

it boils, will also keep it from candying. If sugar is poured on a slab that is too hot it is very apt to grain; this is frequently the case after several casts have been worked off in rotation; therefore, when you find it inclined to turn, remove it to a cooler spot, if possible, and not handle it any more than is necessary.

Sugar that has been often boiled or warmed is soon acted upon by the atmosphere, whereby it becomes clammy and soon runs, as it is weakened by the action of the fire. Acid causes the same effect.

If it has passed the degree you intended to boil it at, add a little water, and give it another boil.

## SECTION II.—SYRUPS.

THESE are either the juices of fruits, or a decoction or infusion of the leaves, flowers, or roots of vegetables, impregnated with a sufficient quantity of sugar for their preservation and retaining them in a liquid state.

A great portion of this class comes more under the notice of the apothecary than the confectioner; but it may now be considered, with lozenges, as a branch of pharmacy in the hands of the latter, the most agreeable of which are now manufactured by him to supply the place of fresh fruits, &c., when out of season, for the making of cooling drinks, ices, &c., for balls and routs.

*General Rules and Observations.*—Two things are essentially necessary to be observed, which are:—the proper methods of making decoctions and infusions. These require some knowledge of the nature and properties of vegetable matter.

The virtues of most plants are extracted by infusion, and this is generally the case with aromatic plants, and those whose properties depend on an essential oil; for, in boiling, the whole of the aroma of the plant is dispersed, and the syrup loses that delicate flavour for which it is prized.

Aromatic herbs, and the leaves of plants in general, yield their virtues most perfectly when moderately dried. Cold water extracts from these in a few hours, the lighter, more fragrant and agreeable parts, and then begins to take up the more ungrateful and grosser. By pouring the same liquor on fresh parcels of the herb, it becomes stronger, richer, thicker, and balsamic.

Those only should be decocted whose principles consist of mucilage, gum, or resin, and require boiling to extract them.

The compact resinous woods, roots and barks, yield their virtues most freely while fresh. Dry, they yield little to cold or moderately warm water, and require it to be boiling. By this process the grosser, more fixed saline and mucilaginous parts are dissolved, the resinous melted out, and the volatile dissipated.

*Infusions.*—“These are watery solutions of vegetable matter, obtained by maceration, either in hot or cold water, with the assist-

ance of ebullition. In selecting and conducting the operation, the following general rules should be observed:—

“1st. Infusion should always be preferred before decoction, where the virtues of the vegetable substance reside in volatile oil, or in principles which are easily soluble; whereas, if they depend upon resino-mucilaginous particles, decoction is an indispensable operation.

“2nd. The temperature employed must be varied according to the circumstances of each case, and infusion made with cold is in general more grateful but less active than one made with heat.

“3rd. The duration of the process must likewise be regulated by the nature of the substances; for the infusion will differ according to the time in which the water has been digested on the materials; thus the aroma of the plant is first taken up, then in succession the colouring, astringent, and gummy parts.

*Decoctions.*—“These are solutions of the active principles of vegetables, obtained by boiling them in water.

“1st. Those principles only should be decocted whose virtues reside in principles which are soluble in water.

“2nd. If the active principle be volatile, decoction must be an injurious process; and if it consists of extractive matter, long boiling, by favouring its oxidizement, will render it insipid, insoluble, and inert.

“3rd. The substances to be decocted should be previously bruised or sliced, so as to expose an extended surface to the action of the water.

“4th. The substances should be completely covered with water, and the vessel slightly closed, in order to prevent as much as possible the access of air; the boiling should be continued without interruption, and gently.

“5th. In compound decoctions, it is sometimes convenient not to put in all the ingredients from the beginning, but in succession, according to their hardness, and the difficulty with which their virtues are extracted; and if any aromatic or other substances containing volatile principles, or oxidizable matter, enter into the composition, the boiling decoction should be simply poured upon them, and covered up until cold.

“6th. The relative proportions of different vegetable substances to the water must be regulated by their nature. The following general rule may be admitted. Of roots, barks, or dried woods, from two drachms to six to every pint of water: of herbs, or flowers, half that quantity will suffice.

“7th. The decoction ought to be filtered through linen while hot, as important portions of the dissolved matter are frequently deposited on cooling; care must also be taken that the filter is not too fine, for it frequently happens that the virtues of a decoction depend upon the presence of particles in a minutely divided state.”—*Paris's Pharmacologia.*

“All acid syrups ought to have their full quantity of sugar, so as to



bring them to a consistence without boiling, because the very action of much heat destroys their acidity, and makes them liable to candy; and this more particularly holds good where the infusion or juice, &c., has any fragrant in flavour, because the volatile oil is dissipated by boiling. The same observation is also applicable to those infusions of flowers which give out their colour, and which is necessary to be retained, such as violets, pinks, &c., as boiling injures them.

Those syrups which are made from decoctions, and do not take a sufficient quantity of sugar to bring them to a due consistence without boiling, require to be clarified so as to render them transparent; but this is often an injury, as the whites of eggs take off some of their chief properties with the scum; therefore, the decoction should first be rendered clear by settling or filtering, and the sugar should be clarified and boiled to the height of the feather or ball before the decoction is added, when it must be reduced to the proper degree.

