The modern process for the preservation of all alimentary substances. By which they retain their native purity and essential qualities, in any climate and for several years, and by means of which may be served, at a few minutes notice, a complete and exquisite dinner / by Henderson William Brand.

ART OF PRESERVING FRESH PROVISIONS

PROCESS

FOR

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THE MODERN PROCESS

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AND BY MEANS OF WHICH MAY BE SERVED, AT A FEW MINUTES' NOTICE, A COMPLETE AND EXQUISITE DINNER.

BY

HENDERSON WILLIAM BRAND,

AUTHOR OF "THE COMPLETE MODERN COOK;"

FROM THE KITCHEN OF HIS MAJESTY GEORGE THE FOURTH; CHIEF COOK TO T. W. COKE, ESQ., OF HOLKHAM HALL; EARL MANVERS, HIS GRACE THE DUKE OF NORFOLK, THE MARQUIS OF AILSA, AND LORD ROLLE.

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PREFACE.

H. W. Brand trusts that the pains which he has bestowed on the present little work, may entitle it to a reception not less favourable than that shown to the Complete Modern Cook,—a work, for which, he is proud to say, that he has received the most gratifying encomiums from eminent individuals in the profession. In addition to which, the great circulation of the work has afforded him encouragement far beyond what he could hope for. He takes this opportunity to offer his sincere and grateful acknowledgments for the favours thus conferred on him.

INTRODUCTION.

In offering to the public the principles of an art which has been some years practised, both abroad and at home, I have been actuated by a wish to see it plainly and fairly brought forward. With the details originally given *, so much of individual concern, and useless boasting, utterly overgrowing the subject, has been interspersed, that many persons, who would have gladly made themselves acquainted with the valuable part of the information, could hardly flatter themselves with the hope, still less inflict upon themselves the task, of sifting out anything useful from heaps and heaps of irrelevant and personal matter.

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* By M. Appert.

Again, as the subject, in point of age, may be deemed still in its infancy, a few years have confirmed some of the original notions, while time has corrected and added to others. Whenever information is to be conveyed, any discussions introduced, not absolutely indispensable for the clear understanding of the subject, far from assisting, only serve to distract attention, and to hide from view the connecting thread which must lead us to a proper knowledge of the subject. I am fully aware that doubts and prejudices originally existed, which the test of many years has entirely overcome; and that to treat of a system to be newly introduced, is attended with more difficulty than the discussion of an established one. At the same time, the endless mingling of testimonials and self-gratulation with the explanation of the sub-

ject in hand, was surely ill-judged. If all these were necessary, neither assuredly could gain by being confounded with the others.

I have avoided introducing extraneous matter, confining myself to such plain and simple instructions as it is necessary to follow for the attainment of the object to which the book relates; namely, the preservation of alimentary substance.

By many who have written on culinary matters, *surtout chez nos cuisiniers voisins*, it has been deemed appropriate to hold forth in such ambitiously high and hard-sounding words, as are but ill suited to jaws rendered somewhat fastidious and shy of exertion by the use of those delicately tender and easily eschewed mouthfuls, which it is at once the study and glory of an *officier de bouche* to *manipulate*.

Good eating and drinking, it must be allowed, are very exhilarating occupations; and the delightful fumes of exquisitely confectioned viands, together with the unequivocal approbation testified in the glowing looks and ecstatic onslaught of the *convives consommateurs*, arouse in the gratified *artiste* an enthusiasm, which not unfrequently vents itself in the grotesque pomp of technical expression. Long graces, however, are not the most acceptable to hungry stomachs; and on the attractions which appetite itself makes sufficiently keen, we shall be contented to rely, without endeavouring to enhance the merits of good cheer by our eloquence. It would be a masterpiece of oratory indeed, could we talk a well-gorged glutton hungry; a consummation outstripping the arcana of gastronomy itself, and only to be surpassed, in our humble esti-

mate, by him who could talk the hungry satisfied.

As immediately connected with the subject, the author begs to submit, that there are seasons, situations, and circumstances, in which, though we might afford ourselves the enjoyment of all the variety in which the epicure delights, the very nature of things denies us the gratification.

Scientific men, both ancient and modern, have devoted their labours and talents to the preservation of food; for the accomplishment of which object, great public rewards have been offered; those means already known, extending only to a limited number of substances, and being also attended with many inconveniences.

Dried vegetables lose their juices and flavour, and their fibres become hardened. Salt com-

municates harshness to substances with which it is used; and in meat, destroys the animal fibre, while the subsequent soaking in water tends to lessen its digestive and nutritive qualities. To this we may add, that the habitual use of salt provision tends greatly to promote scurvy.

The modern process of preservation commands the productions of all the seasons, at any period of the year.

By this means, we are enabled, at little additional expense, to lay in store of all that is useful and delicate, without exception, in all its native purity and freshness of flavour; as palatable and as wholesome, after years' keeping, as when recently killed or gathered.

Thus are procured excellent vegetables of all sorts, and juices of herbs, in the depth of winter; an advantage fully appreciated by the

public hospitals, and of which ships' companies have also joyfully availed themselves. To the latter especially, confined as they have been time immemorial, at sea, to salt food, the process has opened a source of comfort and enjoyment, justly prized by those only who have known the want of fresh provision during long sea voyages.

The especial object of the present volume is, to extend to private families, and to seats remote in the country, delicacies not to be obtained far from large towns, without much time, trouble, and expense, at certain seasons of the year; to place at command, almost at a minute's notice, and at all times, an endless variety of agreeable food. On sudden and unexpected occasions, the facility with which any demand may be supplied, is of itself a sufficient recommenda-

tion. The sportsman, however far his pursuit leads him from *christian* accommodation, provided he can find fire and water, is at once supplied with the best of food ready to his palate. In a word, by this process, we have always in readiness, and in perfection, food of every description, without the risk of its being in any way "worse for keeping." If this circumstance of itself does not appear to combine a host of advantages in the eyes of those who give themselves a moment's reflection, we leave the subject, in despair of pointing them out; while, by many, we presume that we shall be deemed to have enlarged perhaps beyond limits, considering the self-evident nature of the advantages offered.

It will be seen, that the process itself requires no extraordinary pains, no inconvenient appa-

ratus, and but little expense of package and fuel. Close attention, and strict adherence to the directions given, are all that is needful. The aliments once prepared for enclosure, require no unusual degree of skill or penetration in the person who superintends the final process. As we before observed, simply adhere to the directions, and success must follow.

The author begs to state, that in treating this subject, he has not presumed to undertake the task as a mere theorist, but that he came to it backed by his own actual experience, and confirmed in his ideas by long practice and unfailing success.

PROCESS

FOR

PRESERVING FRESH PROVISIONS.

GENERAL OUTLINE.

To give a general idea of the nature of the process which may be useful to the ready understanding of its details; it consists:—

1st—In enclosing in bottles, jars, or tin cases, the substances to be preserved.

2nd,—In corking or soldering the different vessels hermetically,—a part of the operation on which success most materially depends.

3rd,—In subjecting the substances thus enclosed to the action of boiling water; that is, that the close vessels are put into a large vessel

of water, and the water is heated; thus communicating its heat to the substances to be preserved, without coming in contact with them. This mode of communicating heat is called the *bain-marie*, the French term being generally used among cooks, though some designate it as the hot-bath, or water-bath. The duration of this immersion depends on the nature of the articles, and for this proper directions are laid down.

We have therefore to consider—

1st,—The nature of the packages, bottles, or cases.

2nd,—The mode of packing or enclosing.

3rd,—The manner of using the *bain-marie*.

4th,—The proper time requisite for various articles, the indications for ascertaining the success of the operation, and for detecting any minute flaw, in a case, which might have escaped observation.

OF BOTTLES.

For the present purpose, the best possible form of the necks of bottles is that of an inverted cone, like that of champagne or truffle bottles. They are the best in whatever way they may be considered, and are easily corked. They should be made of tough material, of equal substance. The weight should be twenty-five to twenty-six ounces to the quart. If they are not of equal thickness throughout, they break in boiling. The champagne or truffle form is readily packed, and offers the greatest resistance.

CORKS.

Cheap corks are a most improvident economy. This is obvious, if we consider that in the event of a cork being bad, we have saved a small fraction of a farthing, and thrown away, perhaps, the contents of a bottle worth shillings.

Corks should be about two inches long, of the finest cork. The best is from the mountains of Catalonia; that from the plains is porous and defective. The head diameter of corks should exceed that of the other end by a fourth of an inch; and they should always be pressed in the cork-biting machine used by cellarmen; after this they swell and form a perfect closure in the neck of the bottle. Cork should be chosen, for cold corking, which has been well burnt, so as to kill any animalculæ that may be in it.

BOTTLING.

