMATICUM

Take of

Ol. Cinnam.	a.a. 1 part.
,, Menthæ Pip.	
,, Juniper	
,, Rosmarini	
,, Lavandulæ	
,, Limonis	a.a. 2 parts.
,, Caryoph.	
Spt. Vini Rect.	450 parts.

TINCTURA EUONYMI.

Tincture of Euonymus.

Take of

Euonymus Bark, in No. 20 powder	4 ounces.
Rectified Spirit	1 pint.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour rectified spirit upon it until one pint of tincture is obtained.

Dose.—10 to 40 minims.

TINCTURA EUPHORBIÆ PILULIFERÆ.

Tincture of Euphorbia.

Take of

Euphorbia, in No. 20 powder .	4 ounces.
Proof Spirit	q.s.

Moisten the powder with a suitable quantity of the menstruum, and macerate for twenty-four hours; then pack in a percolator, and gradually pour proof spirit upon it until one pint of tincture is obtained.

Dose.—10 to 30 minims.

TINCTURA IODI DECOLORATA.

Decolorized Tincture of Iodine.

Take of

Iodine	250 grains.
Rectified Spirit	5½ fld. ounces.

Dissolve by the aid of a gentle heat. When cold transfer to a stoppered bottle, and add of

Stronger Solution of Ammonia .	10 fld. drachms.

Keep the mixture in a warm place until decolorized, after which dilute it with

Rectified Spirit .	q.s. to produce 1 pint.

TINCTURA PHOSPHORI COMPOSITA.

Compound Tincture of Phosphorus.

Take of

Phosphorus	12 grains.
Chloroform	2½ fld. ounces.

Place in a stoppered bottle, and apply the heat of a water-bath until dissolved. Then add the solution to

Ethylic alcohol	12½ fld. ounces.

Shake well. This tincture should be preserved from the light, in accurately-stoppered bottles.

Each fluid drachm contains one-tenth of a grain of phosphorus.

Dose.—3 to 12 minims.

TINCTURA PRUNI VIRGINIANÆ.

Tincture of Wild Cherry.

Take of

Wild Cherry Bark, in No. 20 powder	4 ounces.
Distilled Water . . .	7½ fld. ounces.

Macerate for twenty-four hours, in a closed vessel, and add

Rectified Spirit	12½ fld. ounces.

Macerate for seven days ; then press, filter, and add

Proof Spirit . .	q.s. to produce 1 pint.

Dose.—20 to 60 minims.

UNGUENTUM HYDRARGYRI OLEATI.

Ointment of Oleate of Mercury.

Take of

Oleate of Mercury	1 ounce.
Simple Ointment	1 ounce.

Mix without heat.

UNGUENTUM OLEO-RESINÆ CAPSICI.

Ointment of Oleo-Resin of Capsicum.

Take of

Oleo-Resin of Capsicum . .	1 ounce.

Yellow Wax	½ ounce.
Benzoated Lard	4 ounces.

Melt the wax and lard at a low temperature, add the oleo-resin, mix thoroughly, and, if necessary, strain through muslin. Stir until cold.

As a mild counter-irritant, the ointment will bear dilution from three to six times.

VINUM AURANTII DETANNATUM.

Detannated Orange Wine.

Take of

Orange Wine	1 gallon.
Gelatine, cut small . . .	½ ounce.

Macerate for fourteen days, and decant.

VINUM XERICUM DETANNATUM.

Detannated Sherry.

Take of

Sherry	1 gallon.
Gelatine, cut small . . .	½ ounce.

Macerate for fourteen days, and decant.

SPRAY INHALATIONS

OF THE

THROAT HOSPITAL PHARMACOPŒIA.

Nebula Acid. Carbol.	3 grs.	water	1 oz.
,, ,, Lactic.	30 mins.	,,	,,
,, ,, Sulphurosi.	40 to 60 mins. at a time.		
,, ,, Tannici	5 grs.	,,	,,
,, Alkalina	Bicarb. Soda 15 grs. Borax 15 grs. Acid. Carbol. 4 grs. Glycerine 45 mins.	,,	,,
,, Aluminii Chlor.	Sol. Chlor. of Alum 3 mins.	,,	,,
,, Aluminii	Alum 8 grs.	,,	,,
,, Calcis	Aq. Calc. q.s.		
,, Ferri Perchlorid.	Iron Perchlorid. 3 rs.	,,	,,
,, ,, Sulph..	Iron Sulphate 2 grs.	,,	,,
,, Ferro-Aluminis	Iron Alum 3 grs.	,,	,,
,, Iodi cum Acid. Tannic.	Tr. Iodine 3 mins. Glycer. Ac. Tan. 12 m.	,,	,,
,, Iodoformi	Iodoform 40 grs.	Ether ·735	1 oz.
,, Potass. Chlor.	Chlor. Potass 20 grs.	water	1 oz.
,, ,, Permangan.	Pot. Permang. 5 grs.	,,	,,
,, Potassi Bromid.	Pot. Bromid. 20 grs.	,,	,,
,, Sodæ Benzoat	Sodæ Benz. 20 grs.	,,	,,
,, ,, Salicylas	Sodæ Sal. 20 grs.	,,	,,
,, Sodii Chlorid.	Sodii Chlor. 5 grs.	,,	,,
,, Zinci Iodat..	Iodat. Zinc Caustic 2 mins.	,,	,,
,, ,, Chlor..	Zinc Chlor. 2 grs.	,,	,,
,, ,, Sulph.	Zinc Sulph. 5 grs.	,,	,,
,, ,, Sulphocarb..	,, Sulph. 5 grs.	,,	,,

LOZENGES OF THE THROAT HOSPITAL PHARMACOPŒIA.

All the lozenges of the T.H.P. are made with fruit paste, excepting those containing Acid Carbolic and Althææ.

Troch. Acid. Benzoici .	½ gr.	Troch. Guaiaci . .	2 grs.
,, ,, Carbolici	1 gr.	,, Kino . .	2 grs.
,, ,, Tannici .	1½ grs.	,, Krameriæ .	3 grs.
,, Aconiti . .	½ min.	,, Lactucæ . .	1 gr.
,, Althææ . .	2 grs.	,, Potass. Chlor. .	3 grs.
,, Ammon. Chlorid.	2 grs.	,, ,, Citratis	3 grs.
,, Boracis . .	3 grs.	,, ,, Tart. Acid.	3 grs.
,, Catechu . .	2 grs.	,, Pyrethri . .	1 gr.
,, Cubebæ . .	½ gr.	,, Sedativi	$\frac{1}{10}$ Ext. Opii.

HYPODERMIC INJECTIONS.

	Strength.	Dose.
Aconitine . .	1 gr. in ½ oz. water .	1 or 2 mins.
Antim. Tart. . .	1 gr. in 24 min. water	5 mins.
Antipyrine & Cocaine	——	8 to 30 mins.
Apomorphine . .	2 grs. in 1 drachm .	2 to 3 mins.
Argent . . .	Argent. Chlor. 0·5 grm. Soda Hyposulph. 3grms. Aq. Distill. 100 c.c.	2 to 10 mins.
Atropine Sulph. .	1 gr. in 4 drachms .	2 to 3 mins.
Caffeine . . .	1 gr. in 3 mins. . .	1 to 3 mins.
Chloral Hydrate .	80 grs. in 160 mins. .	14 to 40 mins.
Cocaine Hydrochlor.	1 gr. in 20 mins. . .	2 to 10 mins.
Codeine . . .	Codein. Phosph. 1 gr. in 6 mins.	2 to 6 mins.
Colchicine . .	$\frac{1}{32}$ gr. in 15 mins. . .	10 to 15 mins.
Conine . . .	1 gr. in 20 mins. . .	1 to 3 mins.
Curare . . .	5 grs. in 60 mins. . .	1 to 6 mins.
Ergotine . .	1 gr. in 2 m. (Aq. Camph.)	5 to 10 mins.

	Strength.	Dose.
Homatropine . .	1 gr. in 120 mins. . .	1 to 6 mins.
Hydrarg. Bichlor. .	1 gr. in 160 mins. . .	20 to 49 mins.
Hyd. et Sod. Iodid .	1 gr. in 70 mins. . .	10 mins.
Hyoscyamine . .	1 gr. in 2 drachms. .	1 to 4 mins.
Iodi . . .	¾ gr. free Iodine in 1 min.	3 to 5 mins.
Morphine (B.P.) .	1 gr. in 10 mins. . .	1 to 5 mins.
Physostigmine .	5 grs. in 2 drachms with S.V.R. and mucilage.	3 to 12 mins.
Picrotoxine . .	1 gr. in 360 mins. .	3 to 6 mins.
Pilocarpine . .	1 gr. in 20 mins. water .	2 to 6 mins.
Quinine, freshly prepared	12 grs. in 1 drachm of ether	5 mins.
Sal. Alembroth. .	⅓ gr. in 10 mins. . .	⅓ gr.
Strychnine . .	1 gr. in 4 drachms water	2 to 3 mins.

MODERN REMEDIES.

Name.	Characters, etc.	Solubility, etc.
Acidum Agaricum (syn. : Agaricin)	minute white crystals	dose : ⅛ to 1 gr., in pill.
Acidum Camphoricum	white powder .	dose : 10 to 20 grs.
Acidum Cresoticum	white needles .	soluble in alcohol, ether and chloroform.
Acidum Osmicum .	yellow crystals .	soluble in water 1 in 50.
Acidum Trichloraceticum	in deliquescent crystals	soluble in glycerin.
Agathin . .	whitish crystals .	dose : 4 to 8 grs., in cachet.
Alumnol . .	astringent and antiseptic	soluble in water. Dose : 5 to 15 grs.
Amylene Hydras .	colourless liquid .	soluble in water 1 in 8, and alcohol.
Amylene Hydrate	——	soluble in water 1 in 19.
Analgene . .	white powder	dose : 15 grs.

Name.	Characters, etc.	Solubility, etc.
Anemonin . .	dose : $\frac{1}{60}$ to $\frac{1}{12}$ gr.	given in pills.
Anthrarobin .	straw-coloured .	with lanoline ; soluble in 10% sol. of borax.
Antitoxin or Anti-diphtheritic Serum, prepared from the blood serum of the horse or other animals rendered immune to the disease	——	dose 10 to 15 c.c., hypodermically.
Antipyrine Amygdalate (syn. : Tussol)	in crystals . .	dose : 5 to 10 c.c.
Antispasmin .	whitish powder .	dose : $\frac{1}{6}$ to $1\frac{1}{2}$ grs.
Antithermin .	——	given in pills and powders.
Antivenene . .	the blood serum of animals immunized from snake venom.	——
Apiol . . .	green oily liquid .	in capsules.
Apocodeinæ Hydrochloras	greyish powder .	dose : $\frac{1}{10}$ gr., gradually increased to 1 gr.
Aseptol (Sozolic Acid)	slightly soluble in water	in mixture with Pulv. Trag. Co.
Asparagin . .	hard crystals .	soluble in water 1 in 12.
Atropine Oleate .	formula : Atropine 1, Oleic Acid 30, Olive Oil 50.	——
Auri Bromidum .	brown powder .	dose : $\frac{1}{60}$ to $\frac{1}{10}$ gr., well diluted.
Benzanilide . .	white scales, insoluble in water	dose : 3 to 12 grs.
Benzosol (syn.: Benzoate of Guaiacol)	——	——
Betol . . .	——	given in pills or powders.
Bromal Hydras .	——	dose : 2 to 5 grs.
Bromalin . .	crystalline powder	soluble in water.

Name.	Characters, etc.	Solubility, etc.
Bromethyl .	colourless volatile liquid	as inhalation.
Bromoform . .	colourless liquid .	slightly soluble in water.
Bromol . .	in needles . .	dose : ½ to 2 grs. in pill.
Cannabina . .	brown liquid .	dose : 1 to 5 grs.
Cantharidine .	——	soluble 1 in 84 chloroform, and 1 in 38 acetone.
Carbonis Tetrachlorid	a heavy liquid .	used for inhalation.
Carpaine . .	alkaloid . .	dose : $\frac{1}{30}$ to $\frac{1}{6}$ gr.
Caulophyllin .	brown powder .	dose : 1 to 4 grs. in pill with Glycer. Trag.
Cerebrin and Myelin	brain and spinal cord extracts	dose : 5 to 20 mins.
Chinolinum . .	colourless oily liquid, insoluble in water	dose : 3 to 10 mins.
Chloralamide .	dose : 20 to 50 grs.	soluble in water 1 in 20.
Chloralimide .	colourless liquid	dose : 5 to 30 mins.
Chloralose . .	white crystals .	dose : 3 to 10 grs., in cachet.
Citrophen . .	white powder .	dose : 15 to 30 grs., soluble in water.
Cocainæ Nitras .	crystals . .	dose : ⅙ to 1 gr.
,, Phenas .	pasty compound .	dose : ⅙ to 1 gr.
,, Salicylas	white crystals .	dose : ⅙ to 1 gr.
Coninæ Hydrobromas	colourless prisms	dose : ⅛ gr., soluble in water 1 in 2 nearly.
Convallamarin .	whitish - brown powder	dose : ½ to 2 grs., soluble in water.
Cornutine . .	brownish-grey alkaloid	dose : ⅙ gr. daily.
Cotoin . . .	pale yellow powder	dose : ½ to 2 grs.
Cresol Salicylas (syn. : Cresalol)	white crystals ——	dose : 2 to 10 grs., insoluble in water, readily in spirit.

Name.	Characters, etc.	Solubility, etc.
Creolin . .	tar-like, brown, syrupy liquid	soluble in alcohol.
Curare . .	——	dose : $\frac{1}{20}$ to $\frac{1}{2}$ gr.
Daturine . .	dose : $\frac{1}{120}$ to $\frac{1}{60}$ gr.	in solution with Acid Sulph. Dil.
Delphina . .	dose : $\frac{1}{4}$ to $\frac{1}{2}$ gr. .	in pill with Glyc. Trag.
Diaphtherin . .	yellow crystals or powder	antiseptic in 1 or 2 % solution.
Diuretin . .	white powder .	dose : 10 to 15 grs.
Duboisiæ Sulph.	dose : $\frac{1}{120}$ to $\frac{1}{30}$ gr.	——
Emetin . .	——	dose : $\frac{1}{15}$ to $\frac{1}{10}$ gr. expectorant, $\frac{1}{2}$ to 1 gr. emetic, in pill or solution.
Erythrophlœiæ Hydroch.	dose : $\frac{1}{40}$ to $\frac{1}{24}$ gr.	soluble in water.
Euphorin . .	white crystals .	dose : 3 to 6 grs.
Europhen . .	yellow powder .	insoluble in water, soluble in oil and alcohol.
Exalgin . .	dose : 2 to 6 grs.	soluble in water 1 in 60.
Ferratin (syn. : Ferri Albuminous Ac.)	——	tonic properties.
Ferripyrin . .	orange - coloured powder	soluble in water.
Fluorescein (syn. : Resorcin Phthalein)	red crystalline powder	——
Formanilide . .	colourless crystals	dose : 1 to 4 grs., soluble in water.
Fuchsine (syn. : Rosaniline)	dose : $\frac{1}{2}$ to 4 grs.	in pill with Glycer. Trag.
Gallacetophenone .	yellowish - brown powder or needles	freely soluble in hot water, alcohol, and glycerin.
Gallobromal .	whitish crystals	dose : 5 to 15 grs., soluble in water 1 in 10.
Guaiacol . .	colourless liquid .	dose : 1 min., with cod-liver oil, alcohol, or water.

Name.	Characters, etc.	Solubility, etc.
Helenin . .	colourless needles	dose : $\frac{1}{8}$ gr.
Hydracetin . .	a white powder .	soluble in water 1 in 50, given in pill.
Hydrargyri Carbolas	dose : $\frac{1}{3}$ to $\frac{1}{2}$ gr. .	in pill, with Ext. Glyc. and coated with tolu.
Hydrargyri Cyandum	dose : $\frac{1}{20}$ to $\frac{1}{4}$ gr.	soluble in water 1 in 8.
Hydrargyri Salicylas	dose : 1 gr. daily	soluble in water with 5% of Sod. chloride.
Hydrargyri Succinimas	contains 50% of mercury.	soluble in water.
Hydroquinone .	dose : $\frac{1}{2}$ to 5 grs.	soluble in water 1 in 20.
Hydroxylamine .	external use .	soluble in water.
Hyoscine Hydrobrom.	white crystals .	dose : $\frac{1}{300}$ to $\frac{1}{60}$ gr., in pill or solution.
Hypnal . .	dose : 15 grs. .	in cachet or water.
Hypnone . .	colourless liquid, in capsules.	dose : 3 to 5 mins.
Ichthyol . .	dose : 4 to 20 min.	in capsules or mixture. Sodium compound used for pills.
Iodine Trichloride	orange needles .	supplied in sealed tubes.
Iodol . . .	dose : 1 to 3 grs.	soluble in glycerin 1 in 34. Pills with Ext. Glycyr.
Iodophenin . .	dark brown powder	soluble in alcohol, insoluble in water.
Iodopyrin . .	dose : 5 to 20 grs.	soluble in water.
Kairin . . .	white powder .	dose : 10 to 20 grs., in pills or cachets.
Lactophenin .	white crystals .	dose : 5-15 grs., soluble in water 1 in 330.
Listerine . .	antiseptic preparation said to contain Thyme, Eucalyptus, Baptisia, Gaultheria and Mentha Arvensis, with Benzoboracic Acid.	for internal or external use.

Name.	Characters, etc.	Solubility, etc.
Lipanin	straw-coloured oil dose : ℥i. to ℥iii.	substitute for cod-liver oil.
Loretin(syn.: Iodo-oxyquinoline)	——	application for wounds.
Losophan . .	greyish crystalline powder	soluble in alcohol and chloroform.
Lycetol .	——	dose : 4 to 10 grs.
Lysidin . .	light red crystals	dose : 5 to 15 grs.
Lysol . . .	dark-coloured liquid	antiseptic.
Malakine	light yellow needles, soluble in water	dose : 10 to 15 grs., in cachet.
Mallein . .	diagnostic agent for glanders in horses.	——
Megranin .	double citrate of antipyrine and caffeine.	——
Menispermin .	——	dose : 1 to 5 grs., in pills, with Glycer. Trag.
Menyanthes (Bog-bean)	——	infusion and extract.
Metaldehyde .	white crystals .	dose : 2 to 8 grs., in cachets or pills.
Methacetin . .	white scaly crystals	dose : 2 to 6 grs., in cachet, soluble in water 1 in 260.
Methylal . .	dose : 15 to 30 min., in mixture or ointment	soluble in water.
Methylene Bichloride	——	as inhalation.
Methylene Blue .	bronze green crystals	dose : 1 to 4 grs.
Mollin . . .	white ointment base.	——
Muscarinæ Nitras	dose : ½ to ⅓ gr. .	hypodermically.
Myricin . .	dose : 2 to 5 grs.	in pill with Glycer. Trag.
Naphthalene .	dose : 2 to 15 grs.	in cachets or pills.

Name.	Characters, etc.	Solubility, etc.
Naphthalene Tetrachloride	dose : 3 to 12 grs.	in cachets or pills.
β Naphthol. .	shining needles .	dose : 2 to 15 grs. in cachets.
Narceina . .	silky crystals .	dose : $\frac{1}{8}$—$\frac{1}{2}$ gr., in pill.
Neurodin . .	colourless crystals	dose : 5 to 15 grs.
Nosophene . .	yellow powder .	used as an insufflation.
Orchitic Fluid .	prepared from the testes of animals	dose : 15 mins., hypodermically, 30 mins. by mouth.
Orexine . .	whitish powder .	dose : 3 grs., in pills coated.
Oxynaphthoic Acid	white needles .	in ointment or collodion
Oxysparteina .	white crystals .	dose : $\frac{1}{2}$ to $1\frac{1}{2}$ grs.
Pancreatinum .	yellowish powder	dose : 2 to 4 grs.
Papaverina . .	alkaloid . .	dose : $\frac{1}{12}$ to $\frac{1}{3}$ gr.
Paracotoin . .	laminar crystals .	dose : $1\frac{1}{2}$ to 3 grs.
Paraldehyde .	colourless . .	dose : $\frac{1}{2}$ to 1 dr., in mixture with brandy or water. Soluble in water 1 in 12.
Pelletierine . .	dose : 3 to 6 grs.	syrupy liquid.
Phenacetin . .	white powder .	dose : 8 to 20 grs., in cachets or mixture, with P. Trag. Co.
Phenocoll Hydrochlor.	dose : 7 to 15 grs.	in solution or cachet.
Phenosalyl . .	a mixture of Carbolic, Salicylic, and Benzoic Acids dissolved in Lactic Acid	antiseptic, soluble in water.
Picrotoxin . .	white needles .	dose : $\frac{1}{100}$ to $\frac{1}{50}$ gr.
Pixol . . .	pine-wood tar treated with soap	soluble in water.
. . .	and caustic potash	
Piperazine . .	dose : 4 to 10 grs.	soluble in water 1 in 4.
Prunin. . .	——	dose : 1 to 5 grs.
Pyoktanin (syn. : Methyl-Violet)	green crystalline powder	——

A CONDENSED CHART FOR THE DETECTION OF METALS IN SOLUTION.

GROUP I.

Add HCL

White ppt. { Lead. / Mercurous Salt. / Silver. / Bismuth or Antimony as oxychlorates.

Add excess HCL

ppt. dissolves if { Bismuth or Antimony.

If precipitate does not dissolve *boil*, if dissolved Lead is indicated. If unchanged add ammonia.

Precipitate dissolves = *Silver*.

Turns *black* = Mercury.

GROUP II.

Pass H_2S into solution.

Black ppt. { Mercuric Salt. / Copper. / Bismuth. / Lead.

Add Sol. Pot. Iodid. to same. If it turns

Red = Mercury.

Green = Bismuth.

Yellow = Lead.

Brown = Copper.

Yellow ppt. with H_2S. { Arsenic. / Cadmium. / Stannic Salt.

Add to same

Ammon. Sulphyd.

Arsenic = dissolves.

Tin = dissolves.

Cadmium = insoluble.

If ppt. is dissolved add HCL.

Arsenic is precipitated, Tin is not.

Brown ppt. with H_2S = Stannous Salt.

Orange ppt. with H_2S = Antimony.

GROUP III.

Add AmCl AmHO (till it smells when shaken).

AmHS (a little).

Black ppt. { Iron. / Cobalt. / Nickel.

To original solution add $K_6Fe_2Cy_{12}$.

Blue ppt. = Iron.

Plum colour ppt. = Cobalt.

Yellowish ppt. or none = Nickel.

White ppt. { Alum. / Zinc.

To original solution add K_4FeCy_6.

White ppt. = Zinc.

No ppt. = Alum.

Green ppt. = Chromium.

The AmHS and Am HO must give a green ppt. for Cr. If white with Am HO, Al or Fe is indicated.

Flesh colour ppt. = Manganese.

GROUP IV.

Add to last solution Am_2CO_3.

White ppt. { Barium. / Strontium. / Calcium.

Dissolve the ppt. in Acetic Acid and add K_2CrO_4.

Yellow ppt. = Barium.

If *no ppt.* add H_2SO_4. Dilute =

White ppt. on standing or shaking = Strontium.

No ppt. add $Am_2C_2O_4$.

White ppt. = Calcium.

GROUP V.

Add to original solution Na_2HPO_4.

White ppt. = Magnesium.

If no ppt. is obtained in either group Potassium, Sodium or Ammonia are indicated.

Potassium.

Yellow ppt. with $PtCl_4$.

White ppt. with strong solution of Acid. Tart.

Sodium. No ppt. with above and yellow flame.

Ammonia. Heat with KHO, gas evolved. (Nessler's test.)

CHART FOR THE DETECTION OF ACIDULOUS RADICALS OF SALTS IN SOLUTION.

DISSOLVE THE SALT IN WATER, AND RENDER IT NEUTRAL, IF NECESSARY.

GROUP I. H_2SO_4. Decomposes.	GROUP II. $BaCl_2$. Precipitates.	GROUP III. $CaCl_2$. Precipitates.	GROUP IV. $AgNO_3$. Precipitates.	GROUP V. Fe_2Cl_6. Precipitates.	GROUP VI. $H_2SO_4 + FeSO_4$. Forms a black colouration.
Sulphites.	Oxalates, *White.*	Oxalates, *White.*	Chlorides, *White.*	Ferrocyanides, *Blue.*	
Sulphides.	Tartrates ,,	Tartrates ,,	Tartrates ,,		
Carbonates.	Citrates ,,	Citrates ,,	Bromides, *Yellowish White.*		
Cyanides.	Sulphates ,,	Phosphates ,,	Iodides, *Yellow.*	Borates, *Yellowish.*	Nitrates.
Acetates.	Phosphates ,,		Phosphates ,,		
			Chromates, *Red.*		
			Arseniates, *Chocolate.*		
			Arsenites, *Yellow.*		

Group I. H_2SO_4 — Apply heat, and notice any odour which may be evolved.
Sulphides give off H_2S (sulphuretted hydrogen). Confirm.
Sulphites give off SO_2 (sulphurous acid gas). Confirm.
Carbonates effervesce and give off CO_2 (carbonic acid gas). Confirm.
Cyanides give off the odour of HCy (hydrocyanic acid). Confirm.
Acetates give off the odour of acetic acid. Confirm.

Group II. $BaCl_2$ — Should the precipitates produced by this reagent be insoluble in HNO_3, a sulphate is indicated. Should the precipitate be soluble, pass on to Group III.

Group III. $CaCl_2$ — Should the precipitate produced by this reagent be insoluble in acetic acid, but soluble in HCl, the presence of an oxalate is indicated. Confirm. Tartrate of calcium is also insoluble in acetic acid, an acid tartrate of calcium being formed, which may be distinguished from the amorphous oxalate of calcium by its crystalline character. Confirm. Should the precipitate be soluble in acetic acid, test for citrates.

Group IV. $AgNO_3$ — The colour of the precipitates by this reagent is very characteristic. If the precipitate is white and insoluble in HNO_3, but soluble in dilute solution of ammonia, the presence of a chloride is indicated. Confirm.

Group V. Fe_2Cl_6 — A yellowish precipitate indicates a borate. Confirm.

Group VI. $H_2SO_4 + FeSO_4$ — Should the previous reagents give no precipitate, add a crystal of sulphate of iron and a few drops of strong sulphuric acid. The formation of a black colour indicates a nitrate. Confirm.

STANDARD SPECIFIC GRAVITY OF WINES, ETC.

			per cent. absolute alcohol.
Old Port . . .	S.G.	·998 containing	20·29
New Port . .	,,	1·003 ,,	17·30
Common Port . .	,,	·999 ,,	20·08
Sherry (good) . .	,,	·987 ,,	16·62
,, (common) .	,,	·996 ,,	17·50
Claret (ordinaire) .	,,	·992 ,,	6·99
,, (St. Julien) .	,,	·995 ,,	9·84
Brandy (good) . .	,,	·934 ,,	46·38
Rum	,,	·944 ,,	41·28
Gin	,,	·964 ,,	31·73

To find the volume percentage of water in a spirit, multiply the weight per cent. of water by the S.G. of the spirit

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MILK ANALYSIS.

THERE are several methods in use for the analysis of milk, but as to which is the best there is a difference of opinion. It may be useful, therefore, to roughly sketch for the guidance of those who have had but little analytical experience, the plan usually followed by the majority of chemists.

As a source of nourishment, milk ranks high, and takes a position between the cereal and animal foods. Its yellowish-white, or white, colour is due to the presence of suspended fatty globules, milk forming a type of a perfect natural emulsion. In composition it contains, besides fat, casein or curd, and milk sugar, an important constituent, which forms the chief substance in solution in the whey.

The ash obtained by careful incineration from fresh cow's milk averages from ·62 to ·80 per cent.

The analysis or examination as to the quality of milk is based on the results of the following estimations—

I. Specific gravity.
II. The percentage of total solids.
III. Of the non-fatty solids.
IV. Of the fat, or cream.
V. Of the ash, or mineral matter.
VI. Estimation of chlorine.

There are several processes by which these estimations may be conducted, those we are about to describe being perhaps the least intricate, and require less practice than the others.

Having received our sample, which should be as fresh as possible, and measure not less than half-a-pint, the first operation is to take the specific gravity.

Specific Gravity.—The S.G. must be taken at a temperature of 60° F., so the sample should first be cooled down to 59° F., by placing the vessel which contains it in a freezing mixture. This having been done, fill the S.G. bottle in the proper manner, close it with the stopper, and wipe the outside carefully. Place it in the balance, and weigh, and deducting the weight of the bottle, note the result, which is the weight of the milk. Divide this by the weight of water the bottle will hold at 60° F., and you will have the S.G. of the milk. Another method is with the lactometer, which has a graduated stem showing degrees of gravity above that of water (1,000).

Cream being lighter than the rest of the milk, its absence raises the S.G., and a large quantity of cream would therefore lower the S.G. of a sample. A low S.G. might indicate a milk to be rich in fat, or that water has been added ; and it is not till we separate the cream that we are able to form a rough guess if water has been added or not. The S.G. of good cow's milk varies from 1029·3 to 1034·4.

We next proceed to take the total solids.

Total Solids.—This is a very simple matter, and is done by weighing a convenient quantity of the sample, say 200 grains, and placing it in a tared, flat-bottomed platinum or porcelain dish, and by means of the water-bath evaporating to dryness ; it is then removed to a water-oven and kept at about 100° F. for three or four hours, till free from moisture. It should be weighed at intervals till a constant weight is obtained. After cooling, note the weight, and subtracting the weight of the

dish, you have the total solids, which divided by 2 gives the percentage.

Non-fatty Solids.—This estimation requires great care, and is an important one. The following process is fairly accurate when properly performed. The total solids are taken, and just covered with ether or benzoline. After separating from the dish by means of a knife, cover with a watch-glass, and place in a corner of the water-bath for some time. After cooling, with great care pour off the liquid and pass it through a filter, retaining the filtrate, which must be collected. This operation must be repeated five or six times, until the total solids are quite freed from fat. This having been done, the latter must be dried for one hour to a constant, and weighed. The weight of the dish having been subtracted from this, and the result divided by 2 gives the percentage of the non-fatty solids. Again, by subtracting the non-fatty solids from the total solids, and dividing the remainder by 2, we shall have the percentage of fatty solids.

Percentage of Ash or Mineral Matter.—For this operation, the non-fatty solids must be incinerated over a Bunsen burner, using as little heat as possible. The ash should not be allowed to fuse, but should become quite white before the weight is taken. After cooling, weigh the residue, and the result being divided by 2, will give the percentage of mineral matter. This ash contains chlorides of sodium and potassium, phosphates of calcium, magnesium, and potassium, with a small quantity of sulphates, and traces of carbonates. The following shows the constituents of the ash of milk of several cows—

Percentage of total Ash . . .	0·72
Potash	19·53
Soda	3·30
Lime	24·48
Magnesia	4·76
Phosphoric Anhydride . . .	32·49
Sulphuric Anhydride . . .	0·92
Chlorine	14·52
Total	100·00

Estimation of Chlorine is arrived at by heating the ash with warmed distilled water, adding to it a few drops of solution of potass chromate. A burette having been filled with the

standard solution of nitrate of silver, the chlorine in the ash solution is estimated volumetrically. Directly the red chromate of silver is precipitated, the estimation is complete, and the number of grains of nitrate of silver used noted. The result is arrived at as follows—

1 grain Standard Silver Nitrate = ·00355 Chlorine.
∴ Multiply number of grains used by ·00355; result = Chlorine in grains, which being divided by 2 = Chlorine per cent.

The milk sugar, if thought necessary, may be estimated by the polariscope, by placing 50 c.c. of milk into a 100 c.c. flask, and adding a sufficient quantity of solution of basic acetate of lead to give a bright filtrate. The whole is then made up to 100 c.c. with distilled water and filtered. The angle of rotation is observed through a 200 m.m. tube filled with the clear solution, and the percentage of sugar estimated by taking 59·3° as the specific rotation of milk sugar. It may also be estimated gravimetrically.

There are a variety of other methods used in the analysis of milk, but it is practically from a consideration of the points we have mentioned that the judgment on a sample is formed.

Having the results before us, we have to deduce from them our opinion as to the quality of the sample. First from the S.G., as before stated, we may form a rough guess if water has been added to the milk or not. If the S.G. is below 1029·9, we should look upon it with suspicion. The percentage of cream will help to corroborate this. A portion of the sample should be placed in a large test-tube and allowed to stand for four or five hours, until the cream rises to the top; the percentage may then be estimated by measurement, and should not be less than 11 per cent.

Next we have the non-fatty solids, which are important factors, and vary very slightly in good milk. If they are less than 8·60 per cent., the milk has been watered or skimmed. A skimmed milk could be readily detected by the absence of fat, while a watered milk would still contain a certain amount.

If the ash exceeds ·8 per cent. it is likely some other adulterant has been added, such as borax, salt, carbonate of soda, salicylic acid, or glycerin. The three former are the articles most commonly met with. The percentage of fat should not be less than 3·80.

Salt is used as an adulterant to cover the addition of water, and its presence is detected by the high amount of chlorine, which may be estimated by the volumetric process already described. If more than ·14 is present, it is fairly conclusive that salt has been added.

Carbonate of soda is indicated in the high ash, which also effervesces on the addition of a drop or two of acid. This test, taken together with the high percentage of ash, would show that an alkaline carbonate had been added, as the ash of pure cow's milk should not give this reaction. The presence of salicylic acid, which is occasionally added as a preservative, may be easily determined by the colour test, with ferric chloride. If salicylic acid is present it turns a deep purple.

Glycerin may be detected by first coagulating the casein with rennet or dilute acids, and removing all traces of fat by ether, and evaporating the whey. The residue may then be treated with a mixture of ether and alcohol, which will take up the glycerin. Carefully evaporate the ether and alcohol, and the glycerin, if present, will remain, and may be proved by confirmatory test.

As no arbitrary standard can be fixed for the composition of cow's milk, the judgment must necessarily depend on experience, and a careful comparison with the proportions of the most important constituents in genuine samples.

It is the custom of most analysts to fix certain limits of quality based on the amount of ash, non-fatty solids, and fat, and judge those samples falling below their limits accordingly.

The following, extracted from a table compiled by Bell, will give an idea of the variation in samples, and be also useful for comparison—

S.G.	Per cent. Solids. Non-fatty.	Fat.	Per cent. Ash.	Per cent. by vol. of cream.
1033·60	= 10·02	= 4·31	= ·75	= 8·00
1028·35	= 10·42	= 5·66	= ·77	= 19·00
1027·68	= 9·12	= 4·55	= ·79	= 6·50
1031·53	= 9·23	= 6·22	= ·72	= 16·00
1026·70	= 8·20	= 4·66	= ·65	= 14·00

Works for reference:—Wanklyn's *Milk Analysis;* Bell's *Analysis and Adulteration of Foods*, Part II., etc.

BLOXAM'S COLOUR-TESTS FOR ALKALOIDS.

The following is a characteristic and delicate test for identifying strychnine.

The alkaloid on a glass slide or a porcelain crucible lid is dissolved in a drop of dilute nitric acid, and gently heated; to the warm solution a very minute quantity of powdered potassium chlorate is added, which will produce an intense scarlet colour; one or two drops of ammonia will change this to a brownish colour, giving a brownish precipitate; the mixture is then evaporated to dryness, when it leaves a dark green residue, dissolved by a drop of water to a green solution, changed to orange-brown by potash, and becoming green again with nitric acid; these last changes of colour may be repeated any number of times.

The green colouring-matter is evidently a product of the action of ammonia upon the scarlet body; for if this be bleached by heating or by excess of chlorate before the ammonia is added, the residue on evaporation is light brown, and yields with potash a bright yellow solution which is nearly bleached by nitric acid.

No other of the commonly occurring alkaloids could be mistaken for strychnine by the above test, but each of them exhibits some peculiarity when treated in the same way, which would give a clue to its identity. This will be seen in the subjoined table (see next page), in which the tests are supposed to be applied to the same portion of the alkaloid as described.

A more convenient re-agent can be made by mixing a weak solution of potassium chlorate with enough strong hydrochloric acid to turn it bright yellow. This euchlorine solution is added by degrees to the solution of the alkaloid in HCl, which is boiled after each addition.

Strychnine gives a fine red colour, bleached by excess and returning when boiled.

Brucine gives a violet colour in the cold, which is bleached by excess and restored by boiling.

Narcotine gives a bright yellow colour in the cold, which becomes pink on boiling and adding more of the euchlorine solution.

TABLE OF COLOUR-TESTS.

	HNO_3.		$KClO_3$.	NH_3.	Residue.	KHO.	HNO_3.
	Cold.	Heated.					
Strychnine	—	Pink . .	Scarlet .	Brownish precipitate	Green . .	Orange .	Green.
Brucine .	Scarlet . / Violet .	Yellow. .	Yellow .	Bright yellow . .	Green . .	Dark brown	Green ; brown.
Narcotine .	—	Bright yellow	Yellow .	Dark brown . .	Dark brown	Dark brown	Reddish-yellow.
Morphine .	Orange-red .	Yellow .	Yellow .	Red brown . .	Light brown	Light brown	Light brown.
Quinine .	—	—	—	Green precipitate .	Light brown	Light brown	Light brown.
Cinchonine	—	—	—	White precipitate .	Light brown	—	—
Caffeine .	—	—	Pale yellow	Bleached . . .	Red ; yellow	—	—

Quinine gives a faint yellowish-pink on boiling.
After colouring the solution, weak ammonia is gradually added.
Strychnine gives a yellow colour unchanged by boiling.
Brucine gives the same.
Narcotine gives a dingy green, becoming brown on boiling.
Quinine gives a bright green, becoming yellow on boiling.
Morphine gives no reaction; but if, after boiling with the euchlorine solution, the liquid be cooled, and allowed to remain in contact with zinc for a minute or two, it will give the characteristic pink reaction with ammonia.

PHARMACEUTICAL ANALYSIS.

SOME SPECIAL TESTS FOR DRUGS AND CHEMICALS.