Bottles containing liquid should only be filled within three inches of the ring at the neck of champagne bottles, and within one inch and a half of the wider-necked truffle bottle, on account of expansion in boiling. For vegetables, fruits, and plants, &c., two-thirds of this suffice. The bottling stool is furnished with a bat, or flogger,

a small pot, or leather cup of water,—some use spirits,—a sharp knife, which must be greased frequently, to cut off the heads of the corks. Dip the cork in the water, wipe the end, twist the cork into the neck of the bottle; hold with one hand and drive with the other, to three-fourths of the length of the cork. It should resist further driving if the bottle is well stopped. There is no precaution, however minute it may appear, which should not be attended to in this part of the operation, on which the success of all the rest depends. If the cork goes all the way in, the probability is that it does not fit closely, and the best way is to change it. It is not by turning a bottle up-side down, but by the resistance to the blow of the flogger, that a good bottler knows when a bottle is properly corked. If we consider for a moment what minute holes pervade some corks, and how many defects may be invisible to the eye, we shall at once conceive the neces-

sity of using nothing but the best corks; of working them well in the cork-biting machine; and of being satisfied that they are a tight fit. Secure them with cross wires, and put each bottle in a canvas or rough linen bag, like a muff, open at both ends, one of which is drawn together by a string running through an open seam, leaving an aperture of the size of a crown-piece; two strings at the other end tie the bag to the neck of the bottle. The use of hay or straw in the *bain-marie* is thus superseded, and in case of breakage the fragments are secured in the bag. When the time of boiling is properly attended to, there is no other possible cause of failure than imperfect closure, either of cases, bottles, or corks.

Unusually large corks, cut with the pores running up instead of across the neck, are less likely to answer the intended purpose. The corks should be glued one on another; to do which, take isinglass melted, with the addition of a little

brandy, which forms a solid glue. It is laid on the corks, and these are put under a press or flat board, with weights on it, and left to dry; afterwards cut and trim them to the requisite size.

Jars thus stopped should be luted afterwards, as will be seen.

TO WIRE BOTTLES.

Take a piece of wire eighteen inches long, double it in two, twist it about two inches in length from the point at which it is doubled, viz. the middle; stretch out the two ends, which pass round the neck of the bottle, immediately under the rim; bring them together, and twist them on the opposite side, two turns; turn them up over the cork, together with the part first twisted. These ends must now be well twisted over the top of the cork, so as to make the wire tight upon it. Cut them off within half an inch, and turn the double twist down on the top

of the cork, as one would clinch a nail. Repeat this with a second piece of wire, which must cross the first on top.

FOR LUTING GLASS JARS THUS WIRED.

Slack some quick-lime, by sprinkling it with water in the open air; sprinkle by degrees till it falls to dust, which bottle for use.

This lime, mixed with the soft white cheese made from skim-milk, to the thickness of paste, produces a luting which hardens quickly, and resists the heat of boiling water. Cover all the outside of the cork with this; round the edge of the jars put flax and strips of linen, as well as over the top and down to the rim of the neck; place a piece of cork, nearly an inch high, and about two and a half across, on the middle of that already inserted in the bottle; and this gives a purchase to the wire.

TIN CASES.

The metal of which tin cases are made, must be thoroughly sound, as any flaw would be fatal to the success of the operation.

New lead must be used for soldering, as in the old there are qualities which tend to render the soldering imperfect; and a VERY ESSENTIAL POINT is *to employ a good tinman;* they are very frequently careless, and in this instance should be made to understand how indispensably necessary it is that the boxes be thoroughly and effectually closed. The boxes should be soldered round the rims, but not folded over like saucepans, for the hammer frequently causes the minute apertures of which I have spoken above. The cylinder must fall into the bottom, which is turned up nearly a quarter of an inch all round; and the solder should penetrate to the bottom between the two, so as to make one body of the whole. Previous to soldering, let

the parts to be united be rubbed with sal-ammoniac, they will unite more perfectly.

A round piece, about an inch and a half in diameter, is punched out of the top, laying the inside uppermost to do so. When the case has been filled with solid preparations, such as partridge, fricandeau, &c., the ring left is fixed on, and well soldered round. A tin cap, with a pin-hole in the centre, covers the aperture punched out. The case being filled up within half an inch of the top, the cap first is soldered on, and the pin-hole closed.

OF THE BAIN-MARIE.

The part which the *bain-marie* has to perform in preserving, is to throw into the vessels containing substances to be preserved, sufficient heat to decompose completely the air enclosed with them. It is not necessary for this that the vessels should be under water; they only re-

quire to be in an atmosphere of steam of sufficiently high temperature. The close or covered *bain-marie* is the best mode of applying heat for this purpose.

Place the jars or bottles upright in a boiler; turn in cold water till it reaches the rim of the bottles; cover them with wet cloths; put on the lid, and put weights on top to prevent any escape. Light the fire; when the copper boils, keep up the same degree of heat more or less time as directed, and draw the fire; a quarter of an hour after, draw off the water by the tap; half an hour after this, take off the lid, and take out the bottles in an hour more; which finishes the operation.

This method, simple as it is, is the result of long experience, and experiments out of number.

With the use of an uncovered boiler, in a month's time, many of the vessels burst. This arises from a want of sufficient heat to decom-

pose the air contained in the packages; the consequence is, fermentation and explosion.

The following is an experiment made:—

Upright, in a boiler, thirty cases were placed, containing various substances, with water within an inch or two of the top. On these was laid latticed wire-work, on which were placed thirty more, which consequently were not in the water. As these rose above the edge of the copper, it was closed with a domed cover, fixed down with weights, as above. The fire was lighted, the copper made to boil, and kept on, slackening the fire by degrees.

No heat could escape. Success was complete. All the substances were well preserved.

A light wire frame, like a bottle-basket, made to the copper, and with the number of compartments required, is a safeguard against breakage from outward accident, when bottles are used.

Steam therefore suffices. It is not necessary for the vessels to be immersed; a fact which every-day practice confirms.

In an open vessel, water does not retain heat higher than 212°; a temperature far too low to answer the purpose. The top of the water is always the hottest.

OF THE TIME WHICH VARIOUS SUBSTANCES REQUIRE IN THE BAIN-MARIE.

The following is the time during which the particular substances named should be exposed to the heat of steam, from the moment of boiling:—

Green peas . . .	two hours.
Windsor beans in the skin	a full hour.
Ditto, without ditto .	an hour and a half.
French and haricot beans .	ditto.
Artichokes . . .	an hour.

All fruits and their juices, such as currants, raspberries, cherries, black currants, mulberries,

apricots, peaches, greengages, plums, pears, &c., two minutes' boiling. Generally, all animal and vegetable substances, having previously been subjected to the action of fire, require only three quarters of an hour's boiling. Where more or less time is required, it is specified with the article.

MODE OF ASCERTAINING THE SUCCESS OF THE OPERATION.

At the completion of every operation, carefully examine the jars or bottles, one by one, as taken from the boiler.

Stars and cracks will be found, occasioned by heat, or by the tying at the neck, when that is weak. Sometimes a little moisture round the cork, or spots at the mouth of the vessel, indicate an escape. These are the principal symptoms of imperfect closure. As soon as these defects are discovered, be certain that the arti-

cles would not keep, and put them aside for immediate use, so that nothing be lost. A bad bottle would cause the first of these symptoms; the second might be caused by a bad cork, bad corking, by having overfilled the bottle, or having badly tied it.

TIN CASES.

The cases, properly prepared, are placed in a boiler, on a false bottom, with holes throughout its surface, and raised about an inch from the bottom. When the first layer is complete, make a second, a third, in short, as many as the boiler will admit of; fill up the boiler with cold water, within an eighth of the top. Cover all the boxes at the top with two cloths, and close the lid down carefully. Put fire under, and let it burn up moderately, till boiling takes place; this must continue three quarters of an hour. Having drawn the fire, let the whole cool two

hours, or from the evening to the next morning, if the operation takes place towards night. Draw off the water by the cock, and place the boxes or cases on a table.

After being boiled, the cases are generally more or less convex or domed at top and bottom, according to the degree of heat which they contain when taken out; as they cool they fall in, and become concave or hollowed inwards. All those which become concave, have been properly acted on, and the substances are well preserved. Those, on the contrary, which remain convex after being cool, indicate some defect in the make or closing of the box. Put these aside, to inspect them two or three days after.

If the tinman has put too large a cover, the box remains convex, which you will readily discover by pressing on it. With the hand or a mallet force in the lid and bottom, and if either oppose resistance, open the box to take out the

contents, which put in another box with all necessary precaution.

Sometimes air is contained in a bone or vegetable insufficiently done. Touch the pin-hole with the soldering iron, and you will let out the air; immediately close the same; then an extra half-hour's boiling mostly has the desired effect.

Having examined all the boxes, and seen that they are sound or unsound, they are generally painted in oil eight or ten days after boiling, and registered by numbers, with the date of making, contents, and storing. The painting preserves them from rust, if to be kept long.

It is necessary to visit the stores from time to time, to discover any signs of defect which might not previously have shown themselves. A month or two, and even more, after the application of the *bain-marie,* defects become manifest. Put aside all convex or round-headed boxes, to be satisfied of the condition of the contents; open

them to substitute other contents, or for use if the contents are good.