It is highly essential that every pharmacist should know how to test the articles he deals in, as to their purity and freedom from adulterants. It is, further, important that he should not only have the knowledge, but also put it into actual and regular practice. The public now look to the skill and training of the educated chemist for protection from fraud, and expect to find the drugs they purchase from him pure and good. The duty, therefore, lies with every pharmacist to satisfy himself that the drugs and chemicals he uses are free from impurity, and justify the trust reposed in him. The processes included in the following tests have been rendered as simple as possible, so that they may be conducted at any dispensing counter.

Acetum.—For excess of sulphuric acid, add 1 grain of chloride of barium to 1 fluid ounce of vinegar, and filter. The filtrate should not give any further precipitate with chloride of barium. If copper, iron, or lead are present, a black coloration will be found if the vinegar be first neutralized with ammonia, and sulphydrate of ammonium then added. Good malt vinegar should dissolve exactly 18 grains of carbonate of magnesium, and no more.

Arsenic.—To test for the presence of antimony, add dilute hydrochloric acid and pass H_2S through the solution. If present, an orange precipitate will be thrown out. Heavy mineral bodies, such as baryta or lead, may be detected by igniting a portion in a capsule. Arsenious acid, being volatile, leaves the impurities behind.

Alum.—Alum is sometimes contaminated with iron. To determine this, add excess of caustic potash to a boiling solution. If a reddish-brown precipitate is formed, iron is present. As a confirmatory test, add to a solution a little nitric acid, and boil until the excess of acid is driven off. To a portion of the liquid add sulphocyanide of potassium, and to another portion ferrocyanide of potassium. The former will turn red in colour, and in the latter a blue precipitate will be found if iron be present. Commercial sulphate of alum may be tested for sulphate of potash by adding carbonate of ammonia in excess, filtering, concentrating the filtrate, evaporating to dryness, and heating to redness in a platinum crucible. If alkali be present in the sample a residue will be left in the crucible.

Ammoniacum.—Gum ammoniacum turns a blood-red colour on the addition of hypochlorite of lime or soda, and may thus be distinguished from any other resin or gum resin.

Citric Acid.— Add lime-water to a cold dilute solution, sufficient to render it slightly alkaline. If a white precipitate at once falls oxalic acid is present. The presence of tartaric acid may be proved by adding a solution of sulphate of potash. If present, a white crystalline precipitate will be formed.

Chlorate of Potash.—To a solution add nitrate of silver. A white precipitate will be thrown down if any alkaline chloride be present.

Carbonate of Magnesia.—Should be entirely soluble in hydrochloric acid. Shake up a small quantity with water, filter, and concentrate the filtrate. Add a few drops of hydrochloric acid and chloride of barium solution. If a white precipitate is formed, alkaline sulphates are present.

Carmine.—Shake up for some time a weighed quantity with ammonia, wash the precipitate and dry over a water-bath. The impurities will remain.

Cream of Tartar.—Cream of tartar is sometimes contaminated with lime. To test for this, dissolve a small quantity in dilute

hydrochloric acid: if effervescence is caused, add ammonia till the solution becomes slightly alkaline; next add oxalate of ammonia, allow to stand for eight hours, filter, wash the precipitate (if any), and dry, then ignite, and when cool weigh the residue as lime. A ready test is to dissolve 84 grains of bicarbonate of soda in 2 ounces of water, and add 204 grains of the cream of tartar; the mixture, after heating, should be neutral to litmus paper. If the sample is of superior quality the mixture will be acid. For adulteration with barium, dissolve 20 grains of cream of tartar in 1 ounce of distilled water with heat; if any remains undissolved, or a precipitate is thrown down on adding a little sulphuric acid, the presence of barium is indicated.

Chloroform.—Chloroform should have a specific gravity of 1·49. It should not bleach nor redden litmus paper. On the addition of nitrate of silver it should not become turbid or give a white precipitate. Solution of caustic potash should not turn it brown on heating, and it should mix with ether or alcohol. It should not be coloured after shaking up with sulphuric acid, and should leave no residue or unpleasant odour after evaporation.

Ether.—The specific gravity of ether should not exceed 0·720. It should be neutral to litmus paper. If it forms an opaque emulsion on shaking up with oil of copaiba, it indicates the presence of water and alcohol. Pure ether should remain clear.

Gums.—Acacia and senegal, with solution of sulphate of iron, give a yellow precipitate. Dextrine gives no precipitate. The former gums give, with subacetate of lead, a white curdy mass, and with tincture of guaiacum a blue colour. Tragacanth does not change colour on the addition of tincture of guaiacum, and forms a transparent jelly with subacetate of lead.

Glycerin should have a specific gravity about 1·25; should be quite neutral to litmus paper, and its solution should not be affected by nitrate of silver, oxalate of ammonia, or chloride of barium. On the addition of sulphydrate of ammonium, if a black or brown colour be formed, the presence of lead, copper, or iron is indicated. Shaken with an equal volume of sulphuric acid it should be unaffected, or only a very pale straw coloration result, which proves the absence of sugar or dextrine. On heating a small quantity in a platinum dish till the

glycerin is driven off, a charred residue will remain if sugar be present, but only a black stain if the glycerin be pure, which burns away without leaving ash when heated to redness. Fehling's method is recommended as the best test for the detection of sugars. It is impossible for this substance to occur in glycerin unless employed as an adulterant, and consequently it is only necessary to look for it in a distilled product. Let 5 c.c. of glycerin be mixed with 50 c.c. of water and 10 drops of hydrochloric acid in a small flask and heated for thirty minutes in a water-bath, and then mix 10 c.c. of the liquid with 2 c.c. of sodium hydrate T. S. (= test solution, U.S.P.), and 1 c.c. of alkaline cupric tartrate T. S. No yellowish-red cloudiness should appear within six hours.

Guaiacum.—Perchloride of mercury solution poured on guaiacum wood and slightly warmed should produce a bluish-green colour. Guaiacum resin turns greenish-blue on the addition of chloride of lime or chloride of soda, and a solution in rectified spirit strikes a clear blue when applied to the inner surface of a raw potato.

Hops.—Exhaust a weighed quantity of hops by repeated macerations with alcohol; wash the residue with alcohol, then carefully dry at a low temperature and weigh. The loss should not be less than from 9 to 12 per cent.; if less, they are deficient in lupulin. To detect if hops have been sulphured, introduce a portion of the sample into a hydrogen apparatus, and pass the gas into a solution of nitro-prusside of sodium. If sulphur is present a purple colour will be formed, which, however, quickly fades away.

Hydrocyanic Acid (Dufla's test).—To determine the amount of actual hydrocyanic acid in a sample, mix some nitrate of silver with a little ammonia, so that the clear liquid may be slightly acid, then pour it into a weighed portion of the sample of hydrocyanic acid as long as any precipitate is found. Collect the precipitate of cyanide of silver on a small filter, previously dried and weighed at 212° F., and wash the precipitate and filter, and dry again at 212° F. and weigh. 133·9 parts of cyanide of silver represent 27 parts of anhydrous hydrocyanic acid.

Honey.—Honey is often adulterated with glucose and artificial flavourings. Mix the sample with an equal quantity of water and add strong spirit, stirring constantly till a permanent

turbidity is produced. In honey adulterated with glucose, syrup, or dextrine, a heavy gummy deposit will soon form; with genuine honey but a slight milkiness is produced. Starch and flour are readily detected, as they remain insoluble when the sample is dissolved in cold water or spirit.

Iodide of Potassium.—The chief impurities found in commercial iodide of potassium are iodate, carbonate, and sulphate of potass, chloride of potassium, and sodium, sulphide of potassium, and organic matter containing sulphur. Iodate of potass may be detected by adding a small quantity of tartaric or hydrochloric acid, when a deposit of iodine takes place. For determining the presence of carbonate and sulphate of potash, and the alkaline chloride if in large amount, shake up well with pure alcohol, and these salts will be left undissolved. The chloride may be estimated by precipitating the solution of the sample with excess of nitrate of silver, and adding ammonia to excess. The iodide of silver remains insoluble, while the chloride is dissolved, and can again be precipitated from the filtered liquid by the addition of an excess of nitric acid. Sulphur impurities may be detected by adding to the solution a little sulphuric acid and a small quantity of granulated zinc. Allow the gas evolved to pass over some moist carbonate of lead, which will be blackened if sulphuretted impurities are present.

Lard.—Pure lard should be quite free from taste and smell, and form a perfectly clear liquid when melted, by immersing a tube containing it in hot water. If either lime, carbonate of soda, or water has been added, the melted fat will be more or less opaque. By keeping the sample in a molten condition water gradually settles out if present.

Myrrh.—Genuine myrrh, on the addition of nitric acid, forms a transparent, dirty-yellow liquid. *Bdellium indicum* will not dissolve in nitric acid, but becomes soft, and turns whitish and opaque. Filter paper moistened with an alcoholic tincture of myrrh and then touched with nitric acid turns a blood-red colour, while a strip of paper soaked in a tincture made from *bdellium* or *myrrha indica*, and treated in the same manner, remains yellow or brown. On igniting, good myrrh should not leave more than from 3·5 to 3·8 per cent. of ash.

Menthol.—Is occasionally adulterated when moulded into

cones, with wax or paraffin, in order to make it hard. To detect this, slowly evaporate a portion of the suspected cone at a low water-bath temperature. If either adulterant be present, a fusible residue will be left which has very little smell.

Musk. — Genuine musk grains should dissolve in boiling water, not leaving more than 25 per cent. of residue. On incineration it should not leave more than 6 per cent. of ash. It should be soluble in ether, and should be precipitated from a hot solution by acids and acetate of lead, but not by chloride of mercury.

Nitrate of Potassium.—For the detection of nitrite in nitrate of potash, to a solution of the salt add one or two drops of yellow prussiate of potash, not sufficient to communicate a perceptible yellow tint. A few drops of acetic acid should then be added, and almost immediately, according to the quantity of nitrite present, the liquid will turn a bright golden colour. When testing for minute quantities it is best to use two similar flasks, one containing pure water and the other the solution of salt to be examined, and add the re-agent to each in exactly the same quantity, placing a sheet of white paper behind each vessel. This may also be used as a test for nitrates by boiling the sample for a short time with clean shavings of lead, and proceeding as above, the absence of nitrites in the substance having been first determined. Lead reduces even the nitrate of potash to nitrite. — (Schæffer's test.)

Nitrate of Silver.—Make a solution in water and add hydrochloric acid, filter, and treat the precipitate with excess of ammonia. If it does not entirely dissolve in the ammonia, chloride of lead is indicated. Treat the filtrate with H_2S; a brown or black precipitate proves copper or lead present. Filter the liquid, evaporate to dryness and ignite. A white saline residue indicates the presence of nitrate of potash.

Olive Oil.—Its specific gravity should be between ·913 and ·918 at 60°. For the detection of cotton-seed oil, make a 1 per cent. test solution of nitrate of silver in absolute alcohol. Place 5 c.c. of the suspected oil in a glass flask, add to it 25 c.c. of absolute alcohol and 5 c.c. of the test solution. The flask is then heated in a water-bath at 84° C. If there be any cotton-seed oil present the mixture will begin to darken, the most

minute quantity serving to discolour, and the tint assumed will depend on the amount of cotton-seed oil present.—(Becchi's test.)

Castor Oil.—Should be entirely soluble in one volume of absolute alcohol and in two volumes of rectified spirit. (B.P. tests.) For adulteration with rosin oil add a few drops of stannic bromide in carbon bisulphide to the suspected sample of oil in the same solvent. If a red or violet colour is developed, rosin oil is present in proportion to the rapidity and colour produced. As low as 3 or 4 per cent. of rosin oil may thus be detected. —(Renard's test.)

Oxalic Acid.—Organic impurities may be detected by heating a small quantity with sulphuric acid; if pure it will not turn brown or bluish. Pure oxalic acid should leave no residue after heating to redness in a platinum crucible.

Phosphoric Acid.—A white precipitate on the addition of chloride of mercury indicates the presence of phosphorous acid. Arsenic may be detected by passing a current of H_2S through it; and sulphuric and nitric acids by applying the usual tests. Sulphocyanide of potassium gives a red coloration if iron be present.

Soft Paraffin (Vaseline).—Good soft paraffin should be completely volatile when heated on fire, and should not give off any smell of burning fat. When agitated with twice its volume of strong spirit it should remain practically undissolved. The spirit on testing afterwards should neither be acid nor alkaline.

Podophyllin.—According to Podwyssotzki, the active constituent of podophyllin is podophyllotoxin, which is present in commercial samples of podophyllin to the extent of from 20 to 30 per cent. This may be estimated by treating about a grain of the resin with chloroform in the cold as long as anything is dissolved; the greater part of the chloroform is then driven off by the heat, and the remainder of the chloroformic solution is poured into twenty times its volume of light petroleum spirit. The podophyllotoxin separates out, and can be removed, dried, and weighed.

Potassium Bromide.— In solution, on being mixed with chlorine (chlorinated lime and HCl will do), then agitated with chloroform, the latter, on falling to the bottom, exhibits a red coloration. A further portion of the solution mixed with mucil-

age of starch and a drop of an aqueous solution of bromine or chlorine, should not give a blue colour. The addition of diluted sulphuric acid should not immediately cause a yellow coloration, which indicates the absence of bromate.

Quinine.—Should be entirely soluble in water acidulated with sulphuric acid. It dissolves in pure sulphuric acid with a feeble yellowish tint, and undergoes no further change of colour when gently warmed. Twenty-five grains of the freshly-prepared salt should lose 3·8 grains of water by drying at 212° F. Ignited, with free access of air, it should leave no residue.

Rhubarb.—An old test for the quality of rhubarb root is to place two or three drops of oil of aniseed or fennel on a piece of the root, and rub on it for a few minutes a little magnesia. If the root be of inferior quality, the spot rubbed will gradually turn salmon-colour or pink ; while if genuine and of good quality it will remain the usual yellow colour.

Salicin.—For contamination with lead, dissolve a small quantity in water, and add a few drops of sulphydrate of ammonium ; if a dark coloration or black precipitate be produced, the presence of lead is indicated. Ten grains of salicin, shaken up with 2 ounces of ether, and filtered, allowed to evaporate, should leave no residue. On igniting no ash should be left.

Sulphate of Iron.—Test for copper : Boil a small quantity in water with nitric acid and add ammonia to excess. If copper is present the liquid will be tinted blue after the precipitate has settled. Alumina is also a frequent impurity. To determine this, add to a solution which has been treated in a like manner with nitric acid an excess of caustic potash, boil and filter ; then add ammonium chloride ; if alumina be present a white precipitate will be thrown down on standing.

Sulphate of Magnesia.—To a solution of the salt add baryta water, then excess of ammonia carbonate. Filter, evaporate the filtrate to dryness, and ignite. If sulphate of soda be present, carbonate of soda will remain. If contaminated with iron, sulphydrate of ammonia will give a black precipitate. To test for copper add excess of ammonia, and the liquid will assume a blue colour if copper be present.

Sulphate of Zinc.—Boiled with excess of caustic potash it should entirely dissolve. A blue coloration on the addition of ammonia indicates copper. Add sulphydrate of ammonia ; if

white precipitate the sample is free from iron. Should the precipitate be grey or dark in colour it indicates the presence of iron.

Scammony.—Starch may be detected by adding tincture of iodine to a little of the powdered scammony shaken up with boiling water and allowing it to cool. If it turns blue it indicates the presence of starch. If adulterated with common resin or guaiacum, the addition of sulphuric acid will turn it red; if the latter alone, it will change to green on mixing with water. It should not change on the addition of chloride of soda or perchloride of iron. The presence of jalap resin may be detected by shaking up scammony with ether. Jalap resin remains undissolved.

Compound Tincture of Camphor.—"Paregoric without opium" is best detected thus: Dilute 1 fluid drachm with proof spirit to 1 fluid ounce, add a few drops of perchloride of iron solution (10 grains in 100 minims). If opium is present a red colour is produced. Some idea of the strength of the opium can be got by taking a known strength of opium and diluting till it gives the same tint with the chloride as the solution tested.

Ginger.—The best method for testing this article is a little tedious, but presents no difficulty and requires but little apparatus. A weighed quantity is dried at the water-bath temperature for six hours, and the loss in weight is taken. Nearly all this is due to moisture, and it should never exceed 15 per cent. In good ground ginger it is seldom so much. One hundred grains or any convenient quantity are then placed in the Soxhlet exhausting-tube and extracted with ether—which, of course, should be kept boiling with hot water, and not by a naked flame. This is allowed to exhaust for the whole day, and the ether is then allowed to condense in the Soxhlet tube, and the flask taken away before it syphons over again. This saves the trouble of recovering the ether afterwards. The flask is now dried at 212° F. till of constant weight. The amount of what is extracted from the ginger thus should not be less than 3·5 per cent. (3·5 grains to the above quantity). It is generally much higher, and rarely goes down to 3 per cent. The same process should now be repeated on the same quantity of ginger, substituting alcohol for ether in the Soxhlet tube, and the alcoholic extract (which takes nearly two days to come

out) should be from 2—4 per cent. (2—4 grains). A convenient quantity is then burnt (100 grains), and the ash weighed. It should lie between 3 and 4 per cent. (3—4 grains), and should never exceed 4·5 per cent. It is then treated with hydrochloric acid (1 part acid and 1 water) and raised to boiling-point. The insoluble portion is filtered off, the filter paper washed, dried, and burnt, and the residue weighed. This sandy, or siliceous matter, should never exceed 1·8 per cent. (100 grains = 1·8 grains), and even when it is as high as this, it is probably due to extraneous matter.

Beeswax.—There are two simple tests (both of which, however, can mislead one, when the wax is skilfully adulterated), which will, at least, give some aid to the pharmacist, especially in the case of wax adulterated with paraffin and cerasin. These tests are the melting-point and the specific gravity. The melting-point is taken in the usual method, and should be from 62° to 63° C. The specific gravity is best determined by making up mixtures of spirit and water until a small pellet of the wax, evenly cut and free from air-bubbles, just remains in position in the liquid without either sinking or floating. The specific gravity of the mixture of spirit and water is then taken in the specific gravity bottle as usual.

Pepper.—The chief test for this is the total amount of ash got by burning and the amounts soluble in water and hydrochloric acid.

Black pepper should yield total ash . .	4—5 per cent.
White pepper should yield total ash . .	1·2 ,, ,,
Black pepper should yield ash soluble in water	2—3 ,, ,,
White pepper should yield ash soluble in water	·5—·6 ,, ,,
Black pepper should yield insoluble ash .	·3—·5 ,, ,,
White pepper should yield insoluble ash .	·1—·3 ,, ,,

The solvents are first water, then hydrochloric acid. The amount soluble in hydrochloric acid is got by difference between the total ash and the sum of the other two items given above.

Methylated Spirit in Tinctures.—Distil off the alcohol from the tincture, add to it a little bichromate of potassium and sulphuric acid and digest for two hours in the cold. Dilute to ten times its volume. Distil off half; make slightly alkaline with sodium carbonate; boil down to half; acidify with acetic acid and add silver nitrate solution. Heat just to boiling.

Pure spirit gives a very dark brown colour and silver mirror on the sides of the tube.

Spirit of Nitrous Ether.—Spt. eth. nit. should have a specific gravity of 0·840 to 0·845; should not effervesce, or but feebly, when shaken up with bicarbonate of soda. The presence of aldehyde is indicated by a brown coloration on heating with caustic potash. It should yield not much less than five times its volume of the gas on keeping. The spirit may be tested with accuracy by the nitrometer, or the following simple method. Prepare two solutions as follows—

No. 1.