As the nature of the process leaves no opportunity of verifying the goodness of the articles, they are to be guaranteed, but with certain restrictions, to guard against abuse. This applies to manufacturers for sale.

1st,—Cases which are convex at top and bottom are reputed bad; they are therefore not to be opened, but brought back as delivered.

2nd,—Exchanges to be made only for cases brought back; no allowance for any said to be thrown away.

3rd,—All packages intended for long voyages by sea, should be under charge of some person who should be careful in seeing that they are not roughly used, knocked about, or placed in the damp. This is the more to be attended to, as a blow, especially, causing the smallest aperture, infallibly occasions the contents of a box

to be spoiled. This of course must be guarded against where the packages are of glass.

If cases bear evidence of ill-usage when brought back, no exchange ought to be made.

REMARKS.

It is requisite to state, that as the method of preparing various food for the table is beyond my subject, I have limited myself to the description of such as are indispensable for the preservation of articles which require particular preparation or care.

As it might be imagined that the same means are not applicable to complicated objects which are used for simple ones, I have made some remarks calculated to raise all doubts of this nature. Subjoined are a few observations which will point out the full scope of the method.

A compound Spanish sauce, a velouté, may be preserved as well as *poor man's sauce.* Fillets

of soles, with jelly; fillets of pheasant, truffled, may be preserved as well as cutlets or hashed bouilli. All the aromatic principle of flowers is preserved, as well as inodorous plants, in all their natural freshness; in fine, the apricot, the peach, the raspberry, lose nothing of their flavour.

With few exceptions, you may preserve in tin boxes all kinds of alimentary substances. Of the small number which do not admit of this, are, small Windsor beans, which in bottle are whiter and handsomer; red fruits, which in the box become violet. Apricots, mirabelle plums, pine, and generally *all* yellow fruit, and fruit having pips, are better in bottles.

The use of glass vessels for domestic purposes will always be most convenient. On a large scale they are of course out of the question.

It is scarcely necessary to recommend expedition and cleanliness in operating on any articles of food.

Description of the process, with its special and particular application to each of the substances to be preserved.

POT-AU-FEU. *(Beef Soup.)*

Prepare ordinary beef-soup. The meat being three-fourths done, take out half of it, previously boned for preservation. The soup being done, strain it; let it cool, bottle it, cork, tie, and put each bottle in its bag. The boned beef is put in glass jars or cases, which are filled up with soup. The jars are stopped, luted, tied, and put in bags. Place them upright, together with the bottles containing soup, in the boiler. Fill this up with cold water to the rim of the bottles; put on the lid, surrounding this with wet cloths to stop all issue of steam as much as possible, and light the fire. Let it boil, and keep up the same heat about three quarters of an hour; after which take the fire

out. Half an hour after draw off the water from the boiler, the cover of which remove half an hour after this; an hour or two later, in fact the time is immaterial, take out the bottles, jars, or cases; then put a coat of rosin over the corks.

CONSOMMÉ, OR GRAVY SOUP.

As evaporation is always prejudicial to the article condensed, prepare a gravy soup with two pounds of meat and poultry to the quart. The soup made and cooled, bottle, cork, tie, bag, and put it in the boiler. The best pieces of meat and fowl, taken out when a fourth-part done, are put in cases when cold, and filled up with gravy soup, and vegetables suitably cut. Having treated these as you did the bottles, put all of them in the boiler, which fill with cold water to the rim of the bottles; put on the lid, round which wet cloths, and light the fire.

When boiling, keep up the same heat two hours, and finish as the last operation.

CHICKEN, BEEF, AND VEAL JELLY.

Prepare and preserve in the same way, for weak stomachs, which refuse those aliments generally used at sea, a jelly made from seven pounds to the quart. A dessert spoonful of the jelly to three ounces of boiling water, and a little salt, makes a good soup. It is equally good spread on bread, as taken from the bottle.

RICE SOUP.

Having cleaned and prepared the rice, half-boil it in good broth; put with it jelly, prepared as the preceding; and when well boiled and reduced to a paste sufficiently liquid, yet cool, to be put in bottles, proceed as before, boiling a quarter of an hour.

JULIENNE.

With carrots, leeks, turnips, celery, sorrel, French beans, green peas, &c., prepare a Julienne, putting the pieces, all ready cut up, in a stew-pan, with a small piece of fresh butter. Half-stew those vegetables first put in, then add the sorrel and green peas; the whole done and reduced, moisten with good gravy-soup from meat and fowl; let the whole boil half an hour; take it off and let it cool; proceed as before, and boil half an hour in the *bain-marie*.

For julienne maigre, instead of consommé, when the vegetables are well done, use a light purée, either of white beans, lentils, or large green peas; boil half an hour in the *bain-marie*.

BROTH FROM ROOTS.

This is prepared in the usual way. When cool, bottle it, and keep it half an hour boiling in the *bain-marie*.

These will suffice to show that any soups or broths may be subjected with success to the same process.

It may be observed, that to avoid multiplying packages, as well as increasing trouble, it is easy to prepare extracts only. With half or two-thirds water added afterwards, there will be soup for three or four persons in a pint.

So with green peas, lettuce, *emincé*, small herbs, &c.

Maigre soups, all sorts of purées, either of vegetables, game, or fish, may be prepared in extracts in the same way.

Thus with twenty bottles of extract, may be served at a minute's notice, soup for one hundred and fifty men, and soup unquestionably more economical than that which is prepared in the usual way, as it may be wanted.

STOMACHIC BROTH OR JELLY.

Prepare this with lights and calves' feet, red cabbage, carrots, turnips, onions, leeks, a sufficient quantity of each. A quarter of an hour before taking the jelly from the fire, add sugar-candy and Senegal gum. When done, strain it through a silk sieve; immediately clarify it with white of egg, and again pass it through a napkin. When cool bottle, cork, tie, bag, and boil half an hour in the *bain-marie*.

TURTLE SOUP, MOCK TURTLE, OX-TAIL, AND OX-CHEEK.

An hour's boiling.

GENERAL SAUCES.

General sauces, such as blond of veal jelly, gravy, essence of game, of vegetables, demi-glaze of veal and roots, great Spanish, velouté,

brown and white roux, worked velouté and Spanish, Roman sauces, dressed farces, and béchamel, notwithstanding the cream used in it, are preserved by the same method.

FILLET OF BEEF, MUTTON, POULTRY, AND PARTRIDGES.

These are all prepared as for ordinary use, and are three-fourths done, as well as the roast partridges. Put them in suitable cases when cool; complete the preliminary process with these, and boil them half an hour in the *bain-marie*.

To these operations may be added, fricasée of fowl without the liaison, matelotte of eels, carp, pike, with veal sweetbreads, mushrooms, onions, butter, and anchovies, with white wine.

Prepare a white hash of poultry, of fresh pork, with mushrooms, truffles, bacon fat, and butter; and having added the necessary season-

ing, three-fourths dress them, and case when cold; after which, boil them a quarter of an hour in the *bain-marie*.

GARNISHES.

Garnishes of carrots, turnips turned and prepared in any way, artichokes, cucumbers, button onions, fine herbs, &c. Veal sweetbreads, cock's combs and stones, carp soft roe, cray-fish tails, &c., may be preserved likewise.

LARGE PIECES.

Pieces of beef of two and three pounds; fish, poultry, and partridges whole; but this is not the most economical way, both from the large mouth of the vessels, and increased difficulty in effective stopping, and from the inutility of preserving the bones, which take up much room. Cases make this operation more easy. When

the first stock has been drawn off, fill up the kettles, boil two hours, draw off, and reduce it down to one half. When the meat is cut in dice, this, with the vegetables and soup reduced, will keep long, and serve ordinary purposes.

Beef.—Palates, tongues, rounds, steaks, short ribs, &c.

Veal.—Sweetbreads, kidneys, livers, fricandeaux, scallops sautés, blanquettes, &c.

Mutton.—Tongues braised, émincés carbonnades, hash, cutlets, kidneys, tails, &c.

Lamb.—Cutlets sautés, blanquettes, preparation of croquettes, &c.

Pork.—Puddings black and white, sausages, feet truffled, small fillets, kidney, &c.

Wild Boar.—Fillets larded, remnants of head, &c.

Roebuck.—Fillets larded, cutlets sautés and braised, &c.

Hare and leveret.—Fillets sautés, civet, soup, &c.

Young rabbit.—Preparation of croquettes, fillets sautés with mushrooms, hash, &c.

Pheasant.—Fillets sautés with truffles, &c.

Partridge.—Fillets sautés, salmis, hash, purée, &c.

Quails.—Fillets sautés, preparation, &c.

Woodcock.—Ditto ditto, salmis, purée, &c.

Teal.—Ditto ditto, &c.

Larks and wheatears.—After a turn on the spit, or sautés aux fines herbes.

Larks.—For a croustade with fines herbes, or cutlets, on the spit, &c.

Duck.—Aiguillettes sautées, &c.

Turkey.—Emincés white, blanquettes, hash, preparation of quenelle, croquette, &c.