℞	Sodii Hyposulph.	gr. iv.
	Sodii Chloridi	gr. xl.
	Potass. Iodid.	gr. xx.
	Aq. Ad.	℥ii.

Solve.

No. 2.

℞	Spt. Æther. Nitros.	℥ii.
	Acid. Sulph. Dil.	℥i.

Misce.

Place No. 1 solution in a small porcelain dish; a two-ounce ointment-pot will answer the purpose. Pour into this ℥iss. of No. 2 solution, and stir till effervescence ceases. This mixture should be free from iodine colour; if not so, the spirit of nitre is stronger than should be used; if no iodine has remained free after the effervescence has passed off, add another ℥ss. of the No. 2 solution. This should now produce a permanent brown colour if the spirit of nitre is up to its normal strength. If a second addition of ℥ss. (total ℥iiss.) is required, it is below its normal, but not unfit for use; but if this second ℥ss. fails to produce a permanent brown colour, the spirit of nitre is too weak to be sanctioned.

Lime Water.—This should contain 10 grains of lime in the pint. Two fluid ounces, tinged blue with litmus, should require the whole of one ounce aqueous solution containing 2¼ grains of pure crystallised oxalic acid to change the colour to a red.

URINALYSIS.

The following are some of the chief tests employed in qualitative analysis of the urine, and are simply intended to serve as a reminder and guide to the chemist when conducting his analysis.

Physical Conditions.

Quantity Voided.—The normal quantity voided is from 40 to 50 fluid ounces daily. This amount is increased in diabetes, and diminished in volume in Bright's disease.

Specific Gravity varies as a mean between 1·015 and 1·025, but varies largely in certain diseases. A very high S.G. indicates a large percentage of grape sugar.

Reaction.—Normal urine is always acid, but after standing it becomes alkaline.

Colour.—High colour usually indicates the presence of either blood, bile, excess of urea, urates, or pigments. Certain drugs also influence the colour. Senna makes it red, rhubarb brownish-yellow, and carbolic acid dark green, or almost black.

Tests for Albumen.

Heat Test.—Fill a test-tube one-third full of the urine, add a little acetic acid to ensure acidity, and heat to boiling. If a precipitate is formed, it may be due to albumen or to phosphates. Add 10 or 15 drops of nitric acid; if it is soluble it is due to phosphates, if insoluble albumen is present. A rough estimation may be made by allowing the precipitate to settle in a graduated tube, and reading off the result.

Nitric Acid Test.—Place a small quantity of nitric acid in a test-tube, and pour in slowly and carefully an equal quantity of the urine, so as not to mix with the acid. If albumen be present, a white zone or cloudy appearance will appear at the junction of the liquids, varying in thickness according to the amount of albumen present.

Ferro-cyanic Test.—Acidify the urine with citric acid, and add solution of ferro-cyanide of potassium; a precipitate is formed if albumen be present.

Double Iodide of Mercury and Potassium Re-agent.—This has the following composition—

Potassium Iodide . . .	3·22 grammes.
Mercury Bichloride . . .	1·35 grammes.
Distilled Water	q.s. to make 100 c.c.

For use, acidulate the urine, and then add the re-agent, 5 c.c. precipitate, 5 mg. of albumin.

Picric Acid Test.—Place a small quantity of saturated solution of picric acid (7 grs. to 1 ounce) in a test-tube, and add the urine to it gradually, drop by drop. If albumen be present, each drop will be followed by an opaque white cloud.

Sugar.

In cases where a large amount of urine of a pale colour is passed, and the S.G. is above 1·030, sugar may be suspected.

Fehling's Solution Test.—

Modified Formulæ for Fehling's Solution.

I.

Take of

Sulphate of Copper . . .	181 grains.
Distilled Water . . q.s. to	6 ounces.

Dissolve.

II.

Take of

Neutral Tartrate of Potassium .	728 grains.
Caustic Soda	360 grains.

Dissolve.

Of a mixture of these two solutions in equal volumes, 10 c.c. will be decolorised and reduced by 0·05 gramme (or 53 minims = ¾ grain) of glucose or diabetic sugar in solution with precipitation of yellowish-red cuprous oxide when the two are boiled together. No. 2 solution should not be kept in a very cold place, else it will crystallise.

Pavy's Test is a modification of Fehling's, ammonia being added to the copper solution. The formula is as follows—

Take of

Crystallised Sulphate of Copper	.	34·65 grammes, or 533 grains.
Rochelle Salt		173 grammes, or 2,664 grains.
Caustic Potash		160 grammes, or 2,464 grains.
Water	q.s. to	1,000 c.c., or 35 fld. ounces.

Dissolve.

When 120 c.c. of this solution are mixed with 300 c.c. of ammonia (·880) and diluted to 1,000 c.c., then 10 c.c. may be taken as equivalent to 0·005 gramme of grape sugar.

Johnson's Test.—Boil a small quantity of the urine with weak solutions of potash and picric acid. Intense deepening of colour takes place if sugar be present.

Böttger's Bismuth Test.—Add to the urine an equal amount of solution of potash and a small quantity of bismuth subnitrate. Boil for a short time, and metallic bismuth will be deposited on the sides and bottom of the tube as a black or brownish precipitate if sugar be present.

Indigo Carmine Test.—Take a small quantity of solution of indigo-carmine (1 to 1,000), and add sufficient soda carb. to make it alkaline; boil with half its volume of the urine. If sugar be present, it will turn from blue to purple, then red, yellow, and finally straw colour.

Fermentation Tests.—Fill a tube with the urine, and add a piece of compressed yeast about the size of a nut. Fit a perforated cork with a bent glass tube that will nearly reach to the bottom of the test-tube. Cork tightly, and place the other end of the bent tube into a receiver. Let it stand over night in a moderately warm place. If sugar be present, fermentation will take place, and force the urine through the tube into the receiver. An odour of alcohol will also be given off.

Roberts' Test.—Fill two four-ounce bottles with urine; into one put a piece of yeast about the size of a walnut, and stop with a nicked cork. In twenty-four hours take the S.G. of both, after having removed the scum. The differences of S.G. will be indicative of the number of grains of sugar present in the fluid ounce of urine.

Bile.

Rosin's Modification of Moleschott's Test.—Two or three c.c. of a 10 per cent. solution of iodine tincture in alcohol are poured down the side of a test-tube containing the urine, in a manner that the fluids will not mix. Hold the tube very much inclined. If there be any bile pigment present, in a few minutes a fine green ring will appear at the point of contact; if none is present, the re-agent destroys the urochrom with the formation of a pale yellow or colourless ring.

Urea.

Fowler's Test.—Mix urine, 1 part, with Labarraque's solution, 1 part; there will be considerable effervescence. Shake the jar containing the mixture occasionally for two hours. Take the specific gravity of the quiescent fluid, and find the specific gravity of the mixture of urine and Labarraque's solution before decomposition. (This is done by multiplying the S.G. of the hypochlorite solution by 7, adding the S.G. of the urine, and dividing by 8.) Subtract the S.G. of the quiescent mixture from this result, and multiply by 77; the product will be the percentage of urea.

Uric Acid.

Butte's Test consists of the following—

Cupric Sulphate		1·484 grammes.
Sodium Hypophosphite. . .		20 grammes.
Potassium and Sodium Tartrate .		40 grammes.
Distilled Water .	q.s. to make	1,000 grammes.

First remove the phosphates from the urine by adding an excess of sodium carbonate and filtering; now carefully titrate with the test solution, 1 cubic centimetre of which will cause a white precipitate exactly equal to 1 millegramme of uric acid.

Hopkins' Test.—To 100 c.c. of the urine add 30 grammes of pure finely-powdered ammonium chloride; allow to stand two hours, collect the precipitate (ammonium urate) upon a filter, wash it with a saturated aqueous solution of ammonium chloride, and dissolve it in a minimum quantity of distilled water. Repeat the operation of precipitating with saturated solution

of ammonium chloride and re-dissolving in water several times to purify it. Finally, dissolve in hot distilled water, and decompose the ammonium urate by boiling in excess of HCl. The solution (concentrated, if necessary) is set aside, and the uric acid allowed to separate out. The amount may be determined by any accustomed method—as evaporation over a water-bath, or weighing on a tared filter, etc.

Urates.

Uric acid is bi-basic, forming two series of salts; neutral and acid—the former being much more soluble than the latter. The urates are soluble at the temperature of the body; but on reducing the temperature, the acid salts are precipitated. If acid be added to the urine, the neutral salts are converted into the acid salts, which are then precipitated.—Tyson.

Blood.

Blood renders the urine dark reddish-brown in appearance, and may be detected in the microscopical examination. It may be also confirmed by the guaiacum test.

Mucus occurs more or less after urine has stood for some time as a ropy, tenacious deposit, not mixing uniformly with the liquid when shaken, and coagulated by acetic acid.

Oxalates and Phosphates appear as crystalline deposits, easily distinguishable from the last-mentioned deposit. Oxalates, chiefly oxalate of calcium, are insoluble in acetic acid, but soluble in dilute hydrochloric acid. Phosphates are soluble on the addition of acetic acid. Microscopically, they appear as stellæ, or three-sided prisms, or small dark granules covered with spines, or large clear knife-rest or coffin-lid form, or they may be present as *amorphous* phosphates.

Pus occurs as a greenish-yellow deposit of detached granulated corpuscles, easily diffused on agitation, and converted into a gelatinous mass by potassium hydrate. Microscopically, the pus corpuscles are larger than blood discs, and are colourless.

Works for Reference.—Beale's *Urine, Urinary Deposits and Calculi;* Wynter and Wethered's *Manual of Practical Pathology;* Scott's *Manual of Urine Testing;* Legg and Jones' *Examination of the Urine;* Neubauer and Vogel's *Analysis of Urine*, etc.

PHOTOGRAPHIC CHEMICALS, AND SOLUTIONS USED IN PHOTOGRAPHY.

The following list includes most of the chemicals used in photography, with their uses.

Acid, Acetic.—As a restrainer in developing, used in many formulæ of the wet process.

Acid, Citric.—Used as a restrainer of the developer, and as a clearing solution after development, if the plate be fogged.

Acid, Pyrogallic.—Used for developing.

Alum.—Used in solution for immersing gelatine plates after development to prevent frilling.

Ammonia Liquid (·880).—Used in developing.

Ammonia Bromide.—Used as a restrainer in developing.

Ferrous Sulphate.—Used as a developer with potass oxalate.

Gold Trichloride.—Used to give a proper colour to silver prints.

Mercuric Chloride.—Used for intensifying.

Potassium Cyanide.—Used for fixing in the wet process.

Silver Nitrate.—In making plates and emulsions.

Soda Acetate.—Used in toning.

Soda Carbonate.—Used in developing.

Soda Hyposulphite.—Used for fixing. Solution for fixing bath in water, 25 per cent.

Ammonia Sulphocyanide, Eikonogen, Hydroquinone, Potassium Bromide, Potassium Oxalate, Sodium Hydrate, Sulphuric Acid, Sodium Sulphite, Sodium Tribasic Phosphate, Metol. Potass. Metabisulphite, etc., etc.

FORMULÆ FOR SOLUTIONS.

Developers.

Metol and Hydroquinone Solution.

Metol	80 grains.
Hydroquinone	120 grains.
Sodium Sulphite	1½ ounces.
Distilled Water, to	10 ounces.

Dissolve in the above order.

The Alkali.

Sodium Tribasic Phosphate . . .	300 grains.
Distilled Water, to	10 ounces.

For use, mix 1 part of the metol solution with 3 parts of the alkali. For time exposures, one grain of bromide of potassium may be added to each ounce of developer.

Pyro Solution.

Pyrogallic Acid	1 oz. (avoir.)
Potassium Metabisulphite . . .	1 ounce.
Distilled Water, to make . . .	9 oz. 55 mins.

Dissolve the metabisulphite in 6 ounces of the water, open the bottle of pyro and pour on to it the solution of metabisulphite, and sufficient water to make up the full bulk, and bottle immediately. This should not be filtered.

The alkali to be used with this may be either ammonia, soda, potash, or preferably, the new salt—sodium tribasic phosphate—and a 10 per cent. solution should be made, using liq. ammonia ·880, sodii carb. B.P., or potassii carb. B.P. Besides these, a third solution, 10 per cent. of potassium bromide, will also be required.

Hydroquinone Developer.

No. 1.

Hydroquinone	4 grains.
Potassium Metabisulphite . . .	3 grains.
Bromide of Potassium	½ grain.
Water, to make	1 ounce.

No. 2.

Caustic Potash	10 grains.
Water	1 ounce.
Citrate of Potash	15 grains.

Mix in equal parts.

Glycin Developer.

Glycin	6 grains.
Sodium Sulphite	30 grains.
Potassium Bromide	¼ grain.
Sodium Carbonate	44 grains.
Distilled Water, to make	1 ounce.

This is a slow developer, but gives very clear negatives.

Glycin and Pyro Developer.

No. 1.

(*a*)	Water	7 ounces.
	Sodium Carbonate	308 grains.
	Glycin	62 grains.
(*b*)	Water	7 ounces.
	Sodium Sulphite	618 grains.
	Pyrogallol	100 grains.
	Sulphuric Acid	2 to 3 drops.

For use, mix equal parts of *a*, *b*, and water. This gives soft results, specially suitable for portrait work.

No. 2.

(*a*)	Water	7 ounces.
	Potassium Carbonate	124 grains.
	Glycin	31 grains.

(*b*) Pyro solution as with No. 1.

For use, mix as directed for No. 1. This gives negatives of greater density and great clearness, which are specially suitable for platinum printing.

No. 3.

(*a*) Same as No. 2, but with 61 grains of potassium carbonate in addition.

(*b*) Same as in No. 1.

Mix as in No. 1. This is very suitable for instantaneous work.

Potash Developer.

No. 1 *Solution.*		*No.* 2 *Solution.*	
Aq. Destil. warm.	2 ounces.	Pot. Carb. . .	3 ounces.
Soda Sulphite .	2 ounces.	Soda Sulphate .	2 ounces.
Dissolve, and when cold add—		Water . .	7 ounces.
Sulphurous Acid .	2 ounces.		
Acid Pyrogallic .	½ ounce.		

Used in equal proportions.

Soda Developer.

No. 1 *Solution.*		*No.* 2 *Solution.*	
Sulphite of Soda .	6 ounces.	Carbonate of Soda.	4 ounces.
Water . .	1 quart.	Water . . .	1 quart.
Acid Pyrogallic .	1 ounce.		

Used in equal proportions diluted with an equal quantity of water.

Clearing Baths and Javelle Water.

Alum . . .	2 ounces.	Dry Chlorinated Lime . . .	1 ounce.
Citric Acid . .	1 ounce.	Carbon. of Potash	2 ounces.
Water . .	10 ounces.	Water . . .	20 ounces.
		Mix the lime with three-fourths of the water, dissolve the potash in the remainder, mix the solution, boil, and filter.	

A Durable Negative Varnish.

Take of

Shellac	℥ivss.
Mastiche	℥i.
Spt. Turps.	℥i.
Sandarac	℥ivss.
Venice Turps.	℥i.
Camphor	gr. v.
Spirit	℥x.

Dissolve

Formula for Ilford Dry Plates.

No. 1. *Stock Solution.*		*No.* 2 *Solution.*	
Pyrogallic Acid .	1 ounce.	Liquid Ammonia Fort. (·880) .	3 drms.
Bromide of Ammonium . .	600 grains.	Water . . .	1 pint.
Water, add to .	6 ounces.		

No. 3 *Solution.*

Of No. 1 Solution . . .	1 ounce.
Water	19 ounces.

No. 1 *Developer.*

Acid Pyro.	1 ounce.
Potass. Metabisulphite . . .	1 ounce.
Water, add to	10 ounces.

No. 2 *Accelerator.*		*No.* 3 *Restrainer.*	
Ammonia (·880) .	1 ounce.	Ammonium Brom.	1 ounce.
Water, add to .	10 ounces.	Water, add to .	10 ounces.

Use with equal parts of water.

Frilling Solution.

Chrome Alum	½ ounce.
Water	20 ounces.

Fixing Solution.

Soda Hyposulphite . . .	16 ounces.
Water, add to	80 ounces.

Hydroquinone Developer.

(*Universal.*)

Solution A.		*Solution B.*	
Hydroquinone .	80 grains.	Caustic Soda .	40 grains.
Sodium Sulphite .	160 grains.	Potass. Bromide .	20 grains.
Water, add to .	10 ounces.	Water, add to .	10 ounces.

Mix in equal volumes immediately before use.

Quinol and Eikonogen Solution.

Quinol	40 grains
Eikonogen	50 grains.
Sodium Sulphite	160 grains.
Water, add to	10 ounces.

Clearing Solution.

Alum Solution	20 ounces.
Acid Sulphuric	120 mins.

Intensifying Solution.

Mercuric Chloride	½ ounce.
Hydrochloric Acid	45 grains.
Water, add to	10 ounces.

Green Fog.

Ferric Chloride	50 grains.
Potass. Bromid.	30 grains.
Water	4 ounces.

FOR PRINTING ON GELATINO-CHLORIDE PAPER.

Sulphocyanide Bath.

Ammon. Sulphocyanid	30 grains.
Water	20 ounces.
Gold Chloride	2 grains.

Dissolve the sulphocyanide in water, and then add the gold.

Toning Bath.

Borax	90 grains.
Water	20 ounces.

To every ten ounces add, immediately before use, one grain gold chloride.

Fixing Solution.

Soda Hyposulphite	2 ounces.
Water, add to	20 ounces.

FOR PRINTING ON ALBUMENISED PAPER.

The Acetate Bath.

(*Toning.*)

Sodium Acetate	60 grains.
Gold Chloride	2 grains.
Water, add to	20 ounces.

Intensifier.

No. 1.

Bichloride of Mercury	90 grains.
Bromide of Potassium	90 grains.
Water	10 ounces.
Hydrochloric Acid	10 drops.

No. 2.

Nitrate of Silver	90 grains.
Cyanide of Potassium	90 grains.
Water	10 ounces.

Reduction.

Ferricyanide of Potass	1 ounce.
Water	10 ounces.

Dissolve.

Intensifiers.

Solution No. 1.

Potassium Bromide } of each . . .	1 ounce.
Copper Sulphate }	
Distilled Water, to make . . .	8 ounces.

Solution No. 2.

Silver Nitrate	¼ ounce.
Distilled Water, to make . . .	8 ounces.

Directions for Use.—Lay the well-washed negative or bromide print in No. 1 solution till bleached right through, well wash, and then immerse in solution No. 2 till it has darkened right through, then wash, and place for a few minutes in a clean fixing bath, and again wash.

Solution No. 1.

Mercury Perchloride	100 grains.
Hydrochloric Acid, pure . . .	30 mins.
Distilled Water, to make . . .	10 ounces.

Solution No. 2.

Silver Nitrate	200 grains.
Distilled Water, to make . . .	10 ounces.
Potassium Cyanide	q.s.

The proper method of making this solution is to dissolve the silver nitrate in 5 ounces of the water and 200 grains of cyanide in about 1 ounce of distilled water, place the silver solution in the bottle, and add the cyanide in quantities of about 1 drachm at a time, shaking thoroughly after each addition. A curdy white precipitate will be formed, and as more cyanide is added this will gradually re-dissolve. Care must be taken that all the silver cyanide is not re-dissolved ; some undissolved precipitate must be present, or else this solution will attack the image.