Fowls.—Fillets au suprême, larded, purée, &c.

Goose.—Aiguillettes, &c.

Pigeon.—Cutlets sautés, roasted, &c.

Sturgeon, turbot, cod.—Boned, and prepared as required.

Salmon.—Slices half-broiled, or au bleu, three-parts done, to be prepared as required, &c.

Trout.—Au bleu, fillets sautés.

Soles.—Fillets sautés, fillets en aspic, fillets prepared for salad.

Whitings.—Boiled, &c.

Mackerel.—A la maître d'hôtel, &c.

Pike.—Au bleu, à l'allemande, fillets sautés, &c.

Matelotte à la Marinière—Of pike, eel, carp, tench.

Eel.—A la tartare, à la poulette.

Carp.—Quenelle and à l'allemande, &c.

Oysters.—Prepared for patties or scollops, and à la poulette, &c.

Crayfish.—Prepared in the ordinary way.

These, and other articles, only require to be half or three-fourths done, before being placed in the *bain-marie.* All animal productions should be three-fourths done in preparation, and be finished in the *bain-marie.*

Many substances may, without detriment, be boiled an extra hour in the *bain-marie;* such as consommé, jellies, essences of meat, of poultry; juices of plants, juice and syrup of grape, &c.; but there are others, which a quarter of an hour, or even a minute too much, greatly deteriorates.

NEW-LAID EGGS.

The fresher the egg, the more it resists the operation of the *bain-marie.* Eggs fresh-laid were put in a jar, the space between them being filled up with bread-raspings. They were stopped as usual, and placed in a boiler, and heated to 200 degrees. The whole was taken off the fire; when sufficiently cooled for the hand to bear the heat, they were taken out, and kept six months. For use, they were put on the fire in cold water, and heated to 200 degrees; the eggs were just done to point, and as fresh as when prepared. As for hard eggs *à la tripe,* or

with white sauce, heat them to boiling point in the *bain-marie;* that is, at the first boiling, and take off the boiler.

MILK.

Twenty-four pints of new milk from the cow were reduced by the *bain-marie* (in the same way as glue is heated) to two-thirds of its bulk, skimming it frequently; it was then strained. When cold, the film was removed from the top, and the milk enclosed in the usual way. It was immediately boiled two hours in the *bain-marie.* At the end of some months, the cream separated from the milk in flakes, and swam in the bottles.

A second time, a like quantity of milk was reduced in the *bain-marie* one-half, instead of a third. When reduced, eight fresh yolks of egg, diluted with this milk, were added. The whole well mixed was put half an hour on the fire, and finished as at first. This method succeeded per-

fectly. Eighteen months after, it was quite fresh. The first kept upwards of two years. The cream in flakes disappears, when it is placed over the fire; both bear boiling, and from both was obtained butter. When analysed, it was found that the last—very superior to ordinary milk—might be used for cream itself.

Several tin boxes were made, of the form of ordinary bottles, and with the same sort of mouth. They were filled with milk, warm from the cow: being well stopped and tied, they were put in the *bain-marie* till it boiled. An hour after, they were taken out, and the next day sent a forty-eight hours' journey. The experiment answered perfectly well. Since, milk has been sent longer distances, where it seemed as new as if it had been taken from the cow the night before.

The application of this principle, on a large scale, would afford great advantages, as it would

present the means of manufacturing fresh butter in large towns. The quality would be decidedly better, and the price lower; for there would be no such loss of cream as frequently occurs.

Observation.—Simply putting it over the fire, a sand-heat, or the *bain-marie*, are three ways to reduce milk, previous to preserving it; and each has more or less the inconvenience of altering the whiteness of the milk, and of giving it a pasty flavour. By steam, the milk was whiter, contracted no flavour, and was reduced considerably more. Evaporation takes place by this means much more rapidly than by any other, as the fire may be forced without fear; and the more the object operated on is stirred, the better, and no skimming is requisite.

This, therefore, is the best way, not only for milk and cream, but for *guimauve* and *jujube* pastes, and other substances usually made to evaporate slowly over the fire.

PAN FOR BOILING MILK.

A pan, holding the milk, is fitted to a boiler; and a pipe, leading from the boiler into a little reservoir of cold water, regulates the steam. The milk must first be strained, and be constantly and briskly stirred. It will be found that the noise in the pipe increases when the stirring is discontinued, which shows that the heat is not finding its way so rapidly through the milk.

As soon as the water boils, slacken the fire, and close the furnace-door, to keep up a moderate boiling heat. If this is not done, the luting which closes the union of the pan and boiler would give way, and steam would escape. When the water in the reservoir is warm, change it. In two hours you may thus reduce twenty-four pints of milk to twelve. It is not necessary, however, that the milk should be reduced one-half—a little more or less is of no consequence. About a quarter of an hour before finishing, di-

lute twelve yolks of new-laid eggs with a pint of the milk, which gradually stir in with the whole. To be certain of the reduction, take the depth of the milk at first, and bring it to half of that. Take the milk out when done, strain it, to get away the interior of the yolks of the eggs, and put it in tureens to cool—stirring, that no film may be formed; then bottle it, cork and tie, and boil a quarter of an hour.

CREAM.

Reduce five quarts of cream, skimmed carefully from milk of the over-night, to four, without skimming; remove the skin or film from the top, strain it, and let it cool. Taking off the second skin, bottle it in the usual way, and boil it a quarter of an hour in the *bain-marie*. Two years after, cream has been found as fresh as when newly boiled, and good fresh butter was made from it.

WHEY.

Prepare some whey, clarified; let it cool, bottle, and let it boil a quarter of an hour in the *bain-marie*: the heat always throws off caseous particles in whey, however well it may be clarified. It has been kept some two and three years in this manner, filtering it for use to have it very clear. If you are in a hurry, carefully decanting suffices.

FRESH BUTTER.

Wash six pounds of fresh butter, newly made, and take away the moisture with a napkin: case it. In filling in, leave a tenth for expansion. Heat them in the *bain-marie* merely till boiling takes place, and take them out as soon as you can bear your hand in the water.

The melting of the butter precipitates to the bottom any caseous particles or butter-milk

which might remain; so that butter is obtained perfectly pure and clarified, which should always be the case with butter, to be delicate and good.

With a wooden spatula, rather curved at the end, the butter is taken out in small portions. Put it in cold water, in pats, having washed it and worked it till the last water is quite clear.

It will give the original weight—that is, five pounds thirteen ounces of butter, and three ounces of butter-milk: this residue has rather a rank bitter taste. As a little butter adheres to the sides of the cases, put them in hot water to obtain it.

The loss of half an ounce to the pound of butter will always depend on the greater or less attention with which it is washed, when it comes out of the churn. This is a valuable method for pasture countries, especially those where they are obliged to melt the butter, which will not keep long in consequence, and must be sold cheap.

All fat and oily substances may be preserved in the same way: all such as have been hitherto subject to become rancid in a certain period of time. Hog's-lard, melted and well boiled; goose or capon grease, or kitchen-fat of any kind, well clarified.

ANOTHER MODE OF PRESERVING BUTTER.

To precipitate with greater facility the caseous or cheesy particles formed in butter, use a cleanser, in the shape of an inverted cone, with a cock at the lower end. By steam, set the butter more or less in fusion; and when the heterogeneous parts are well precipitated, open the cock, draw off the milk, and when it is entirely out, put the butter in bottles or cases. In this way—only raising the heat to 160° in the *bain-marie*—you obtain butter perfectly clarified, and without sediment.

To get it out of the bottles or cases, merely

put them in the *bain-marie*, after having opened them. When the butter is melted, pour it into a vessel for use.

OF GATHERING VEGETABLES.

Climates make a difference, of course; but the months of June and July are the best season for preserving green peas, Windsor beans, and asparagus. Later, these vegetables lose a great deal by heat and drought. In August and September, preserve artichokes, French and white beans, and cauliflowers. Generally, all vegetables for preservation should be fresh-gathered, and prepared with expedition, so that from the garden to the *bain-marie* there is no delay.

GREEN PEAS.

Take peas, not *very* young, but middle-sized; they are better formed, and more full of flavour.

Shell them as soon as gathered; separate the larger; bottle or case directly, shaking the bottles that they may contain as many as possible. Cork them down, &c., and boil them in the *bain-marie* an hour and a half, when the season is rather cool and damp, and two hours when there is heat and drought: finish this operation as those before.

Green peas, of all substances, are the most difficult to preserve. If gathered too young, they run, and the bottle will be but half filled after boiling, and what there is will not keep: of these immediate use must be made. In warm weather, peas lose all their flavour by being gathered two or three days beforehand. They harden, and begin to ferment: this causes bottles to burst in the *bain-marie*. Even those which resist, break subsequently, or are defective, which is easily discovered by the turbid state of the juice in the bottle: it is never thick when the preservation is properly operated. It

is far better to preserve peas rather ripe, than too young. The latter have no shape, produce a great deal of vegetable liquid, and leave scarcely anything but skins. They are especially liable to fermentation. Moderately ripe, they answer this purpose well.