Platinum Toning Baths.

(*For Chloride Papers.*)

Liquid Bath.

Potassium Chloroplatinite . . .	30 grains.
Lactic Acid (S.G. 1·21)	155 mins.
Distilled Water	10 ounces.

Directions for Use.—Dilute this solution with double its volume of water before use.

Dry Powder.

Potassium Chloroplatinite . . .	15 grains.
Sodium Lactate	150 grains.
Acid Sulphate or Phosphate of Soda .	150 grains.

Directions for Use.—Dissolve the powder in 35 ounces of water.

After printing, the prints should be placed in a solution of salt 2 ounces, water 20 ounces, for at least ten minutes, and kept on the move. They should then be washed for five minutes and toned, and when toning is complete, transferred to a solution of washing soda, about 1 in 20, and thence after about five minutes to a fixing bath composed of—

Sodium Hypo.	2½ ounces.
Sodium Sulphite	1 ounce.
Sodium Carbonate	½ ounce.
Water	20 ounces.

and then thoroughly washed.

Backing for Plates.

At the present time there is considerable demand for plate backings, which can be easily applied and as readily removed. There are two distinct kinds, one a solution or paste which is applied on the back of the plate, and the other a sheet of paper or cloth coated with some sticky substance which can be temporarily affixed to the back of the plate, and then removed before development, and can be used over again.

The first kind includes collodions, varnishes, and caramels.

Collodion for Backing Plates.

Pyroxylin	5 grains.
Methylated Spirit	½ ounce.
,, Ether	½ ounce.
Coralline Rouge or Aurine . . .	10 grains.

Allow to stand for three days, shaking occasionally, then decant from any undissolved precipitate and bottle.

Varnish for Backing Plates.

Gum Sandarac	1¾ ounces.
Castor Oil	1¾ ounces.
Methylated Spirit	4 ounces.
Dragon's Blood	150 grains.
(or) Aurine	75 grains.

Macerate for a week and apply to the back of the plate with a pad.

TONING SOLUTIONS FOR BROMIDES.

No. 1.

Oxalate of Potass	5 ounces.
Water, add to	20 ounces.

No. 2.

Sulphate of Iron	5 ounces.
Sulphuric Acid	10 drops.
Water	20 ounces.

No. 3.

Bromide of Potass	1 ounce.
Water, add to	10 ounces.

THE SALE OF POISONS (GREAT BRITAIN).

List of Poisons and Regulations as to Sale.—All the articles enumerated in Parts I. and II. are poisons within the meaning of the English Pharmacy Acts, and may not be sold, either by wholesale or retail, unless labelled with the name of the article, the word "poison," and the name and address of the vendor.

The poisons mentioned in Part I., besides being subject to the regulations mentioned above, may not be sold by retail to any person unknown to the seller, unless introduced by some person known to the latter; and on every sale of any such article, the seller must, before delivery, make, or cause to be

made, an entry in a book to be kept for that purpose, of the date of sale ; the name and address of the purchaser ; the name and quantity of the article sold ; and the purpose for which it is stated by the purchaser to be required. To this entry the signature of the purchaser, and of the person, if any, who introduced him, shall be affixed.

The maximum penalty for breach of the law is £5 for the first, and £10 for every subsequent offence.

Part I.

Arsenic, and its preparations.
Aconite, and its preparations.
Alkaloids :—All poisonous vegetable alkaloids and their salts.
Atropine, and its preparations.
Cantharides.
Corrosive Sublimate.
Cyanide of Potassium, and all metallic cyanides and their preparations.
Emetic Tartar.
Ergot of Rye, and its preparations.
Prussic Acid, and its preparations.
Savin, and its oil.
Strychnine, and its preparations.
Vermin Killers, if they contain any poisons, or preparations of poisons, which are on this list.

Part II.

Almonds, Essential Oil of, unless deprived of Prussic Acid.
Belladonna, and its preparations.
Cantharides, tincture, and all vesicating liquid preparations thereof.
Chloroform.
Chloral Hydrate, and its preparations.
Corrosive Sublimate, preparations of.
Morphia, preparations of.
Nux Vomica, and its preparations.
Opium, and its preparations ; and preparations of poppies.
Oxalic Acid.
Precipitate, Red (Red Oxide of Mercury).

Precipitate, White (Ammoniated Mercury).

Vermin Killers.—Compounds containing poisons, prepared for the destruction of vermin, if not in Part I.

These poisons may only be retailed by qualified chemists and druggists. It has been decided in the Courts that an unregistered assistant can only sell them under the actual personal supervision of a qualified person upon each individual sale.

It has also been decided in England that any preparations containing any one or more of the above poisons in a poisonous quantity must be labelled poison, and also that such preparations, unless sold under the authority of letters patent, can only be sold by qualified chemists and druggists. There does not appear to be any difference between a "preparation of" a poison and a compound containing one. An unqualified partner is liable for keeping open shop for the sale of scheduled poisons, though his partner be a qualified chemist and druggist.

Exemptions.—The Acts disclaim any intended interference with the business of legally qualified medical practitioners, or apothecaries, or veterinary surgeons, or with the making or dealing in patent medicines.

It has been decided that patent medicines here mean medicines sold under the authority of letters patent; and that the ordinary (so-called) patent medicine is not a patent medicine, within the meaning of the exemption contained in the Pharmacy Act, 1868; and that a (so-called) patent medicine, if containing any scheduled poison in a poisonous quantity, is subject to the law relating to the sale of poisons pure and simple.

The regulations, moreover, which are solely applicable to poisons in Part I., or which require the label to contain the name and address of the seller, do not apply to articles for export from Great Britain by wholesale dealers, or to sales by wholesale to retail dealers in the ordinary course of wholesale dealing.

Sales by wholesale to persons who are neither dealers nor retailers are probably not within this exception.

Again, wholesale dealers who supply poisons in the ordinary course of wholesale dealing (meaning, probably, to other dealers or retailers only) are not compelled to be qualified chemists and druggists, within the meaning of the Pharmacy Act, though they must conform to the regulations as to labelling, etc., to be observed on the sale of scheduled poisons or preparations thereof.

Dispensing.—None of the foregoing regulations apply to any article when forming part of the ingredients of any medicine dispensed by a registered chemist and druggist; but if a medicine contain a poison included in Part I. or Part II., the ingredients of the medicine, together with the name of the person to whom it is sold or delivered, must be entered in a book kept by the seller for that purpose, and the medicine must be distinctly labelled with the name and address of the seller.

Note as to Ireland.—The foregoing regulations relative to the sale of poisons are practically the same as those in force in Ireland. But it is to be noted that the schedule of poisons under the Irish Poisons Act does not contain the following, viz.—

Preparations of prussic acid.

While all vermin killers are placed in Part II. of the Irish schedule.

On the other hand, Part II. of the Irish schedule contains phosphorus and sulphuric ether, which are not in the schedule to the English Pharmacy Acts. In Ireland there is also a class of registered druggists who are qualified to sell scheduled poisons.

Arsenic.—Special regulations affect the sale of arsenic. It is unlawful to sell it or any of its preparations, unless, in addition to all the foregoing regulations relative to poisons, the following provisions of the Arsenic Act, which apply to Great Britain and Ireland, be also observed. The poison, if colourless, must be mixed with soot or indigo (at least an ounce of the former or half an ounce of the latter to one pound) to colour it. The person to whom the poison is sold or delivered must be of mature age. The occupation, as well as the name and address, of the purchaser, must be entered in the poison-book. When the purchaser is not known to the seller, and is introduced by some person known to both, this person shall be present as a witness to the transaction, and shall enter his name and address in the poison-book.

Maximum penalty for breach of these regulations £20.

This Act does not interfere with the sale of arsenic in medicine under a proper medical prescription or to the sale of arsenic by wholesale to retail dealers upon orders in the ordinary course of wholesale dealing.

POISONS AND ANTIDOTES.

Names of Poisons.	Names of Antidotes.
Acids { Hydrochloric. Phosphoric. Sulphuric. Nitric, etc.	Lime Water. Oxide or Carbonate of Magnesia stirred to a thin paste and water. Soap Water. Milk. Mistura cretæ.
Alcohol.	Liquor Ammoniæ Acetat. Spiritus Ammoniæ Aromat. Emetics. Ammonia vapour to the nostrils.
Alkalies.	Acetic Acid or vinegar diluted with water. Lemon Juice. Tartaric Acid.
Alkaloids.	*v.* the several alkaloids. Iodine. Tannin. (If not available), Tea or coffee (none of these last three for any of the strychnine poisons). Citric Acid. Lemon Juice. Friction of skin with mustard liniments or Ammonia.
Arsenic.	Antidotum Arsenici. ℞ Liq. Ferri Persulph. 8 oz. } Mixture (1) Aquæ 16 oz. } Magnesiæ oxidi 1 oz. } Mixture (2) Aquæ 16 oz. } To be mixed by adding (2) to (1). Two tablespoonfuls to be given at the commencement of poisoning every ½ hour, later every 1 or 2 hours.

Names of Poisons.	Names of Antidotes.
	The two mixtures should always be kept ready in every pharmacy.
Atropine.	Tannin. Morphine.
Bromine.	Magnesia Oxide. Starch Paste.
Cantharides.	Camphor with Opium. No fat or oils.
Carbolic Acid.	Emetics. Sulphate of Soda in solution. Liq. Calcis Sacchar.
Carbonic Acid Gas.	Fresh air. Ammonia Smelling Salts } to the nostrils.
Chlorine.	Hoffman's Spirit, both to the nostrils and internally. Spirit. Ether. Nitros.
Chloroform and Chloral.	Fresh air. Cold effusion of the head. Effervescing drinks.
Chromates.	Bicarbonate of Soda. Carbonate of Magnesia. Iron in syrup.
Colchicum.	Tannin.
Copper Salts.	Iron powder and sulphur in syrup. Albumen in syrup. Yellow prussiate of potash in 15-30 grs.
Creosote.	Albumen in aqueous solution.
Digitalis.	Tannin.
Ether.	Vapour of Ammonia to the nostrils.

Names of Poisons.	Names of Antidotes.
Ether.	Solution of Acetate of Ammonia internally.
Iodine.	Starch Paste, thin. Sodii Hyposulph. 30 grs. in water, 5 ozs.
Ipecacuanha.	Tannin.
Lead Salts.	Magnes. Sulph. Sodii Sulph. Dilute Sulphuric Acid and Water. Milk. Emetics. Purgatives.
Mercury Salts and Preparations.	Mixture of { Iron Powder, 7 parts. / Sulp. Precip., 4 parts. Starch Paste.
Morphine and Opium.	Application of cold water to the body. Purgatives. Atropine. (5 m. of the B. P. solution.) Weak Solution of Potass Permanganate. Strong Coffee.
Nicotine.	Tannin. Vinegar, 5 drms., with water and sugar.
Nux Vomica	(*v.* Strychnine).
Oxalates.	Mistura Cretæ. Liq. Calcis. Sacch. Camphor. Hoffman's Anodyne.
Phosphorus.	Emetics. Copper or Zinc Sulphates. Terebene. Magnes. Oxid. Mist. Calc. Chlorata (*v.* Prussic Acid). *No milk, oil, or alcohol,* in consequence of the solubility of phosphorus in these liquids.

Names of Poisons.	Names of Antidotes.
Prussic Acid (Aq. Laurocerasi, Potass Cyanide).	Chlorine and Ammonia to the nostrils and internally. Camphor injections. Cold effusion of the head. Mixture : Calc. chlorata . . ℥j. Aq. Dest. . . . . ℥vj. Ac. Hydrochlor. Dil. 7 mins. To be used internally and externally.
Santonin.	Emetics. Purgatives. Ether, Chloroform } to counteract cramps. Chloral Hydrate.
Silver and Preparations.	Sodium Chloride (common salt) solution. Albumen in water.
Strychnine.	Emetics. Tannin (no Coffee or Citric Acid). Morphine and Opium in small doses.
Sulphuretted Hydrogen.	Fresh air. Sp. Ether. Nitros. to the nostrils. Mist. Calx. Chlorat. (*v.* Prussic Acid) internally and externally.
Tartar Emetic and Antimonials.	Tannin. Milk. Albumen in water.
Tin Salts.	Sodæ Bicarbonas. Tannin. Magnesia Oxide. Milk. Emetics, but for this purpose *no Copper Mixture.*
Zinc	Tannin. Magnesia Oxide.

EMETICS.

Sulphate of Copper	8 or 10 grs.	Sulphate of Zinc .	15 grs.
Water, add . .	1 oz.	Water, add . .	1 oz.

WEIGHT OF TWENTY DROPS OF VARIOUS FLUIDS.

		Grammes.		Grains.
Aqua Dest. . . .	Gtt. 20.	·75	=	5¼
Ether (at 66 degrees) . .	,,	·35	=	5¾
Liq. Hoffman . . .	,,	·45	=	6¾
Alcohol (at 80 degrees) .	,,	·45	=	6⅛
Oil of Almonds . . .	,,	·50	=	8¼
Oil of Peppermint . .	,,	·65	=	9¾
Laudanum . . .	,,	·70	=	11
Acid Acetic (10 degrees) .	,,	·60	=	9
Acid Sulphuric (at 60 deg.)	,,	1·20	=	17½
Syrups (at 35 degrees) .	,,	1·50	=	23

TABLE OF EQUIVALENTS.

Liquids.

1 minim . . .	=	approximately 0·06 c.c.
1 fld. drachm . .	=	,, 4 c.c.
1 fld. ounce . .	=	,, 30 c.c.
1 imperial pint .	=	,, 568 c.c.
½ gallon . .	=	,, 2·25 litres.
1 gallon . . .	=	,, 4·5 litres.

1 c.c.	=	16 minims.
4 c.c.	=	1 fld. drachm.
15 c.c.	=	4⅕ fld. drms.
25 c.c.	=	7 fld. drms.

30 c.c.	=	1 fld. oz.
60 c.c.	=	2 fld. ozs.
100 c.c.	=	3½ fld. ozs.
120 c.c.	=	4⅛ fld. ozs.
125 c.c.	=	4⅜ fld. ozs.
235 c.c.	=	8¼ fld. ozs.
250 c.c.	=	8⅘ fld. ozs.
300 c.c.	=	10½ fld. ozs.
470 c.c.	=	16½ fld. ozs.

Solids.

$\frac{1}{600}$ grain	=	0·00013 gramme.
$\frac{1}{180}$ gr.	=	0·00043 grm.
$\frac{1}{120}$ gr.	=	0·00054 grm.
$\frac{1}{100}$ gr.	=	0·00065 grm.
$\frac{1}{64}$ gr.	=	0·001 grm. (1 milligramme).
$\frac{1}{60}$ gr.	=	0·0013 grm.
$\frac{1}{40}$ gr.	=	0·0016 grm.
$\frac{1}{32}$ gr.	=	0·002 grm.
$\frac{1}{25}$ gr.	=	0·0026 grm.
$\frac{1}{10}$ gr.	=	0·0065 grm.
$\frac{1}{3}$ gr.	=	0·021 grm.
1 gr.	=	0·065 grm.
5 grs.	=	0·3 grm. (3 decigrammes).
15 grs.	=	1 grm.
30 grs.	=	2 grms.
60 grs.	=	4 grms.
$\frac{1}{8}$ oz.	=	3·5 grms.
$\frac{1}{2}$ oz.	=	14·2 grms.
1 oz.	=	28 grms.
2 ozs.	=	56 grms.
$\frac{1}{4}$ lb.	=	112 grms.
$\frac{1}{2}$ lb.	=	225 grms.
1 lb.	=	450 grms.
2 lbs.	=	900 grms.

1 milligramme (0·001 grm.)	=	$\frac{1}{65}$ grain.
10 milligrammes (0·01 grm.) (= 1 centigramme).	=	$\frac{1}{6}$ gr.

100 milligrammes (0·1 grm.) (= 1 decigramme).	=	1½ grs.
1 gramme	=	15½ grs.
4 grms.	=	60 grs. (1 dr. Troy).
10 grms. (1 decagramme)	=	⅓ oz.
25 grms.	=	⅞ oz.
28 grms.	=	1 oz. (437·5 grs.).
56 grms.	=	2 ozs.
100 grms. (1 hectogramme)	=	3½ ozs.
112 grms.	=	4 ozs. (¼ lb.).
200 grms.	=	7 ozs.
225 grms.	=	8 ozs. (½ lb.).
250 grms.	=	8⅘ ozs.
450 grms.	=	1 lb. (7,000 grs.).
500 grms.	=	1 1/10 lb.
900 grms.	=	2 lbs.
1000 grms. (1 kilogrm., or Kilo)	=	2⅕ lbs.

FREEZING MIXTURES.

Ingredients.	Parts by Weight.	Temperature reduced from 10° C. or 50° F. to
Hydrochloric Acid Sulphate of Sodium	8 5	− 17° C. = + 1° F.
Snow, or Fine-shaved Ice Chloride of Sodium	2 1	− 18° C. = 0° F.
Dilute Nitric Acid Sulphate of Sodium	2 3	− 19° C. = − 2° F.
Dilute Nitric Acid Nitrate of Ammonium Sulphate of Sodium	4 5 6	− 26° C. = − 15° F.
Dilute Nitric Acid Phosphate of Sodium	4 9	− 29° C. = − 20° F.

TABLE SHOWING GRAINS CONVERTED INTO GRAMMES.

Grains.	Grammes.	Grains.	Grammes.	Grains.	Grammes.	Grains.	Grammes.
·5	0·0324	36	2·3325	71	4·6002	107	6·9326
1	0·0648	37	2·3973	72	4·6650	108	6·9974
2	0·1295	38	2·4620	73	4·7299	109	7·0622
3	0·1943	39	2·5269	74	4·7947	**109·4§**	**7·0882**
4	0·2591	40	2·5917	75	4·8593	110	7·1270
5	0·3239	41	2·6564	76	4·9241	**120¶**	**7·7750**
6	0·3887	42	2·7212	77	4·9890	125	8·0989
7	0·4535	43	2·7860	78	5·0538	130	8·4228
8	0·5183	44	2·8509	79	5·1185	140	9·0707
9	0·5831	45	2·9157	80	5·1833	150	9·7186
10	0·6479	46	2·9804	81	5·2481	180	11·6625
11	0·7128	47	3·0452	82	5·3130	200	12·9583
12	0·7775	48	3·1100	83	5·3778	240	15·5500
13	0·8422	49	3·1749	84	5·4425	250	16·1975
14	0·9070	50	3·2395	85	5·5073	300	19·4375
15	0·9719	51	3·3043	86	5·5721	350	22·6773
16	1·0367	52	3·3691	87	5·6370	360	23·3250
17	1·1014	53	3·4340	88	5·7017	400	25·9168
18	1·1662	54	3·4988	89	5·7664	**437·5‖**	**28·3465**
19	1·2310	**54·7†**	**3·5441**	90	5·8312	450	29·1563
20*	**1·2959**	55	3·5636	91	5·8960	**480****	**31·1003**
21	1·3607	56	3·6284	92	5·9609	500	32·3960
22	1·4254	57	3·6931	93	6·0257	550	35·6355
23	1·4902	58	3·7580	94	6·0904	600	38·8751
24	1·5550	59	3·8228	95	6·1552	650	42·1202
25	1·6198	**60**	**3·8875**	96	6·2200	700	45·3543
26	1·6845	61	3·9523	97	6·2849	750	48·5938
27	1·7493	62	4·0171	98	6·3497	800	51·8335
28	1·8141	63	4·0819	99	6·4144	850	55·0730
29	1·8790	64	4·1467	100	6·4791	900	58·3128
30	1·9438	65	4·2114	101	6·5439	950	61·5523
31	2·0085	66	4·2762	102	6·6086	960	62·2003
32	2·0733	67	4·3410	103	6·6734	1,000	64·7920
33	2·1381	68	4·4059	104	6·7382	**7,000††**	**453·544**
34	2·2030	69	4·4707	105	6·8030	**8,750‡‡**	**566·930**
35	2·2678	70	4·5354	106	6·8678		

* ℈j. ; † ℥j. (fluid) ; ‡ ℥j. ; § ℥ij. (fluid) ; ¶ ℥ij. ; ‖ ℥j. (avoir.)
** ℥j. (troy) ; †† 1 lb. (avoir.) ; ‡‡ O.j.