Ten to fifteen per cent. is the average of breakage and failure with very young peas.

ANOTHER WAY TO PREPARE GREEN PEAS.

Having prepared twelve quarts of peas, freshly gathered, wash them, and work them with a pound and a half of fresh butter; drain, and place them over the fire. Put on a concave or hollow cover, and dress the peas without moisture, tossing them from time to time, and filling with cold water the hollow of the cover: as this becomes warm, change it. Dress the peas as if to serve them; finish them with a piece of butter worked with a little flour. Then put them

into small cases, containing a pound and a half. Close in the usual way, and boil them fifty-five minutes, or an hour, in the *bain-marie*.

PEAS, THE ENGLISH WAY.

Boil them: when done, season with salt, and two or three ounces of fresh butter for every quart of peas; toss them, and when cool, put them in cases; which boil an hour about, in the *bain-marie*. Bottles may be used for this method.

Large peas, with bacon or other meats, may thus be safely preserved. For use, it suffices to warm them in the *bain-marie*. If it suit the consumer's palate, a little sugar may be added. This method is particularly recommended.

ASPARAGUS.

Prepare asparagus as usual. Before you bottle or case them, plunge them in boiling water,

and then in cold, to take off the harsh flavour peculiar to this vegetable. Entire asparagus are carefully arranged in the cases, head downwards. Asparagus peas are put in bottles. Having well drained both, stop them, &c., and put them in the *bain-marie* merely to boil up once, &c.

ANOTHER WAY.

Clean them; dip them in hot, then in cold water; then put them in cases, and cover them with veal and poultry jelly, and subject them to 160 degrees of heat in the *bain-marie*. In the first way, the asparagus is very difficult to be cased; it wrinkles, and does not look well. In the second, being surrounded with jelly, it keeps firm and full.

Prepare asparagus peas as is usual in the season; then bottle or case them, giving them just a boil in the *bain-marie*.

SMALL WINDSOR BEANS.

Put these in bottle as you shell them, because the air browns the skins of them; and have them gathered young, of the size of the end of the little finger, to preserve them in the skin. When the bottles have been shaken, and are filled, add a small bunch of *sweet savory*. Cork them down quickly, and boil them an hour in the *bain-marie*. When gathered, prepared, and dressed quickly, this vegetable is of a greenish white colour; otherwise, it becomes brown and hardened.

Put the bottles, when filled, into cold spring water, fresh from the well: they may be left in this way an hour. Stop them, and finish as usual. By this means you ensure a good colour.

This simple method will preserve the colour of many other substances: certain flowers, for instance; to the colour of which, the medical art ascribes many virtues.

WINDSOR BEANS WITHOUT THE SKINS.

These may be used larger. Skin them, and bottle them, with a small bunch of *sweet savory*, &c., and give them an hour and a half in the *bain-marie*.

FRENCH BEANS.

Take them quite fresh gathered; prepare them, and bottle, shaking to fill up the interstices. Give them an hour and a half's boiling in the *bain-marie*. When the beans are rather large, cut them down the middle; then they only require an hour's boiling.

WHITE BEANS.

Gather these when the husk begins to turn yellow. Shell, and bottle, &c. Boil two hours in the *bain-marie*, &c.

ENTIRE ARTICHOKES.

Take the middle-sized ones; cut off all the useless leaves, trim, then plunge them in boiling water, and immediately after in cold. Drain them; put them in cases; boil an hour and a half in the *bain-marie*, &c.

ARTICHOKES IN QUARTERS.

Cut some fine artichokes up in eight pieces; take out the choke, and leave as few leaves as possible. Plunge them in boiling water, then in cold; drain; pass them over the fire, with a piece of fresh butter, seasoned with *fines herbes*. When half done, put them to cool. Then put them in bottles or cases, to be boiled half an hour, &c.

ARTICHOKES A LA BARIGOULE.

Prepare them in the ordinary way; only half dress them; case them, and give them half an hour's boiling in the *bain-marie*.

CAULIFLOWERS.

Prepare them; plunge them in hot, then in cold water; drain; put them in cases, which stop, &c. Boil half an hour in the *bain-marie*.

Remarks.—Let it not be forgotten, that in damp cold summers, vegetables are more tender, therefore will require less boiling: seven or eight minutes less, and so much more in very dry hot seasons.

ANOTHER WAY.

Half dress them, with a little salt, and a good piece of fresh butter. Let them cool; put them

in cases, and cover them with their own juice. Just a boil in the *bain-marie* is sufficient; and this way they are much better.

SORREL.

In a well tinned copper vessel, put sorrel, lettuce, chervil, green onions; all fresh pulled, well cleaned, and chopped. They must not be dried up and burnt, but nicely reduced, as for ordinary use. When done, they are set to cool in earthenware. Put them in wide-mouthed bottles. In the *bain-marie* boil sorrel a quarter of an hour, which would preserve it ten years, if requisite. It would be brought back from the Indies as fresh and savoury as if dressed the day before; an advantage of high utility to naval or military people. June is the month for preparing sorrel: later, it contracts a crude acidity, very unpleasant; while it possesses in June all its best virtues; and you may then procure

herbs, the addition of which softens and improves it, and which it would be difficult to obtain in October.

SPINACH AND ENDIVE

Are prepared as for daily use. Bottle them, and boil three quarters of an hour in the *bain-marie.*

Carrots, cabbages, turnips, parsnips, onions, celery, Spanish cardoons, beet-root, and generally all sorts of vegetables, are preserved in the same way: whether merely blanched, or prepared *au gras* or *au maîgre*, to be used when opened. In the former case, blanch, and half dress them, with a little salt; then bottle or case them, &c. In the *bain-marie* boil carrots, greens, turnips, parsnips, beet-root, an hour. In the second case, prepare the vegetables *au gras* or *au maîgre*, as for ordinary use. When three-fourths done, and well prepared and sea-

soned, take them off, and let them cool. Bottle, &c.; boil a quarter of an hour in the *bain-marie*, &c.

TOMATAS, OR LOVE-APPLES.

Gather them quite ripe, and of good colour. Wash and drain them, cut them in pieces, and let them boil down in a tinned copper vessel, reducing them one-third. Pass them through a fine sieve; put the strained pulp over the fire, and reduce it one-half. Let it cool in earthenware; bottle, and give it just a boil in the *bain-marie*.

SECOND METHOD FOR TOMATAS.

Gather them as above, very ripe, and expose them seven or eight days to a warm sun, to bring them to perfect maturity. Take the highest coloured, and softest; put them in pieces on

sieves to drain, having previously washed them. The next morning, boil them down; after they have boiled briskly two or three times, drain them on a thin cloth stretched over a basket. Four hours after, pass them through the sieve, and put the pulp over the fire; let it boil briskly, stirring, lest it stick. Then put it to drain on fine sieves till the next morning; it then nearly loses all the vegetable fluid. To complete this exhaustion, put it on the fire again, boil it, stirring attentively, and drain it again. The next morning it is like a paste; bottle it, &c., and let it just fairly boil in the *bain-marie*—this suffices. This is more trouble, it is true; but fewer packages are required, and in colour and quality it far exceeds the foregoing.

Anti-scorbutic Plants, and generally all Herbs and Juices of Herbs used for medicinal Purposes.

HORSE-RADISH.

Clean well, scrape, and bottle; shake it down in the bottles, and stop them, &c. Boil half an hour in the *bain-marie*.

COCHLEARIA, PEPPERMINT IN FULL FLOWER, CRESSES, TARRAGON, ELDER FLOWERS, &c. ALL IN BRANCHES.

Fill several bottles with each of these plants, as fresh as possible; press them a little in the bottles with a small stick: stop well, and merely give them a boil up.

Let it be observed, that the more volatile the aroma or essence of any plant is, the greater the loss, even in luke-warm water; the more so, of

course, when the heat is higher, and when the plant remains long in it.

The ordinary methods of distillation, notwithstanding that they are close, alter and deteriorate considerably the nature of aromatic extracts.

TO PRESERVE ORANGE FLOWERS IN ALL THEIR NATURAL WHITENESS AND PERFUME; ALSO THE BUDS.

Procure flowers recently gathered, and which have not been sprinkled, like those for sale in the markets. From the pistil separate the white petals, which are put, as you proceed, into bottles. When one is filled, put it in water that is quite cold, lightly corking it, so that the water may not penetrate. Having prepared all the bottles in this way, after corking, tying, &c., as usual, put them in a covered *bain-marie* till it boils. Draw the fire in a quarter of an hour;

after which, uncover the *bain-marie*, and half an hour later take out the bottles. Proceed in the same way with the buds, which put in the same *bain-marie* with the petals.

The pistils are put in quart bottles, with the faded leaves. Cork them well, &c., and boil them a quarter of an hour in the *bain-marie*.

As these bottles are light, they are kept upright by means of wirework, or in any way better that may answer.

Thus orange flowers are preserved, as in the season; and the buds may be used in nosegays.

JUICE OF HERBS.