DOSES OF THE COMMONER MATERIA MEDICA ARRANGED FOR CATTLE, HORSES, DOGS, ETC.

ORGANIC.

Name.	Horses and Cattle.	Sheep and Pigs.	Dogs.
Acid Tannicum	20 to 60 grs.	6 to 15 grs.	1 to 4 grs.
Aloes Barbadoes	2 drms. to 1 oz. for horses, cattle even more.	1 to 6 drms.	20 to 120 grs.
Ammoniacum	2 to 4 drms.	½ to 2 drms.	10 to 20 grs.
Areca Nut	½ to 1 oz.	seldom given.	½ to 2 drms.
Belladon. Pulv.	1 to 2 ozs.	½ to 1 scr.	2 to 5 grs.
Cambogia	½ to 1 oz.	15 grs. to ½ dr.	2 to 5 grs.
Camphor	1 to 3 drms.	½ to 1 scr.	3 to 10 grs.
Cantharis	5 to 15 grs.	2 to 5 grs.	¼ to 1 gr.
Capsici Pulv.	5 to 20 grs.	5 to 10 grs.	2 to 5 grs.
Cascarillæ Cortex	2 drms. to ½ oz.	1 to 2 drms.	15 to 60 grs.
Catechu	1 to 3 drms.	½ drm.	1 to 10 grs.
Cinchonæ Cortex	2 drms. to ½ oz.	1 to 2 drms.	½ to 1 drm.
Colchici Corm.	½ to 2 drms.	5 grs. to 1 scr.	2 to 5 grs.
Digitalis Pulv.	3 to 40 grs.	5 to 10 grs.	1 to 3 grs.
Ergota	2 to 4 drms.	15 to 30 grs.	1 to 10 grs.
Gentianæ Rad.	2 to 4 drms.	½ to 2 drms.	10 to 15 grs.
Jalapa	seldom given.	1 to 2 drms.	½ to 1½ drms.
Nux Vomica	½ drm.	10 to 15 grs.	½ to 3 grs.
Ol. Crotonis	10 to 40 drops.	2 to 5 drops.	1 to 3 drops.
,, Juniperi	1 drm.	15 drops.	5 drops.
,, Ricini	20 to 30 ozs.	2 to 3 ozs.	½ to 2 ozs.
,, Terebinth.	Diuretic ½ oz. Anthelmintic, 2 to 3 ozs.	10 to 20 mins. 2 to 4 drms.	60 to 90 drops.
Opium	1 to 2 drms.	10 to 30 grs.	½ to 3 grs.
Piper. Nig.	2 drms.	3 drms.	2 to 3 grs.
Quininæ Sulph.	20 to 40 grs.	5 to 10 grs.	1 to 5 grs.
Resin	4 to 6 grs.	1 to 2 drms.	20 to 30 grs.
Rhei Rad.	1 to 1½ ozs.	2 to 3 drms.	10 to 30 grs.
Strychnina	1 to 3 grs.	½ to 1 gr.	$\frac{1}{10}$ to $\frac{1}{10}$ gr.
Tinct. Aconiti	20 to 40 drops.	5 to 10 drops.	5 to 8 drops.
,, Opii	1 to 3 ozs.	2 drms. to 1 oz.	10 to 30 drops.
,, Lyttæ	1 to 4 ozs.	½ to 1½ ozs.	2 to 3 drms.
,, Colchici	½ to 2 ozs.	½ to 3 drms.	20 to 60 drops.
,, Ergotæ	1 to 2 ozs.	2 to 3 drms.	20 to 60 drops.
,, Nuc. Vom.	½ to 1 oz.	1 to 2 drms.	10 to 30 drops.
Zingiber	2 to 4 drms.	½ to 2 drms.	10 to 40 grs.

INORGANIC.

Drugs.	Horses and Cattle.	Pigs and Sheep.	Dogs.
Acid Hydrocyanic .	20 to 30 drops.	5 to 10 drops.	1 to 3 drops.
Alum. Sulph. . .	2 to 4 drms.	½ to 2 drms.	10 to 30 grs.
Ammoniæ Carb. . .	1 to 2 drms.	½ to 1 drm.	3 to 10 grs.
Ammon. Acet. Liq. .	4 to 8 ozs.	1 to 4 ozs.	½ to 1 oz.
Ammonii Chlor. . .	½ to 2 ozs.	½ to 2 drms.	5 to 20 grs.
Antim. Tart. .	Alternative, ½ to 1 drm. Diaphor, 1 to 2 drms.	Emetic, 5 to 15 grs.	Diaphor, ½ to 2 grs. Emetic, 1 to 4 grs.
Arsenious Acid (white arsenic) . . .	5 to 10 grs.	1 to 2 grs.	$\frac{1}{20}$ to $\frac{1}{10}$ gr.
CarbolicAcid,liquefact.	20 to 90 drops.	5 to 15 drops.	1 to 5 drops.
Cretæ Præpar. . .	½ to 1½ ozs.	2 to 3 drms.	5 to 15 grs.
Cupri Sulph. . .	1 to 2 drms.	10 to 20 grs.	1 to 3 grs.
Ether Sulph. . .	1 to 2 ozs.	2 drms. to ½ oz.	½ to 2 drms.
Ferri Sulph. . .	1 to 2 drms.	10 to 20 grs.	1 to 10 grs.
Hydrarg. Subchlor.	20 to 60 grs. (cattle less)	1 to 5 grs.	1 to 4 grs.
Hydrarg. c. Cretâ .	Not used.	Not used.	Up to 8 grs.
Iodum	10 to 20 grs.	2 to 8 grs.	1 to 2 grs.
Magnes. Sulph. . .	½ to 1 lb.	1 to 2 ozs.	1 to 4 drms.
Potass. Bicarb. . .	2 to 8 drms.	½ to 2 drms.	10 to 20 grs.
,, Chloras . .	1 to 2 drms.	20 to 40 grs.	5 to 20 grs.
,, Nitras . .	2 to 4 drms.	½ to 1 drm.	5 to 10 grs.
,, Iodid. . .	1 to 2 drms.	20 grs. to 1 drm.	1 to 5 grs.
Sodii Bicarb. . .	4 to 6 drms.	1 to 2 drms.	5 to 30 grs.
,, Sulphas . .	1 lb.	2 to 3 ozs.	1 to 3 drms.
,, Sulphis . .	1 to 2 ozs.	2 to 4 drms.	½ to 1 drm.
Sulphur . . .	3 to 4 ozs.	2 ozs.	2 ot 10 grs.
Tr. Ferri Perchlor. .	1 to 2 ozs.	3 to 6 drms.	20 to 60 drops.
Zinci Sulph. .	Tonic, 1 to 2 drms. Emetic.	10 to 20 grs. 20 to 40 grs.	2 to 4 grs. 5 to 15 grs.

Artificial Fruit Essences.	Amyl Alcohol.	Aldehyde.	Amyl Acetate.	Amyl Butyrate.	Amyl Valerianate.	Chloroform.	Ethyl Acetate.	Ethyl Benzoate.	Ethyl Butyrate.	Ethyl Formate.	Ethyl Nitrate.	Ethyl Œnanthate.	Ethyl Valerianate.	Glycerine.	Oil of Lemon.	Oil of Orange.	Oil of Wintergreen.	Persico Essence.	Alc. Sol. Benzoic Acid.	Alc. Sol. Oxalic Acid.	Alc. Sol. Succinic Acid.	Alc. Sol. Tartaric Acid.
Apple	...	20	...	...	100	10	10	...	...	...	10	...	...	40	...	...	...	...	...	100	...	...
Apricot ...	20	...	...	10	...	10	...	...	100	...	...	...	50	40	...	...	...	10	...	...	...	10
Banana	...	10	...	100	...	10	...	...	50	...	...	...	...	30	...	...	...	...	...	...	...	...
Black Cherry ...	...	...	...	...	...	...	100	50	...	...	...	...	...	...	...	...	...	20	20	10	...	...
Cherry	...	...	...	...	...	...	50	50	...	...	...	...	...	30	...	...	...	10	10	...	...	...
Gooseberry ...	...	10	...	...	...	...	50	10	...	...	...	10	...	...	...	...	...	...	10	...	10	50
Grape	...	20	...	...	...	20	...	...	...	20	...	100	...	100	...	...	10	...	...	...	30	50
Lemon	...	20	...	...	...	10	100	...	...	...	10	...	...	50	100	...	...	...	...	...	10	100
Melon	...	20	...	...	...	...	...	...	40	10	...	...	50	30	...	...	...	...	...	...	...	...
Orange	...	20	10	...	...	20	50	10	10	10	...	...	...	100	...	100	10	...	...	...	...	100
Peach	20	20	...	...	...	...	50	...	50	50	...	...	50	50	...	...	...	50	...	...	...	...
Pear	...	...	100	...	...	...	50	...	...	..	...	...	...	100	...	...	...	...	...	...	...	...
Pineapple ...	...	10	...	100	...	10	...	...	50	...	...	...	...	30	...	...	...	...	...	...	...	...
Plum	...	50	...	...	...	...	50	...	20	10	...	...	...	80	...	...	...	40	...	...	...	...
Raspberry ...	...	10	10	10	...	...	50	10	10	10	10	10	...	40	...	...	10	...	...	...	10	50
Strawberry ...	...	...	30	20	...	...	...	10	50	10	10	...	...	20	...	...	10	...	...	...	...	...

In each of these cases the several figures indicate the number of parts by *measure* which are to be added to 1,000 parts by *measure* of 90-per-cent. alcohol. The last four columns give the proportion of alcoholic solution of four organic acids. These solutions are to be prepared by dissolving the respective acids in cold alcohol (90 per cent.) to saturation.

THE THERMOMETER.

THE thermometric scales chiefly in use are those of Fahrenheit, Celsius (Centigrade), and Réaumur, the interval between the normal freezing- and boiling-points of water being respectively divided into 180, 100, and 80 degrees. The Réaumur scale is now but rarely used, Fahrenheit and Centigrade being employed in this country, and the latter especially on the continent.

To convert a given temperature in F. to C. (if above freezing-point)—

Subtract 32, multiply by 5, divide by 9. If below 32° but above 0°.

Subtract from 32, multiply by 5, divide by 9. Express as minus.

If below 0° add 32, multiply by 5, divide by 9. Express as minus.

F. to R. Use the same rule, but multiply by 4 instead of 5.

C. to F. above 0°. Multiply by 9, divide by 5, and add 32.

If below 0°. Multiply by 9, divide by 5; if result is more than 32, subtract 32 from it, and express as minus, but if result is less than 32, subtract it from 32.

R. to F. Same rule, but divide by 4 instead of 5.

C. to R. Multiply by 4, divide by 5.

R. to C. Multiply by 5, divide by 4.

TABLE

SHOWING CENTIGRADE DEGREES AND THEIR EQUIVALENT ON FAHRENHEIT'S SCALE.

For the ready conversion of Centigrade into Fahrenheit degrees, the following table will be useful.

FOR TEMPERATURES BELOW THE FREEZING-POINT OF WATER

C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.
—	—	—	—	—	—	—	—	—	+	—	+
o	o	o	o	o	o	o	o	o	o	o	o
40	40·0	33	27·4	26	14·8	19	2·2	15	5·0	7	19·4
39	38·2	32	25·6	25	13·0	18	0·4	14	6·8	6	21·2
38	36·4	31	23·8	24	11·2	**17·778**	**0·0**	13	8·6	5	23·0
37	34·6	30	22·0	23	9·4	—	+	12	10·4	4	24·8
36	32·8	29	20·2	22	7·6		o	11	12·2	3	26·6
35	31·0	28	18·4	21	5·8	17	1·4	10	14·0	2	28·4
34	29·2	27	16·6	20	4·0	16	3·2	9	15·8	1	30·2
								8	17·6	**0**	**32·0**

FOR TEMPERATURES ABOVE THE FREEZING-POINT OF WATER

C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.
+	+	+	+	+	+	+	+	+	+	+	+
o	o	o	o	o	o	o	o	o	o	o	o
1	33·8	28	82·4	55	131·0	82	179·6	109	228·2	136	276·8
2	35·6	29	84·2	56	132·8	83	181·4	110	230·0	137	278·6
3	37·4	30	86·0	57	134·6	84	183·2	111	231·8	138	280·4
4	39·2	31	87·8	58	136·4	85	185·0	112	233·6	139	282·2
5	41·0	32	89·6	59	138·2	86	186·8	113	235·4	140	284·0
6	42·8	33	91·4	60	140·0	87	188·6	114	237·2	141	285·8
7	44·6	34	93·2	61	141·8	88	190·4	115	239·0	142	287·6
8	46·4	35	95·0	62	143·6	89	192·2	116	240·8	143	289·4
9	48·2	36	96·8	63	145·4	90	194·0	117	242·6	144	291·2
10	50·0	37	98·6	64	147·2	91	195·8	118	244·4	145	293·0
11	51·8	38	100·4	65	148·0	92	197·6	119	246·2	146	294·8
12	53·6	39	102·2	66	150·8	93	199·4	120	248·0	147	296·6
13	55·4	40	104·0	67	152·6	94	201·2	121	249·8	148	298·4
14	57·2	41	105·8	68	154·4	95	203·0	122	251·6	149	300·2
15	59·0	42	107·6	69	156·2	96	204·8	123	253·4	150	302·0
16	60·8	43	109·4	70	158·0	97	206·6	124	255·2	151	303·8
17	62·6	44	111·2	71	159·8	98	208·4	125	257·0	152	305·6
18	64·4	45	113·0	72	161·6	99	210·2	126	258·8	153	307·4
19	66·2	46	114·8	73	163·4	**100**	**212·0**	127	260·6	154	309·2
20	68·0	47	116·6	74	165·2	101	213·8	128	262·4	155	311·0
21	69·8	48	118·4	75	167·0	102	215·6	129	264·2	156	312·8
22	71·6	49	120·2	76	168·8	103	217·4	130	266·0	157	314·6
23	73·4	50	122·0	77	170·6	104	219·2	131	267·8	158	316·4
24	75·2	51	123·8	78	172·4	105	221·0	132	269·6	159	318·2
25	77·0	52	125·6	79	174·2	106	222·8	133	271·4	160	320·0
26	78·8	53	127·4	80	176·0	107	224·6	134	273·2	161	321·8
27	80·6	54	129·2	81	177·8	108	226·4	135	275·0	162	323·6

FOR TEMPERATURES ABOVE THE FREEZING-POINT OF WATER.

C.	F.	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.
+ o	+ o	+ o	+ o	+ o	+ o	+ o	+ o	+ o	+ o	+ o	+ o
163	325·4	203	397·4	243	469·4	283	541·4	323	613·4	363	685·4
164	327·2	204	399·2	244	471·2	284	543·2	324	615·2	364	687·2
165	329·0	205	401·0	245	473·0	285	545·0	325	617·0	365	689·0
166	330·8	206	402·8	246	474·8	286	546·8	326	618·8	366	690·8
167	332·6	207	404·6	247	476·6	287	548·6	327	620·6	367	692·6
168	334·4	208	406·4	248	478·4	288	550·4	328	622·4	368	694·4
169	336·2	209	408·2	249	480·2	289	552·2	329	624·2	369	696·2
170	338·0	210	410·0	250	482·0	290	554·0	330	626·0	370	698·0
171	339·8	211	411·8	251	483·8	291	555·8	331	627·8	371	699·8
172	341·6	212	413·6	252	485·6	292	557·6	332	629·6	372	701·6
173	343·4	213	415·4	253	487·4	293	559·4	333	631·4	373	703·4
174	345·2	214	417·2	254	489·2	294	561·2	334	633·2	374	705·2
175	347·0	215	419·0	255	491·0	295	563·0	335	635·0	375	707·0
176	348·8	216	420·8	256	492·8	296	564·8	336	636·8	376	708·8
177	350·6	217	422·6	257	494·6	297	566·6	337	638·6	377	710·6
178	352·4	218	424·4	258	496·4	298	568·4	338	640·4	378	712·4
179	354·2	219	426·2	259	498·2	299	570·2	339	642·2	379	714·2
180	356·0	220	428·0	260	500·0	300	572·0	340	644·0	380	716·0
181	357·8	221	429·8	261	501·8	301	573·8	341	645·8	381	717·8
182	359·6	222	431·6	262	503·6	302	575·6	342	647·6	382	719·6
183	361·4	223	433·4	263	505·4	303	577·4	343	649·4	383	721·4
184	363·2	224	435·2	264	507·2	304	579·2	344	651·2	384	723·2
185	365·0	225	437·0	265	509·0	305	581·0	345	653·0	385	725·0
186	366·8	226	438·8	266	510·8	306	582·8	346	654·8	386	726·8
187	368·6	227	440·6	267	512·6	307	584·6	347	656·6	387	728·6
188	370·4	228	442·4	268	514·4	308	586·4	348	658·4	388	730·4
189	372·2	229	444·2	269	516·2	309	588·2	349	660·2	389	732·2
190	374·0	230	446·0	270	518·0	310	590·0	350	662·0	390	734·0
191	375·8	231	447·8	271	519·8	311	591·8	351	663·8	391	735·8
192	377·6	232	449·6	272	521·6	312	593·6	352	665·6	392	737·6
193	379·4	233	451·4	273	523·4	313	595·4	353	667·4	393	739·4
194	381·2	234	453·2	274	525·2	314	597·2	354	669·2	394	741·2
195	383·0	235	455·0	275	527·0	315	599·0	355	671·0	395	743·0
196	384·8	236	456·8	276	528·8	316	600·8	356	672·8	396	744·8
197	386·6	237	458·6	277	530·6	317	602·6	357	674·6	397	746·6
198	388·4	238	460·4	278	532·4	318	604·4	358	676·4	398	748·4
199	390·2	239	462·2	279	534·2	319	606·2	359	678·2	399	750·2
200	392·0	240	464·0	280	536·0	320	608·0	360	680·0	400	752·0
201	393·8	241	465·8	281	537·8	321	609·8	361	681·8	450	842·0
202	395·6	242	467·6	282	539·6	322	611·6	362	683·6	500	932·0

SATURATION TABLE.