Preserve the juice of plants—such as lettuce, chervil, borage, wild endive, cresses, &c. Prepare them in the usual way, and just boil them in the *bain-marie*.

OF FRUITS AND THEIR JUICES.

Fruits and fruit-juices require the greatest expedition in preparation, especially in the application of the *bain-marie*.

You must not wait till fruit becomes too ripe to preserve it entire or in quarters, because it runs in the *bain-marie*. You must not take the first of the season, nor the last. The best quality and flavour are in the full season—the time when the greatest quantity is ripe at once.

Fruit, whole or in pieces, runs or melts in the *bain-marie*, collapses, and leaves spaces; and again, the bottle is half empty. To obviate this for red fruits—such as currants, raspberries, cherries, &c. for the sake of precision and economy in preparing, choose inferior sorts of the fruit to be preserved. Crush out the juice; which filter. Having bottled the fruit, which shake gently together, fill up with juice to within three inches of the rim, and cork. Thus with apricots,

plums, peaches, green-gages, &c. There is always a sufficiency of inferior fruit for juice to fill up with.

A great quantity of grape juice, for yellow and white fruit, is used instead of the juice of the fruit itself.

By this means the fruit, surrounded, keeps its form, and the bottles always remain full.

RED AND WHITE CURRANTS, IN BUNCHES.

Take the finest sort, and of these the best bunches, not too ripe, and very clean; bottle them; shake the bottle from side to side, to make it hold more; cork, and put them in the *bain-marie*, which requires attention. As soon as it begins to boil, draw the fire quickly; a quarter of an hour after, turn off the water of the *bain-marie*, &c.

WHITE AND RED CURRANTS, STRIPPED.

Pick and bottle them, and finish as the last. As the stem always gives a harshness to the juice, this mode is preferable to the foregoing.

CHERRIES, RASPBERRIES, MULBERRIES, AND BLACK CURRANTS,

Are to be gathered not very ripe, lest they give, under the operation; bottle them, shaking them carefully in; cork, and finish as currants.

RED CURRANT JUICE.

Red currants must be gathered very ripe, and are crushed on fine sieves. Put in a press what remains on the sieve, and mix what juice it yields with the other. Flavour the whole with a little raspberry juice, and pass it through a

sieve rather finer than the first; bottle and proceed in the *bain-marie*, as for currants stripped.

White currant juice is treated in a similar way.

For large operations, have a large tammy of canvas, from twenty-four to thirty inches in diameter, sufficiently fine to reject the pips; place these over a boiler, with a tap at bottom; put twelve or fifteen pounds of currants in a tub, and crush them. This well done, transfer the fruit to the sieve, turning it about with a wooden spatula, not pressing too much, lest you slacken the sieve. The whole of the liquid passed, put the remainder in a press, and add what juice is thus obtained to the other*; bottle, cork, &c.

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* Never use tin, tinned copper, pewter, nor iron, especially with acid juices, as the colour would become violet or black. Glass, stone, earthenware, or wood, are not attended with this inconvenience.

CLARIFIED CURRANT JUICE.

The juice being prepared as above, instead of bottling, half fill tureens or small tubs. Add one-tenth of cherry juice, which facilitates the formation of jelly. Put the whole for the night in a cellar or cool place. The next day it will be a jelly. Put this into tammies over vessels to receive it; in two hours the jelly will be dissolved, the mucilage remaining on the tammies; and you obtain a limpid juice. Bottle, cork, &c.

APPLE JUICE.

Peel some fine apples, cut in quarters, take out cores and pips; boil them down with a sufficiency of water in a sugar pan. When dissolved, pass the marmalade, press what has not passed through the sieve, bottle, and let it just boil in the *bain-marie*.

BARBERRIES, POMEGRANATES, ORANGES, LEMONS, &c., JUICES.

Press out the juice, which strain, and bottle it, lightly corked, to clarify it in the *bain-marie* till the juice begins to boil. Draw the fire, and let it cool; take it out of the bottles; and the next day, when it has settled, draw it off clear in other bottles, which cork, &c., and let it just boil in the *bain-marie*. Expedition is necessary, or these juices will become cloudy, and would be difficult to get bright again, especially lemon juice.

VERJUICE.

Crush with pestle and mortar, large, firm verjuice; pass it to get out the pips. Press the refuse, and add this juice to the other. Bottle, &c., and give it a slight boil in the *bain-marie*.

Thus preserved, this juice will keep several days after being exposed to the air.

STRAWBERRIES.

Crush and pass them as for making ices; add half a pound of sugar in powder, and the juice of half a lemon to each pound. Mix well, bottle, cork, &c.; put it in the *bain-marie* till boiling commences, &c. This answers for all but the colour, which does not stand. This may be supplied by dark red cherry juice.

APRICOTS.

For the table, the common apricot, and the peach apricot, both from standard trees, are the best to preserve. Espalier fruit has not, by a great deal, so good a flavour. Mix them, as one dissolves less than the other in the heat; though they may be preserved separately, but then the larger fruit must be some minutes less in the *bain-marie;* that is, as soon as boiling

commences, take it off; while the other is only taken off *after* the first ebullition.

Gather them ripe, but firm; so that when pressed between the finger and thumb, you feel the stone detach itself. Generally the leaves should be taken from the trees, that the fruit may be yellow, and ripened by the sun, whereas confectioners like them white, as when they ripen in the shade. The flavour of the latter cannot be so fine. Divide them in two with a knife: take away the stone, and a thin skin; introduce them in halves or quarters, according to the mouths of the vessels, which are gently shaken to make the fruit lie close; put twelve or fifteen of the kernels in each bottle, cork, &c. Let them just boil in the *bain marie;* draw the fire with the same attention as currants, &c.

PEACHES.

Take those which have the finest flavour, and proceed as for apricots. The trees should have the leaves taken off a fortnight before the fruit is gathered.

NECTARINES

Should be riper than the peach; they stand the heat better; and do not skin them. Proceed as for apricots.

GREENGAGES AND MIRABELLE PLUMS.

You may preserve greengages entire, with stem and kernel, as well as other large plums. But even a large jar contains but few of them; for you cannot shake them close, unless you crush them. They diminish in the *bain-marie*, and the vessel remains half empty. Halve

large plums, therefore, and take out the stone. The operation is more certain with small-mouthed vessels, the corks being safer.

For mirabelles and other small plums, take off the stems, which facilitates their lying close. Proceed as for peaches and apricots.

WHOLE VERJUICE.

Let it be large and firm; open it to take out the pips; bottle it, shaking it; cork, and just let it boil in the *bain-marie*.

PEARS.

Peel them, cut them in quarters, take out the pips and cores, and bottle, &c. They must only be heated to boiling, if for eating as they are. To be dressed, boil them five or six minutes in the *bain-marie*.

QUINCES.

When ripe, take the down off; prepare it in quarters, and let it have half an hour's boiling in the *bain-marie.*

ROASTED CHESNUTS.

Having cut the skin on one side, roast them in a roasting pan till they are half done, but so that they are not discoloured by the fire. The fire must be strong, so that they may be readily peeled. Case or bottle them, and give them a quarter of an hour's boiling in the *bain-marie.*

Again, they may be preserved without being peeled, after having cut the skins as those above, with a quarter of an hour's boiling in the *bain-marie.*

Chesnuts thus preserved may be roasted to be served in the napkin.

TRUFFLES.

Clean them; peel them as thin as possible; separate those that are white, musky, worm-eaten, or frost-bitten. According to the bottles, introduce them whole or in pieces. The fragments are bottled apart. Cork, &c., and boil them an hour in the *bain-marie*.

Of course they should be fresh and sound. They run in the *bain-marie*, leaving the bottle half empty, especially the larger ones. To obviate this, partly dress them first. Put a quantity in a large red copper vessel, which cover, and stop with luting; and letting it dip about six or seven inches in the *bain-marie*, leave it to boil an hour, when take them out to cool. Put them on a sieve over a pan; separate large and small, and put them in vessels prepared. The juice in the tureen is distributed in the bottles or cases, according to the number contained; stop these, &c., and boil half an hour in the *bain-marie*.

Thus you obtain bottles full of truffles, whole, with all their flavour.

Thus prepared, fresh truffles will keep two, three years, and more.

MUSHROOMS.

Take mushrooms from the bed, well formed, and firm. Having trimmed and washed them, put them on the fire, with a piece of fresh butter, or good olive oil, to extract the juice; add lemon juice to keep them white. Leave them on the fire till the liquor is reduced one half; take them off to cool in a tureen; bottle, and give them a good boil up in the *bain-marie*.

ESSENCE OF COFFEE.

By this process may be obtained coffee superior to that produced by any other means.

First experiment.—Having burnt a pound of

coffee to a light chesnut colour, and having pounded it in a mortar, by which means it preserves considerably more flavour than when ground; divide it, after having passed it through a sieve, into three quart bottles, which fill with cold water to within three inches of the rims of the bottles; cork them closely, merely to give them a good boil up in the *bain-marie*, from which take them when cold. After this let the coffee stand two days, to draw it off clear.