17 grains of Citric Acid or ℥ss. of fresh Lemon Juice will neutralize

- 25 grs. Bicarbonate of Potash.
- 20 grs. Carbonate of Potash.
- 20 grs. Bicarbonate of Soda.
- 35 grs. Carbonate of Soda.
- 15 grs. Carbonate of Ammonia.
- 13 grs. Carbonate of Magnesia.

GAUBIUS' TABLE.

For an adult, if the dose be										1	or 60	grains.
The dose under	1	year	will	be						$\frac{1}{12}$	or 5	,,
,,	,,	,,	2	,,	,,	,,				$\frac{1}{8}$	or 8	,,
,,	,,	,,	3	,,	,,	,,				$\frac{1}{6}$	or 10	,,
,,	,,	,,	4	,,	,,	,,				$\frac{1}{4}$	or 15	,,
,,	,,	,,	7	,,	,,	,,				$\frac{1}{3}$	or 20	,,
,,	,,	,,	14	,,	,,	,,				$\frac{1}{2}$	or 30	,,
,,	,,	,,	20	,,	,,	,,				$\frac{2}{3}$	or 40	,,
		21 to 60		,,	,,	,,				1	or 60	,,

OR,

For children under 12 add 12 to the age, and divide the age by the amount thus obtained.

SPECIFIC GRAVITY.

RULES for taking the specific gravity of a fluid.

1. Divide the weight of the fluid by that of an equal volume of water.

2. Knowing the S.G. of a fluid, to find the weight of a pint or other liquid measure :—Multiply the S.G. by the required volume of water.

3. Knowing the weight of a given volume of liquid, to find its S.G.:—Divide the weight of it by the weight of an equal quantity of water.

For taking the S.G. of solid bodies.

1. For a solid in mass insoluble in water :—Weigh it in air, and then weigh in water ; subtract the latter result from the former, and divide the weight in air by the difference.

2. For a powder insoluble in water :—Weigh the powder, then put it into a S.G. bottle, fill it up with water and weigh. Whatever the latter weight is in excess of the weight of the water the bottle is known to hold, is the weight of the powder in water. Proceed as in Rule 1.

3. For a solid in mass that is lighter than water :—Weigh the solid, then attach it to a small piece of lead of which the weight is known (to act as a sinker), and weigh both in water. We have thus—

a. The weight of the light body in air.
b. The weight of the sinker in water.
c. The weight conjoined of the light body and sinker in water.

Deduct the weight of both in water from the weight of the sinker in water, add the weight of the light substance in air, and divide the weight of the light body in air by the product so obtained.

4. For solids soluble in water :—Proceed as in Rule 1, using turpentine or other liquid in place of water, and when the calculations are made, multiply the S.G. obtained, by the S.G. of the liquid used.

(S.G. of Spt. Turpent., ·87.)

TABLE OF SOLUBILITIES.

	In water at 60° F.	In S.V.R.
Acetanilid.	1 in 200	1 in 10
Acid Arsenious	1 in 80	1 in 140
,, Benzoic	1 in 30	—
,, Citric	10 in 6	10 in 15
,, Oxalic	1 in 8	1 in 6
,, Phenic	1 in 16	readily
,, Tartaric	10 in 8	1 in 8
,, Gallic	1 in 100	1 in 8
,, Salicylic	1 in 760	readily
,, Tannic	readily	,,
Alumen	1 in 10	insoluble
Ammon. Carb.	1 in 4	slightly
,, Benzoat.	1 in 5	1 in 18
,, Bromid.	1 in $1\frac{1}{2}$	1 in 13
,, Chlorid.	1 in 4	1 in 55
,, Phosph.	1 in 2	insoluble
Antipyrine	1 in 1	readily
Antim. Tart.	1 in 20	slightly
Atropine	1 in 500	1 in 8
Butyl-Chloral Hydrate . . .	1 in 50	1 in 1
Chloralamid.	1 in 10	readily
Camphor	1 in 840	,,
Chloroform	1 in 100	,,
Codeine	1 in 60	soluble
Ether (·720)	1 in 9	readily
Ferri Tart.	1 in 4	—
,, Sulph.	1 in 12	insoluble
Hydrarg. Perchlorid.	1 in 19	1 in 7
Lithia Citrat.	1 in $2\frac{1}{2}$	—
,, Carb.	1 in 100	insoluble
Magnes. Sulph.	1 in 13	—
Morph. Hydrochlor.	1 in 24	1 in 90
,, Acet.	1 in 6	1 in 100
Plumbi Acet.	1 in 25	—
Potass. Bicarb.	1 in 3	insoluble

TABLE OF SOLUBILITIES—*continued.*

	In water at 60° F.	In S.V.R.
Potass. Bicarbonat	1 in 10	——
,, Bromid.	1 in 2	1 in 90
,, Chlorat.	1 in 16	—
,, Citrat.	10 in 6	insoluble
,, Iodid.	4 in 3	1 in 16
,, Nitras	1 in 4	—
,, Permangan.	1 in 15	decomposed
Saccharin	1 in 400	1 in 30
Sacch. Lact.	1 in 5	insoluble
Salicin.	1 in 28	—
Sodii Bicarb.	1 in 10	—
,, Bibor.	1 in 22	—
,, Salicyl.	1 in 1	1 in 4½
,, Hypophosph.	1 in 2	slightly
,, Sulph.	1 in 3	—
,, Tart.	1 in 2	insoluble
,, Phosph.	1 in 5	—
Sulphonal	1 in 450	1 in 65
Thalline Sulph.	1 in 7	1 in 100
Urethane	1 in 1	—
Zinc. Sulph.	10 in 7	insoluble

ORGANIC MATERIA MEDICA.

Table giving British Pharmacopœia and Botanical Names, Natural Orders, Habitats, and Active Principles.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Acacia	Acacia, Senegal and other species	Leguminosæ	Cordofan, in Eastern Africa	Gummic Acid and Arabin.
Aconitum	Aconitum Napellus	Ranunculaceæ	Germany or Britain	Aconitina, Aconella, and Aconitic Acid, etc.
Adeps	Sus scrofa	Pachydermata	Domesticated everywhere	—
Aloe Barbadensis	Aloe vulgaris	Liliaceæ	Barbadoes	Aloin and Aloetic Acid.
Aloe Socotrina	Aloe, Perryi, and other species	Liliaceæ	Socotra (shipped by way of Bombay)	—
Ammoniacum	Dorema Ammoniacum	Umbelliferæ	Persia and the Punjaub	—
Amygdala Amara	Prunus Amygdalus or communis	var. amara Rosaceæ	Mogadore	Emulsine and Amygdaline.
Amygdala Dulcis	Amygdalus communis	var. dulcis Rosaceæ	Malaga	Emulsine.
Amylum	Triticum vulgare	Graminaceæ	Indigenous	—
Anethi Fructus	Anethum graveolens	Umbelliferæ	England, middle and southern Europe	Anethene.
Anisi Oleum	Pimpinella Anisum	Umbelliferæ	Distilled in Europe	Anethol (Anise Camphor).
	Illicium Anisatum	Magnoliaceæ	Distilled in China	
Anthemidis Flores	Anthemis nobilis	Compositæ	Britain, wild and cultivated	Essential Oil.
Areca	Areca Catechu	Palmaceæ	East Indies	—
Armoraciæ Radix	Cochlearia Armoracia	Cruciferæ	Britain	—
Arnicæ Radix	Arnica montana	Compositæ	Mountainous parts of middle and southern Europe	Arnicin.
Asafœtida	Narthax Asafœtida or Ferula Narthex	Umbelliferæ	Afghanistan and Punjaub	Sulphide of Allyl.
Aurantii Cortex	Citrus Bigaradia	Aurantiaceæ	South of Europe	Hesperidin.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Balsamum Peruvianum	Myroxylon Pereiræ . .	Leguminosæ .	Salvador, in Central America	Cinnamein and Styracin.
Balsamum Tolutanum	Myroxylon Toluifera .	Leguminosæ .	New Granada	Cinnamein, Styracin, and Tolene.
Belæ Fructus .	Ægle Marmelos . . .	Aurantiaceæ .	Malabar and Coromandel .	—
Belladonna . .	Atropa Belladonna . .	Atropaceæ . .	(Leaves) Britain, (Root) Britain, Germany . .	Atropina and Asparagin.
Benzoinum . .	Styrax Benzoin . . .	Styraceæ . .	Siam and Sumatra . . .	Benzoic Acid.
Buchu Folia .	Barosma betulina . crenulata . serratifolia	Rutaceæ . .	Cape of Good Hope . . .	Barosmin or Diosmin.
Cajuputi Oleum	Melaleuca minor . . .	Myrtaceæ . .	Imported from Batavia and Singapore . . .	—
Calumbæ Radix	Jateorrhiza Calumba .	Menispermaceæ	Eastern Africa, between Ibo and Zambesi . .	Calumbine, Calumbic Acid, and Berberine.
Cambogia . .	Garcinia Morella . ,, Hanburii.	Guttiferæ . .	Siam	Cambogic Acid.
Camphora. .	Camphora officinarum ,, cinnamomum	Lauraceæ . .	China and Japan (purified here)	Camphoric and Camphoretic Acids.
Canellæ Albæ Cortex . .	Canella alba	Canellaceæ . .	West Indies	Mannite, Sugar, and Starch.
Cannabis Indica	Cannabis sativa . . .	Cannabinaceæ .	India	Cannabin.
Cantharis . .	Cantharis vesicatoria .	Coleoptera . .	Hungary	Cantharidine.
Capsici Fructus	Capsicum fastigiatum .	Solanaceæ . .	Zanzibar	Capsicin.
Cardamomum .	Elettaria Cardamomum	Zingiberaceæ .	Malabar	—
Carui Fructus .	Carum Carui	Umbelliferæ .	England and Germany . .	Carvene and Carvol.
Caryophyllum .	Eugenia Caryophyllata . . . . . Caryophyllus aromaticus	Myrtaceæ . .	Penang, Bencoolen, and Amboyna	Caryophylline.
Cascarillæ Cortex . .	Croton Eluteria . . .	Euphorbiaceæ .	Bahama Islands	Cascarillin.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Cassiæ Pulpa	Cassia Fistula	Leguminosæ	East and West Indies	—
Castoreum	Castor Fiber	Rodentia	Hudson's Bay Territory	—
Catechu pallidum	Uncaria Gambier	Cinchonaceæ	Singapore, and other places in the Eastern Archipelago	Catechin.
Cera Flava	Apis mellifica	Hymenoptera	Indigenous	Cerotin.
Cetaceum	Physeter macrocephalus	Cetacea	Pacific and Indian Oceans	Cerotin.
Cetraria	Cetraria Islandica	Lichenes	North of Europe	Cetraric Acid.
Chirata	Ophelia Chirata	Gentianaceæ	Northern India	Chiratin and Ophelic Acid.
Cinchonæ Flavæ Cortex	Cinchona Calisaya	Cinchonaceæ	Bolivia and Southern Peru	Quinine chiefly.
Cinchonæ Pallidæ Cortex	Cinchona Condaminea	Cinchonaceæ	Loxa, in Ecuador	Cinchonine chiefly.
Cinchonæ Rubræ Cortex	Cinchona succiruba	Cinchonaceæ	Western slopes of Chimborazo	Quinine and Cinchonidine.
Cimicifugæ Rhizoma	Cimicifuga racemosa	Ranunculaceæ	America	Cimicifugin.
Cinnamomi Cortex	Cinnamomum Zeylanicum	Lauraceæ	Ceylon	Tannin and Cinnamic Acid.
Coca	Erythroxylon Coca	Erythroxylaceæ	Bolivia	Cocaine.
Coccus	Coccus Cacti	Hemiptera	Mexico and Teneriffe	Carmine.
Colchicum	Colchicum autumnale	Melanthaceæ	Indigenous	Colchicine.
Colocynthidis Pulpa	Citrullus Colocynthis	Cucurbitaceæ	Smyrna, Trieste, France, and Spain	Colocynthin.
Conii Folia	Conium maculatum	Umbelliferæ	Britain	Conina and Methyl-Conina.
Copaiba	Copaifera Langsdorffii	Leguminosæ	Valley of the Amazon	Copaivic Acid.
Coriandri Fructus	Coriandrum sativum	Umbelliferæ	Britain	Volatile Oil.
Crocus	Crocus sativus	Iridaceæ	Spain, France, and Italy	Crotin and Polychroit.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Croton	Croton Tiglium	Euphorbiaceæ	Hindostan, Ceylon, and Indian Archipelago	—
Cubeba	Piper Cubeba / Cubeba officinalis	Piperaceæ	Java	Cubebin.
Cusparіæ Cortex	Galipea Cusparia	Rutaceæ	Tropical South America	Angusturin.
Cusso	Brayera anthelmintica	Rosaceæ	Abyssinia	Koussine.
Digitalis Folia	Digitalis purpurea	Scrophulariaceæ	Indigenous	Digitalin, Digitoxin.
Dulcamara	Solanum Dulcamara	Solanaceæ	Indigenous	—
Ecbalii Fructus	Ecbalium officinarum	Cucurbitaceæ	South of Europe	Momordicine (Elaterine).
Elemi	Canarium commune	Amyridaceæ	Manilla	Amyrin.
Euonymi Cortex	Euonymus atropurpureus	Celastraceæ	America	Euonymin.
Ergota	Secale cereale	Graminaceæ	Indigenous	Ergotine and Ecboline.
Eucalypti Gummi	Eucalyptus rostrata	Myrtaceæ	Australia	—
Farina Tritici	Triticum sativum	Graminaceæ	Indigenous	—
Fel Bovinum Purificatum	Bos Taurus	Ruminantia	Domesticated everywhere	Cholesterine.
Ficus	Ficus Carica	Moraceæ	Smyrna	Mucilaginous and Saccharine matter.
Filix-Mas	Aspidium Filix-mas	Filices	Indigenous	Filicic Acid and Glyceride of Filoxylin.
Fœniculi Fructus	Fœniculum dulce or capillacum	Umbelliferæ	Malta	—
Galbanum	Ferula galbaniflua	Umbelliferæ	India and the Levant	Umbelliferone.
Galla	Quercus infectoria	Cupuliferæ	Asia Minor	Tannic, Gallic and Ellagic Acids.
Gelsemium	Gelsemium nitidum	Apocynaceæ	America	Gelsemin.
Gentianæ Radix	Gentiana lutea	Gentianaceæ	Central and Southern Europe (mountains)	Gentianic Acid and Gentiopicrin.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Glycyrrhizæ Radix	Glycyrrhiza glabra	Leguminosæ	England	Glycyrrhizine and Asparagine.
Gossypium	Gossypium, various species	Malvaceæ	Warm and tropical regions	Cellulin or Lignin.
Granati Radicis Cortex	Punica Granatum	Granateæ	South of Europe	Punico-Tannic Acid and Punicine.
Guaiaci Lignum	Guaiacum officinale	Zygophyllaceæ.	St. Domingo and Jamaica	Guaiacic, Guaiantic, and Guaiaconic Acids.
Guaiaci Resina	Guaiacum officinale			
Gutta Percha	Dichopsis or Isonandra Gutta	Sapotaceæ	Eastern Islands	—
Hæmatoxyli Lignum	Hæmatoxylum Campechianum	Leguminosæ	Campeachy, Honduras, and Jamaica	Hæmatoxyline.
Hemidesmi Radix	Hemidesmus Indicus	Asclepiadaceæ	India	Hemidesmic Acid.
Hirudo	Sanguisuga medicinalis (speckled) officinalis (green)	Sanguisuga	Spain, France, Italy, Hungary	—
Hydrastis Rhizoma	Hydrastis Canadensis	Ranunculaceæ	North America	Hydrastin.
Hordeum Decorticatum	Hordeum distichon	Graminaceæ	Britain	Gluten Starch and Gum.
Hyoscyami Folia	Hyoscyamus niger	Atropaceæ	Britain	Hyoscyamina.
Hamamelidis Cortex	Hamamelis Virginica	Hamamelidaceæ	North America	Hamamelin.
Ipecacuanha	Cephaëlis Ipecacuanha	Cinchonaceæ	Brazil	Emetina and Cephaëlic Acid.
Jaborandi	Pilocarpus pennatifolius	Rutaceæ	Brazil	Pilocarpina and Jaborina.
Jalapa	Ipomœa or Exogonium Purga	Convolvulaceæ	Mexico	Convolvulina and Jalapina.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Juniper . . .	Juniperus communis .	Coniferæ . .	North of Europe, indigenous	—
Kamala . . .	Mallotus phillpinensis or Rottlera tinctoria . .	Euphorbiaceæ .	India	Rottlerina and Tannic Acid.
Kino	Pterocarpus Marsupium	Leguminosæ .	Malabar	Mimo-Tannic Acid and Catechin.
Krameriæ Radix	Krameria triandra . .	Polygalaceæ .	Peru	Rhatanin, etc., and Krameric Acid.
Lac	Bos Taurus	Ruminantia .	Domesticated everywhere .	—
Lactuca . . .	Lactuca virosa . . .	Compositæ . .	Indigenous	Lactucarium, Lactacic Acid.
Laricis Cortex .	Larix Pinus	Coniferæ . .	Indigenous	Larixin and Tannic Acid.
Laurocerasi Folia . .	Prunus Laurocerasus .	Rosaceæ . . .	Britain	Amygdaline and Emulsine.
Lavandula . .	Lavandula vera . . .	Labiatæ . . .	South of Europe	—
Limon . . .	Citrus Limonum . . .	Aurantiaceæ .	South of Europe	Hesperidin, Citrene, and Citrylene.
Lini Semina .	Linum usitatissimum .	Linaceæ . . .	Britain	Palmitine and a glyceride of Linoleic Acid.
Lobelia . . .	Lobelia inflata	Lobeliaceæ . .	North America	Lobelic Acid and Lobelina.
Lupulus . . .	Humulus Lupulus . .	Cannabinaceæ .	England	Humulin, or Lupulite and Tannic Acid.
Manna . . .	Fraxinus Ornus . . rotundifolia	Oleaceæ . . .	Calabria and Sicily . . .	Mannite.
Mastiche . . .	Pistacia Lentiscus . .	Anacardiaceæ .	Island of Scio	Mastichic Acid and Masticin.
Masticæ Folia .	Artanthe elongata . Piper anguetifolium	Piperaceæ . .	Peru	Artanthic Acid.
Mel	Apis mellifica	Hymenoptera .	Universally domesticated .	—
Mentha piperita	Mentha piperita . . .	Labiatæ . . .	Britain	—
Mentha viridis .	Mentha viridis	Labiatæ . . .	Britain	—
Mezerei Cortex .	Daphne Mezereum . ,, Laureola .	Thymelaceæ .	Indigenous	Daphnin.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Mica Panis	Triticum vulgare	Graminaceæ	Indigenous	—
Mori Succus	Morus nigra	Moraceæ	Cultivated in Britain; native of Persia and China	Malic Acid and Sugar.
Morrhuæ Oleum	Gadus Morrhua	(Genus) Acipenser	Coasts of Norway, France, and England, Newfoundland and Labrador	—
Moschus	Moschus moschiferus	Ruminantia	Native of Central Asia; imported from China and India	—
Myristica	Myristica officinalis „ fragrans	Myristicaceæ	Banda Islands of the Malayan Archipelago	Myristicin.
Myrrha	Balsamodendron Myrrha	Amyridaceæ	Arabia Felix and Abyssinia	Myrrhol and Myrrhin.
Nectandræ Cortex	Nectandra Rodiæi	Lauraceæ	British Guiana	Nectandrina and Beberina.
Nux Vomica	Strychnos Nux-vomica	Loganiaceæ	East Indies	Strynina, Brucina, Igasurina, etc.
Olivæ Oleum	Olea Europæa	Oleaceæ	South of Europe	Olein (liquid), Margarine (solid).
Opium	Papaver somniferum	Papaveraceæ	Asia Minor (Smyrna)	Morphina, Codeina, Thebaina, Papaverina, Apomorphina, Meconic Acid, etc.
Ovi Vitellus	Gallus Banckiva	(Class) Aves	Domesticated everywhere	—
Papaveris Capsulæ	Papaver somniferum	Papaveraceæ	Britain	—
Pareiræ Radix	Cissampelos Pareira (*Chondodendron tormentosum*, *Hanbury*)	Menispermaceæ	Brazil	Cissapeline or Pelosine.
Physostigmatis Faba	Physostigma venenosum	Leguminosæ	Western Africa	Eserina or Physostigmina.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Pimenta	Eugenia Pimenta	Myrtaceæ	West Indies	Volatile Oil.
Piper nigrum	Piper nigrum	Piperaceæ	East Indies	—
Pix Burgundica	Abies excelsa	Coniferæ	Germany	—
Pix liquida	Pinus Picea / Pinus sylvestris	Coniferæ	Scotland, Denmark, and Norway	—
Podophylli Radix	Podophyllum peltatum	Ranunculaceæ (*Berberideæ*, *Hanbury*)	North America	Podophyllin, etc.
Prunum	Prunus domestica	Rosaceæ	Southern Europe	—
Pterocarpi Lignum	Pterocarpus santalinus	Leguminosæ	Ceylon	Santalin.
Pyrethri Radix	Anacyclus Pyrethrum	Compositæ	Levant	Pyrethrin, Pyrethric Acid.
Quassiæ Lignum	Picræna excelsa	Simarubaceæ	Jamaica	Quassine.
Quercus Cortex	Quercus pedunculata / ,, Robur	Cupuliferæ	Britain	—
Resina	Pinus et Abies	Coniferæ	America	—
Rhamni Frangulæ Cortex	Rhamnus Frangula	Rhamnaceæ	America	—
Rhamni Purshiani Cortex	Rhamnus Purshianus	Rhamnaceæ	America	—
Rhei Radix	Rheum, Palmatum, and other species	Polygonaceæ	China, Chinese Tartary, and Thibet. Imported from Shanghai and Canton; brought overland by way of Moscow	Chrysophanic and Tannic Acids.
Rhœados Petala	Papaver Rhœas	Papaveraceæ	Indigenous	Rhœadin.
Ricinus	Ricinus communis	Euphorbiaceæ	India	—
Rosæ Caninæ Fructus	Rosa canina	Rosaceæ	Indigenous	—
Rosæ Centifoliæ Petala	Rosa centifolia	Rosaceæ	Britain	—
Rosæ Gallicæ Petala	Rosa Gallica	Rosaceæ	Britain	—