Second experiment.—Again prepare a pound of coffee, also divided into three quart bottles. Instead of filling them with cold water, as at first, use the decoction from the grouts remaining in the three first bottles; boil them six minutes, and draw the liquor off clear. Put the second three bottles in the *bain-marie*, as before; after which, letting them stand two days, you obtain coffee infinitely better than the first. A dessert-spoonful, in a gill of milk, makes an excellent cup.

Third experiment.—Prepare a third pound of coffee as before, and fill the bottles with the produce of the second experiment, together with the decoction from the grouts; and having subjected it to the *bain-marie*, just to boil up twice, let it cool, and draw it off clear into other bottles, which being well corked, let them just boil in the *bain-marie*. Two or three tea-spoonfuls make an excellent cup of coffee, full of flavour.

An extract may be obtained in this way, of which one spoonful would suffice, which for long voyages would be most advantageous. It is *not to be warmed, but merely added* to warm water or milk.

TEA.

The aroma of tea evaporates very rapidly. Put into a pint bottle an ounce of good tea; fill this with water, well cork it, and put it in

the *bain-marie*. Take it out about six minutes before boiling. If left longer, it acquires an herbaceous flavour. In twenty-four hours you may use this tea, putting a dessert-spoonful, or more, as you please, adding water just warm enough to be taken forthwith, for hot water would carry off the flavour much. A bottle may serve a month after having uncorked it.

MEANS OF PRESERVING WINES TOO DELICATE TO BE MOVED BY SEA, OR FOR STOWAGE IN CERTAIN CELLARS.

It is well known that the most delicate wines of France, Burgundy wine especially, will not stand even short sea voyages. The susceptibility of some of these wines is even such, that they are obliged to be consumed where they are grown, rather than risk their total loss by removal.

The following is an account of an experiment on some Beaune Wine.

Some bottles of the best were filled within an inch of the cork, hermetically closed, and wired with cross wires. They were then put in the *bain-marie,* and heated to 185 degrees only, for fear of affecting the colour.

A fortnight after, a dozen bottles were sent to Havre de Grâce, to be forwarded to sea for a long cruise, and be brought back.

In order to compare them when returned, a certain number were retained which had undergone the same operation as those which were embarked; and again, some as they were first transmitted from Beaune.

Upwards of two years after, of six which were sent out, only two were brought back from Saint Domingo. One of these bottles was submitted to the judgment of an experienced connoisseur. He compared it with two others;

that is to say, one which had remained in the cellar at Havre, and which had recently been sent back; the other, one of those kept in its original state. The result of this triple comparison was, that this wine, originally the same, presented three qualities essentially differing.

The original wine was very new in flavour; that from Havre had ripened, and preserved its flavour; but the superiority of that sent back from Saint Domingo was great. Nothing could surpass its cleanness, its bouquet, and the delicacy of its flavour. A year after, the experiment was repeated with equal success. The advantages are obvious; the only thing is to choose good bottles and corks, and to cork well.

SOUP AND BOUILLI.

Have beef as fresh as possible. The whole must be boned. Gather up the bones, and with a stout chopper break them in as small

parts as possible; add all the trimmings of the meat, and put bones and trimmings into a digester or compression boiler, adding as much water as will cover them by four inches; raise the heat to 180 degrees. Thus you will use all the remnants, of which you will make an excellent soup.

Now divide the meat into pieces suited to the size of the boxes to be used.

When the digester is sufficiently cool to be opened without danger, skim off the fat which it contains, and throw the broth over the meat, into coppers already prepared for the purpose. Add vegetables in a net, and seasoning.

It is not the quantity of meat which makes good broth, but the mode of managing the fire. For the meat to yield the animal extract which flavours and strengthens soup, it must be penetrated with a gradual heat; the muscular fibres must be dilated, and the gelatine between them dissolved. In those same muscles is albumen

also, like white of egg, and which forms the scum. This albumen coagulates and hardens at a temperature of 212°.

If you get the fire up too rapidly, the pot-au-feu boils before the meat swells out and becomes penetrated by the water; the albumen coagulates in the meat, and prevents the gelatine from issuing; you have weak soup, and hard meat. But, on the contrary, if you moderate the heat, so as to give the meat time, it is penetrated, the albumen rises in scum, the gelatine is dissolved, the broth savoury and nourishing, and the meat tender.

Having added the vegetables, cover the copper, and proceed to boiling; as soon as this takes place, moderate the fire, and let the meat simmer till it is three-fourths done. Take it out, and drain it; sprinkle it with coarse salt, and let it cool on platters till the next day.

As the vegetables are not sufficiently done

when the meat is taken up, the liquid must be set to boil again gently for a couple of hours. After taking them out, skim the soup, pass it through a jelly bag, leave it to cool all night, take off any remaining fat; and reduce it one-half.

Untie the meat which was tied for boiling, divide it, with the vegetables, into suitable pieces, and put it into cases well washed and wiped.

As they are filled, the tinman closes them exactly, soldering them round, as before indicated in the article on Cases.

This operation completed, introduce through the hole in the cover the reduced soup, observing only to cover the meat with it, and to leave an empty space in the case, proportioned to its size, so that the expansion of the substances may be effected in the *bain-marie*.

Thus prepared, the cases are put in a boiler, where they are subjected to the heat of the *bain-marie*, as we have before shown.

The small fillet of beef is larded and roasted; the kidney sauté; and a hochepot made of the tail and roots. These are put in cases, observing the usual process.

General observation.—The operations just described are applicable to all kinds of butcher's meat, pork, poultry, game, fish, and vegetables; the only variation is in the application of the *bain-marie*, which is to be modified in proportion to the solidity of substances exposed to its action.

Mode of Using Substances Prepared and Preserved.

MEAT, GAME, FOWL, AND FISH.

An ordinary pot-au-feu, done just as it should be in preparation, and in the *bain-marie*, only requires to be sufficiently heated to separate soup and beef.

For the sake of economy, and to lessen the

number of packages, a good consommé is preferable, because the beef, as well as the consommé, only requires to be warmed; and by adding one-half or two-thirds of water, you obtain good soup.

RICE SOUP.

A dessert-spoonful of this substance, preserved as directed, with about two ounces of water, will make excellent soup.

It may be used in any other way. With respect to the meat, poultry, game, fish, &c., which have been three-fourths done in preparation, and the remainder in the *bain-marie*, warm them on opening the packages, and serve them.

If it should occur, on opening one, that the article were not sufficiently done, from defect in the preparation, or from not having been long enough in the *bain-marie*, simply put it on the fire, and finish it. But when all has been pro-

perly attended to in the preparation and confection, nothing can be more simple and convenient than the use of these aliments; which require merely to be warmed, or, if the consumer prefer, may be eaten cold. It is not necessary, as might be supposed, that these substances should be consumed immediately after being opened; the contents of a bottle may be in use eight or ten days after, only attention must be paid to replace the cork, and keep them cool.

From facts, it appears that animal substances preserved by the *bain-marie*, remain in a state of preservation long after being opened, and that they are not as susceptible of decomposition as those prepared by ordinary means.

ENTREES, WITH TRUFFLES,

May be used without further preparation, for different dishes, at pleasure.

SAVOURY JELLIES, OR ASPIC.

A well-prepared jelly, carefully taken out of its package, will serve for a garnish to cold meats; or uncork and melt it in the *bain-marie*, then put it in a plate or dish, and place on ice to congeal it again.

BROTH, OR STOMACHIC JELLY,

May be used with more or less boiling water, or be eaten as it is.

MILK, CREAM, AND WHEY,

Are made use of as if fresh.

SWEET CREAMS, FOR ENTREMETS,

Need only be just warmed in the *bain-marie*.

VEGETABLES,

Bottled raw, will be dressed in the *bain-marie*, as directed. The vegetables should be washed when taken out, and warm water put in the bottle, which facilitates their coming out; and, having drained this off, wash them in a second water still warmer, drain them, and prepare them as required.

WHITE BEANS,

Are blanched, when opened, with a little salt and water. When done, leave them in this water half an hour or an hour, to mellow; then dress them.

FRENCH BEANS,

Are blanched, when not sufficiently dressed previous to bottling; a thing which happens

sometimes with artichokes, asparagus, cauliflower, &c. When sufficiently done beforehand, merely wash and dress them.

GREEN PEAS.

Green peas are prepared several ways. In the season, if they are not good, the cook takes the blame; but in winter, the person who preserved them is charged with it. Bad butter, oil, or rancid fat, used out of economy; preparing them an hour or two too soon; or suffering them to be burnt at the bottom of the pan, &c., cause them to fail.

When green peas are well washed and drained—for this vegetable must not remain in the water, put them, with a piece of good fresh butter, in a stewpan; add a bunch of parsley, and green onions. Having tossed them several times in the butter, dredge them with a little flour, and moisten them a moment after with

boiling water, so that the peas are just bathed. Let them thus boil full a quarter of an hour, till there is but very little sauce left; season with salt and a little pepper, and leave them on the fire till they are reduced; take them off, to add, for each bottle of peas, as large as a walnut of fresh butter, with a spoonful of pounded sugar. Toss them well, without replacing them on the fire, till the butter is well melted; warm the dish, and serve them. If the sugar is added when the peas are on the fire, by only boiling them once, the peas become tough, and the sauce thin and increased, so that it could not be set again. The sugar and butter must therefore never be added but an instant before serving, and after removing the peas from the fire. The sauce of green peas should not be apparent in winter nor in summer.

Green peas preserved in the way lastly described, only require to be warmed in the *bain-marie* a moment before serving.

PUREE OF LARGE PRESERVED PEAS.

An excellent purée is made from large preserved peas, and they are very good au gras. Asparagus, artichokes, cauliflowers, &c., after having been washed, are prepared in the usual way.

ENDIVE AND SPINACH.

Prepare it either au maigre or au gras. When all is not used, carefully recork the bottle.

JULIENNE.

Put out the contents of the bottle; add a quart of boiling water; and you have soup for six or seven persons.

BROTH FROM ROOTS.

Like julienne, soup from roots, purées of lentils, carrots, onions, &c., well prepared, will give excellent soups at a moment's notice.

FARINACEOUS SUBSTANCES.

All farinaceous substances, such as gruel, rice, sago, vermicelli, and generally, all pastes easily digested and nourishing, may be seasoned and prepared either au gras or au maigre, even with milk, before they are subjected to the *conservative* process.

TOMATAS

Are used as in the season. When opened, they only need to be warmed and seasoned.

SORREL.

As there is no difference between sorrel preserved and that which is gathered in the month of June, there is no difference in the use of it.

HORSE-RADISH.

Put horse-radish on the fire with broth, and the requisite seasoning; having suffered it to boil a quarter of an hour, add a piece of fresh butter; and it is served up in a sauce-boat, with bouilli. In Germany, this is preferred to mustard.

OF PRESERVED PLANTS GENERALLY.

To obtain extracts from various productions, either reduced or preserved, it will be unnecessary to carry the reduction so far as to interfere with the nature or qualities of the article. It

will suffice, after they are done to greater or less consistency, according to their nature, to bottle them, cork them, &c., and just give them a boil in the *bain-marie.*

It may not be out of place to state, that in more instances than one, the effect of the *bain-marie* has been tried on bottles of yeast, which were afterwards found to be utterly useless. This is a fair proof that the fermenting principle had been destroyed in a body usually containing it in the highest degree; and this is precisely the object aimed at.

RECAPITULATION OF THE PROCESS.

For the better understanding of this method, and in order to assist the memory, the following is a short and comprehensive view of the principles and forms :—

1st,—The *bain-marie*, properly applied, is the

only means known at present, whereby all substances, without exception, may be kept in a state of perfect preservation.

2nd,—A perfect closure must be effected in stopping.

3rd,—Bottles must be carefully made, so that the metal be of equal thickness throughout the body. They should be in the form of a cone in the neck, like champagne bottles.

4th,—Boxes must be made of sound metal, as any imperfection is fatal to preservation.

5th,—In large corks, made of several pieces, the pores must run horizontally.

6th,—The bottles or packages being placed in the boiler, the latter is filled with cold water. The more evaporation is suppressed, the less trouble will there be in adding water afterwards, and the less fuel will be used. It is on this account that the covered *bain-marie* is best.

7th,—The articles having been exposed to

the heat during the times specified for each, the fire is drawn.

8th,—Where more than a simple boiling is necessary, and no cover is used, the water must be kept to the same height, and added water must be boiling. This latter operation is superseded by a covered *bain-marie*.

9th,—The water must be drawn off a quarter of an hour subsequent to the fire being drawn; half an hour after this, the lid of the boiler is taken off; an hour after which take out the bottles.

10th,—A close inspection of the bottles is requisite, and all the sound ones must be ranged on laths, in a cellar or temperate place. Rosin may be put round the corks, or luting, such as has been described.

OF THE DIGESTER, OR COMPRESSION BOILER,* AND THE WAY OF USING IT.

This subject is presented in a practical point of view, as the results of long experience in the use of it.

A digester, containing three hundred quarts, was first used to extract gelatine, or isinglass, from bones; and it was found that a pressure of fifteen pounds on the safety-valve was insufficient for the purpose. It was augmented to twenty-two pounds, which sufficed for the entire extraction of the gelatine.

Five additional pounds' weight afterwards caused the gelatine to contract a degree of bitterness, which obliged the operator to recur to twenty-two pounds' weight on the valve.

Afterwards, two were made, containing four hundred quarts each.

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* The makers of these compression boilers are the proper persons to decide on the weight to be put on the safety-valve.

MANNER OF WORKING THE DIGESTER.

The two vital points are, to regulate the fire attentively during the operation, and to watch the safety valve, to see that it does not hitch—that is to say, that it remains free in its action.

Having charged the digester with whatever it may be, for all substances undergo the same process, except in the pressure used, light the fire, which must be made to burn briskly. In about three quarters of an hour, boiling is perceived by the slight escape of steam. The valve is immediately set, and especial care must be taken that the inferior end of it is fairly in the hole made to receive it inside. Turn the valve round from time to time. When it is first raised, put on the first weight, and increase the fire; turn the spindle, or stem of the valve, round again, and as it continues to rise, add weight till you have a sufficiency. On putting the last on, slacken the fire, and turn the valve

round till the action of the steam bears it up, weight and all. Draw the fire at once, just leaving a little in a corner of the furnace. If, after closing the door of the furnace, any steam escapes by the valve, add a seventh weight to the six others: this last weight should always be kept in reserve for this purpose.

In about four hours, the heat will be lowered, so that you may take off the weights: these are taken off one by one, as the steam ceases to issue at the valve. When the noise which it made subsides, take out the valve, which wipe, as well as the receiver. Unscrew the lid, with both hands take the ends of the horizontal bar, turn the cover round, and draw it off with the pully.

Two hours' close watching is all that this operation demands.

GELATINE FROM BONES, WITHOUT ACID.

Gelatine, or isinglass, is acknowledged as the best of all clarifiers.

Not only is it useful as finings for wine, but it is serviceable for jellies and entremets. For sea biscuits, and in manufacturing stuffs and hats, its use is appreciated.

The bones must be well broken. Some persons have imagined that they would answer better ground; but this is not the case. From experience, it is found that the water does not get at them so well, and has consequently less power to dissolve them, than when, being in larger fragments, they cannot lie so closely together, but leave room for the water to circulate among them.

Three-fourths fill the digester, and continue the operation as before; merely that, on opening the vessel, the fat being skimmed off, the liquid is pumped over through a sieve into a

boiler. Take out the bones, and let them drain off the liquor about them.

Light the fire under the boiler, and proceed to clarify thus:—"To clarify 300 quarts of this liquid, beat six eggs, whites and yolks, which mix with six quarts of cold spring water. When the liquid boils, and has been once skimmed, sprinkle a quart of this mixture over the top; skim again as the scum rises, and continue thus till you have used it all. Then cover the boiler down, draw the fire, and leave the liquor to settle two hours. Draw as much off as will run clear. The gelatine is then reduced by evaporation, with particular attention to its taking no colour.

EXTRACTION OF NEAT'S-FOOT OIL.

The oil extracted by means of the digester is infinitely superior in every respect to that produced by ordinary boiling. The feet must be

fresh. They must be well soaked, brushed, and cleaned. The water must be changed three times by the evening after they are first put in soak; and they are again washed and brushed previous to being put in the fourth water, where they remain two hours. They are drained, and placed in a boiler where there is just water enough to cover the bottom on which they are piled: more water would cause the oil to be wasted in this early stage of the operation. Light the fire, and carry the heat to 160 or 170 degrees, about. Take off the hoofs as soon as they will come away, and throw the feet into a tub of cold water.

After this, drain the feet, and cover them three inches deep with water in the digester, which must invariably be three-fourths full. Proceed as for gelatine.

The fire being drawn, and the valve charged with all its weights, leave the whole to cool four or five hours. When it has perfectly settled,

with a shallow ladle take out gently three-fourths of the oil on top; the remainder, being a mixture of grease and oil, is taken entirely off, and in a few days the grease precipitates itself. Separate the oil, and with the other put it in cask.

If none of that care and attention is dispensed with, which I have recommended, you obtain an oil without taste or smell, and which, for culinary purposes, may supplant olive oil. But if, on the contrary, there is a desire to save trouble, such results cannot of course be expected.

METHOD OF EXTRACTING GELATINE FROM NEAT'S FOOT.

After having taken the oil and grease out of the digester, as has just been shown, pump out the liquor saturated with gelatine, to reduce it by evaporation. The bones, very hard at first, will be found easy to break after this boil-

ing, and they still retain two-thirds of their gelatine. Break them, cover them with six inches of water in the boiler, and finish as before directed.

The extraction of fine neat's-foot oil, connected as it is with the production of gelatine afterwards, and with the fat resulting, offers great advantages on a large scale.

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THE END.

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