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Rosmarinus	Rosmarius officinalis	Labiatæ	South of Europe, Asia Minor; cultivated in England	—
Ruta	Ruta graveolens	Rutaceæ	South of Europe	Volatile Oil.
Sabadilla	Schœnocaulon officinale / Asagræa officinalis	Melanthaceæ	Mexico	Veratrina.
Sabinæ Cacumina	Juniperus Sabina	Coniferæ	Britain	—
Saccharum Purif.	Saccharum officinarum	Graminaceæ	West Indies	—
Saccharum Lactis	Bos Taurus	Ruminantia	Domesticated everywhere	—
Sambuci Floris	Sambucus nigra	Caprifoliaceæ	Indigenous	—
Santonica	Artemisia, *Maritima*	Compositæ	Russia	Santonin.
Sarsæ Radix	Smilax officinalis	Smilaceæ	Native of Central America; imported from Jamaica	—
Sassafras Radix	Sassafras officinale	Lauraceæ	North America	—
Scammoniæ Radix	Convolvulus Scammonia	Convolvulaceæ	Syria and Asia Minor	—
Scammonium	Convolvulus Scammonia	Convolvulaceæ	Asia Minor	—
Strophanthus	Strophanthus hispidus	Apocynaceæ	Africa, the Manganja Country	Strophanthin.
Scilla	Urginea Scilla	Liliaceæ	Mediterranean	Scillitin.
Scoparii Cacumina	Sarothamnus scoparius	Leguminosæ	Indigenous	Scoparine and Sparteina.
Senegæ Radix	Polygala Senega	Polygalaceæ	North America	Senegina.
Senna Alexandrina	Cassia acutifolia	Leguminosæ	Alexandria	Cathartine.
Senna Indica	Cassia elongata or angustifolia	Leguminosæ	Southern India	Cathartine.

B. P. Name.	Obtained from.	Natural Order.	Habitat.	Active Principles.
Serpentariæ Radix	Aristolochia serpentaria	Aristolochiaceæ	Southern parts of North America	Volatile Oil and Tannin.
Sinapis	Brassica Nigra and Alba	Cruciferæ	Indigenous	N. Myronate of Potassium. A. Sulpho-Sinapisin.
Stramonium	Datura Stramonium	Atropaceæ	Britain	—
Staphisagriæ Sem.	Delphinium Staphisagria	Ranunculaceæ	Africa and Asia Minor	Delphinina.
Styrax præparatus	Liquidambar orientale	Liquidambaraceæ	South-west of Asia-Minor, and Cyprus	Styrol and Styracin.
Sumbul Radix	Ferula or Euryangium Sambul	Umbelliferæ	Russia and India	Angelic Acid.
Tabaci Folia	Nicotiana Tabacum	Atropaceæ	America	Nicotina and Nicotiana.
Tamarindus	Tamarindus Indica	Leguminosæ	West Indies	—
Taraxaci Radix	Taraxacum Dens-leonis ,, officinalæ	Compositæ	Britain	Taraxacine.
Terebinthina Canadensis	Abies balsamea Pinus ,,	Coniferæ	Canada	—
Theobromæ Oleum	Theobroma Cacao	Sterculiaceæ	America	Theobromine.
Theriaca	Saccharum officinarum	Graminaceæ	West Indies and elsewhere	—
Thus Americanum	Pinus Tæda ,, palustris	Coniferæ	Southern States of North America	—
Tragacantha	Astragalus gummifer	Leguminosæ	Asia Minor	Arabin.
Ulmi Cortex	Ulmus campestris	Ulmaceæ	Britain	—
Uvæ Ursi Folia	Arctostaphylos Uvæ-Ursi	Ericaceæ	Indigenous	Tannic Acid, Arbutin, and Ursone.
Uvæ	Vitis vinifera	Vitaceæ	Spain	—
Valerianæ Radix	Valeriana officinalis	Valerianaceæ	Britain	—
Veratria	Asagræa officinalis	Melanthaceæ	Mexico	—
Veratri Viridis Radix	Veratrum viride	Melanthaceæ	United States and Canada	Viridia and Viratroidea.
Zingiber	Zingiber officinale	Zingiberaceæ	West Indies and India	—

MEDICINE CHESTS FOR SHIPS.

Hints as to Fitting, with Official List of Medicines and Medicaments issued by the Board of Trade.

THE following hints will be found useful by those who wish to add this branch to their business, and have not had previous experience.

In large vessels, such as ocean-going steamers carrying a number of passengers, a dispensary, or medical cabinet, is generally fitted on board, with the usual drugs and medical stores on a large scale, which is administered under the care of the doctor. In other ships, like those of the ordinary mercantile marine, medicines are kept in suitable chests, the size of the latter varying in proportion to the number of crew carried. The Merchant Shipping Act, passed in 1867, provides that all sea-going vessels carrying over a certain number of men must provide suitable medical stores, as laid down by the Act. It further sets forth a list of medicines, etc., giving the quantities it is necessary to carry, according to the number of the crew. These regulations are supposed to be looked after by the Board of Trade officials. In vessels carrying emigrants the supply of drugs must necessarily be large, including sets of medical instruments, and any special stores the doctor may desire are usually supplied. Medicine chests for new ships are sometimes made by the shipbuilder, then sent to the chemist to be fitted and filled, but as a rule they are supplied by the chemist complete. They are generally constructed of hard wood, such as mahogany, teak, pine, etc., brass bound or plain, according to the estimate of cost given, with the name of the ship engraved on a brass plate and affixed to the lid. Cheaper chests are made of commoner wood, painted and grained, and fitted with corked bottles, the better class chests usually being furnished with stoppered bottles. The chest is divided into two parts, the upper having compartments for bottles and jars, the lower being occupied by a drawer to hold the more bulky articles. A rack arrangement inside the lid holds the spatulas, syringes, scissors, etc., the chest being secured by a good lock and key. The drawer should be fitted with compartments to hold linseed meal, Epsom salts,

mortar, and other sundries. A chest for a vessel carrying a crew of from 25 to 30 men should measure about 3 ft. long by 2 ft. in width and depth, and be fitted with 12 1-lb. bottles, 15 ½-lb., 10 ¼-lb., 8 2-oz., and 4 10-oz., also 5 or 6 ointment jars. They may be filled as follows—

Balsam of Copaiba	1	lb.	
Black Draught	3	lbs.	
Bicarbonate of Soda	1	lb.	
Black Wash	1	,,	
Castor Oil	3	lbs.	
Olive Oil	1	lb.	
Opodeldoc	1	,,	
Tincture of Rhubarb	1	,,	
Cream of Tartar	½	,,	
Laudanum	½	,,	
Nitrate of Potassium	½	,,	
Aromatic Spirit of Ammonia	½	,,	
Paregoric Elixir	½	,,	
Gregory's Powder	½	,,	
Turpentine Liniment	½	,,	
Elixir of Vitriol	½	,,	
Spirit of Hartshorn	½	,,	
Bromide of Potassium	½	,,	
Spirit of Chloroform	½	,,	
Jalap	½	,,	
Camphor	½	,,	
Tincture of Iron	½	,,	
Friar's Balsam	½	,,	
Alum	¼	,,	
Goulard's Extract	¼	,,	
Iodide of Potassium	¼	,,	
Diarrhœa Powder	¼	,,	
Dover's Powder	¼	lb.	
Ipecacuanha Powder	¼	,,	
Quinine	¼	,,	
Spirit of Nitrous Ether	¼	,,	
Sulphate of Zinc	¼	,,	
Tincture of Hyoscyamus	¼	,,	
Essence of Peppermint	2	ozs.	
Essence of Ginger	2	,,	
Blue Pills	3	doz.	
Cough Pills	6	,,	
Opium Pills	3	,,	
Purging Pills	8	,,	
Mild Pills	8	,,	
Lunar Caustic	1	oz.	
Iodoform	1	,,	
Salicin	1	,,	
Blistering Fluid	1	,,	
Resin Ointment	10	ozs.	
Mercurial Ointment	¼	lb.	
Simple Ointment	1	,,	
Sulphur Ointment	1	,,	
Compound Gall Ointment	¼	,,	
Carbolic Acid	2	gals.	
Epsom Salts	12	lbs.	
Linseed Meal	28	,,	

Sundries and Medical Stores.

Adhesive plaster on unbleached calico, 3 yards in tin case, lint 1 lb., set of apothecaries' scales and weights, 1 graduated drop measure, 1 graduated 2-oz. measure marked in tablespoons, 1 dozen 6-oz. bottles, 2 dozen corks for same, scissors, 4 metal

syringes, lancet, abscess lancet, 6 bandages, 4 triangular bandages, 2 flannel bandages, 6 yards of calico, 6 yards of flannel, needles, pins, thread and tape, 1 set of splints, 1 enema syringe, 1 pewter cup, 1 teaspoon, 1 set of bougies, an Esmark's tourniquet, 1 No. 8 gum elastic catheter, 3 reversible trusses, 36-inch; 3 sponges, 1 lb. plaster of Paris, 1 bedpan, 1 spatula, a No. 2 Wedgwood pestle and mortar, slab, and an authorized ship captain's *Medical Guide*. According to the new scale, issued by the Board of Trade, which came into operation on January 1, 1891, the following medicines are tabulated as useful additions, and most of them are now included in the ship's chest:—Fruit saline, diarrhœa mixture, seidlitz powder, tartaric acid, chlorodyne, tonic tincture, citrate of magnesia, vaseline, tartar emetic, creosote, toothache drops, croton oil, calomel, blue stone, sulphuric ether, and fireman's cramp mixture. Such compounds as the diarrhœa and cramp mixtures should be labelled with explicit directions as to their use. After filling the bottles, the stoppers or corks should be capped. For this purpose, split skin or leather is best and lasts longest. As a cheaper capping, parchment paper or red capping paper is sometimes used. The bottles should be labelled across the top of the shoulder, so that the names may be read without removing them from their places. Labels may be purchased in books at most medical printers, specially adapted for the purpose. The old practice of numbering the bottles according to the *Medical Guide* is now seldom done, the name of the drug or preparation being sufficient.

The bottles should be packed in their compartments with wool or tow, to prevent shaking about and risk of breakage, the larger sundry articles being placed, neatly labelled and wrapped, in the large drawer. After checking each article and instrument according to list, to make sure nothing has been omitted, the chest may be said to be complete.

Refilling Chests.

Each time a vessel returns to port from a voyage, the stores are overhauled and the wants noted. The chemist receives his order to attend to the medicine chest, and sends to the ship for a list of the medical requirements.

Sometimes the bottles only that have been opened or emptied

are taken and refilled, but it is the best plan to remove the chest if possible and overhaul it thoroughly.

With respect to the bottles the contents of which have been but part used, the remainder if in good condition may be allowed to remain. Solids and powders that have not become damp may also be utilized. Other articles in the sundry drawer if used up or spoiled must be re-supplied, wrapped, and labelled as before, and the chest cleaned and finished as when first sent out. The price charged for refilling bottles is usually below the ordinary retail for drugs and sundries. The prices for supplying new chests, fitted complete, varies considerably, and largely depends on the finish, size, and materials used.

The following is the official list of medicines and medicaments, alphabetically arranged, as issued by the Board of Trade, giving the necessary proportions for ships to carry, according to the number of the crew.

Proportions for Ships carrying the Undermentioned Number of Men and Boys for 12 *Months' Voyage.*

	10 men and under	11 to 20 inclusive.	21 and upwards.
Alum	1 oz.	2 ozs.	3 ozs.
Balsam Copaiba	4 ozs.	8 ,,	12 ,,
Bicarbonate of Soda	8 ,,	12 ,,	16 ,,
Black Draught	1 pt.	2 pts.	3 pts.
,, Wash	1 ,,	2 ,,	2 ,,
Blistering Fluid	1 oz.	1 oz.	1 oz.
Bromide of Potassium	3 ,,	5 ,,	8 ,,
Camphor	2 ,,	4 ,,	6 ,,
Carbolic Acid Liquid	½ gal.	1 gal.	2 gals.
Or Carbolic Acid Crystal	4 lbs.	8 lbs.	16 lbs.
,, Jeye's Purifier	4 gals.	8 gals.	16 gals.
,, Sanitas	2 ,,	4 ,,	8 ,,
,, Juson's Liquid Disinfectant	1 gal.	2 ,,	4 ,,
,, Fletcher's Pino Phenol Purifier	4 gals.	8 ,,	16 ,,
,, Baird's Liquid Neosote	1 gal.	2 ,,	4 ,,
,, Garraway's Red Cross Disinfectant	1½ gals.	3 ,,	6 ,,

	10 men and under.	11 to 20 inclusive.	21 and upwards.
Or Penny's Disinfectant or Deodorizer	1½ gals.	3 gals.	6 gals.
,, Burnett's Chloride of Zinc	1 gal.	2 ,,	4 ,,
,, Condy's Crimson Fluid	½ pint	1 pint	1 pint.
,, Red Cross Antiseptic Fluid	¼ ,,	½ ,,	½ ,,
Castor Oil	1 lb.	2 lbs.	3 lbs.
Chloric Ether	3 ,,	5 ,,	8 ,,
Cream of Tartar	2 ozs.	4 ozs.	8 ozs.
Elixir of Vitriol	4 ,,	6 ,,	10 ,,
Epsom Salts	3 lbs.	6 lbs.	12 lbs.
Essence of Peppermint	—	1 oz.	2 ozs.
,, ,, Ginger	—	1 ,,	2 ,,
Friar's Balsam	6 ,,	6 ,,	6 ,,
Goulard's Extract	1 oz.	2 ozs.	4 ,,
Iodide of Potassium	—	2 ,,	4 ,,
Iodoform	℥ ii.	½ oz.	℥ vi.
Jalap	3 ozs.	5 ,,	8 ozs.
Laudanum	2 ,,	4 ,,	8 ,,
Linseed Meal	—	14 lbs.	28 lbs.
Lunar Caustic	¼ oz.	½ oz.	1 oz.
Nitrate of Potassium	2 ozs.	4 ozs.	8 ozs.
Ointments—Basilicon	3 ,,	6 ,,	10 ,,
,, Mercurial	1 oz.	2 ,,	4 ,,
,, Simple	6 ozs.	12 ,,	16 ,,
,, Gall and Opium.	1 oz.	2 ,,	4 ,,
,, Sulphur	6 ozs.	12 ,,	16 ,,
Olive Oil	—	8 ozs.	12 ozs.
Opodeldoc	3 ozs.	6 ,,	10 ,,
Paregoric Elixir	4 ,,	6 ,,	8 ,,
Pills—Blue	1 doz.	2 doz.	4 doz.
,, Cough	2 ,,	4 ,,	6 ,,
,, Opium	1 ,,	2 ,,	3 ,,
,, Purging	3 ,,	6 ,,	8 ,,
,, ,, Mild	3 ,,	6 ,,	8 ,,
Powders, Compound Rhubarb	2 ozs.	4 ozs.	8 ozs.
,, Diarrhœa	1 oz.	2 ,,	3 ,,
,, Dover's	1 ,,	2 ,,	3 ,,

	10 men and under.	11 to 20 inclusive.	21 and upwards.
Powders, Ipecacuanha . .	1 oz.	2 ozs.	3 ozs.
Quinine, Sulphate . .	1 ,,	2 ,,	3 ,,
Salicin	2 ozs.	4 ,,	6 ,,
Spirit Ammonia Aromatic .	4 ,,	6 ,,	8 ,,
Spirit of Nitrous Ether .	1 ,,	2 ,,	3 ,,
Spirit of Hartshorn . .	4 ,,	6 ,,	10 ,,
Sulphate of Zinc . . .	1 ,,	2 ,,	3 ,,
Sulphur, sublimed . .	2 lbs.	6 lbs.	8 lbs.
Tincture of Henbane . .	1 oz.	2 ozs.	3 ozs.
,, ,, Rhubarb . .	4 ,,	10 ,,	12 ,,
,, ,, Iron . . .	3 ,,	6 ,,	8 ,,
Turpentine Liniment . .	2 ,,	4 ,,	6 ,,

THE END.

Richard Clay & Sons, Limited, London & Bungay.

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