The best and most general method of making syrups is to add a sufficient quantity of the finest loaf-sugar, in powder, with the juice or infusion, &c., stirring it well until a small portion settles at the bottom, then place the pan in a larger one containing water; this is termed the bain-marie; put it on the fire, and the heat of the water as it boils will dissolve the sugar; when this has been thoroughly effected, take it off and let it cool; if more sugar is added than the quantity above named, it will separate in crystals, and not leave sufficient remaining in the syrup for its preservation. (See observations on Sugar-boiling). When cold, put it into small bottles, fill them, cork closely, and keep in a dry cool place. Be particularly careful that no tinned articles are used in the making of syrups from the juice of red fruits, as it will act on the tin and change the colour to a dead blue.

*Raspberry Syrup.*—One pint of juice, two pounds of sugar. Choose the fruit either red or white, mash it in a pan, and put it in a warm place for two or three days, or until the fermentation has commenced. All mucilaginous fruits require this, or else it would jelly after it is bottled. Filter the juice through a flannel bag, add the sugar in powder, place in the bain-marie, and stir it until dissolved; take it off, let it get cold, take off the scum, and bottle it.

*Pine-apple Syrup.*—Take one and a half pints of syrup boiled to the ball, add to this, one pint of the juice of the best Havanna pine-apples; let it then come to a boil, remove the scum, and bottle when cool.]

*Raspberry Vinegar Syrup.*—One pint of juice, two pints of apple vinegar, four pounds and a half of sugar. Prepare the juice as before, adding the vinegar with it, using white vinegar with white raspberries; strain the juice and boil to the pearl.

Three pounds of raspberries, two pints of vinegar, three pounds of sugar. Put the raspberries into the vinegar without mashing them, cover the pan close, and let it remain in a cellar for seven or eight days: then filter the infusion, add the sugar in powder, and finish in

the bain-marie. This is superior to the first, as the beautiful aroma of the fruit is lost in the boiling, as may be well known by its scenting the place where it is done, or even the whole house; the fruit may also be afterwards used with more for raspberry cakes.

*Strawberry Syrup.*—Make as pine-apple; taking care to strain carefully at least twice, through a fine flannel bag, so as to remove entirely all sediment, and the small seed of the fruit.]

*Currant Syrup.*—One pint of juice, two pounds of sugar. Mix together three pounds of currants, half white and half red, one pound of raspberries, and one pound of cherries, without the stones; mash the fruit and let it stand in a warm place for three or four days, keeping it covered with a coarse cloth, or piece of paper with holes pricked in it to keep out any dust or dirt. Filter the juice, add the sugar in powder, finish in the bain-marie, and skim it. When cold, put it into bottles, fill them, and cork well.

*Morello Cherry Syrup.*—Take the stones out of the cherries, mash them, and press out the juice in an earthen pan; let it stand in a cool place for two days, then filter; add two pounds of sugar to one pint of juice, finish in the bain-marie, or stir it well on the fire, and give it one or two boils.

*Mulberry Syrup.*—One pint of juice, one pound twelve ounces of sugar. Press out the juice and finish as cherry syrup.

*Gooseberry Syrup.*—One pint of juice, one pound twelve ounces of sugar. To twelve pounds of ripe gooseberries add two pounds of cherries without stones, squeeze out the juice, and finish as others.

*Lemon Syrup.*—One pint and a quarter of juice, two pounds of sugar. Let the juice stand in a cool place to settle. When a thin skin is formed on the top, pour it off and filter, add the sugar, and finish in the bain-marie. If the flavour of the peel is preferred with it, grate off the yellow rind of the lemons and mix it with the juice to infuse, or rub it off on part of the sugar and add it with the remainder when you finish it.

*Orange Syrup.*—As lemon syrup.

*Orange-Flower Syrup.*—Picked orange flowers one pound, sugar three pounds. Take one half of the sugar and make a syrup, which boil to the large pearl, put the flowers in a basin or jar, and pour the syrup on them boiling hot, cover the jar or basin quite close and let them infuse in it for five or six hours, then drain off the syrup, boil the remaining portion of sugar, and pour over them as before; when cold, strain and bottle.

*Sirup de Capillaire.*—*Syrup of Maidenhair.*—There are several sorts of Maidenhair, but the best is that of Canada, which has a pleasant smell joined to its pectoral qualities. The true Maidenhair—*Capillus Veneris*—is a native of Italy and of the southern parts of France. It has an agreeable but very weak smell. Common or English Maidenhair—*Trichomanes*—is usually substituted for the true, and occasionally for the Canadian. Its leaves consist of small round divisions, growing as it were in pairs. It grows on rocks, old



walls, and shady banks, and should be gathered in September. Black Maidenhair—*Adiantum Nigrum*—has smooth and shining leaves, the middle rib being black, and the seeds are all spread on the back of the leaf. It grows on shady banks, and on the roots of trees. White Maidenhair—Wall Rue—Tent Wort—*Ruta Murana Salvia Vite*.—The leaves of this are shaped something like rue, and covered all over the back with a small seed-like dust. Golden Maidenhair—*Muscus Capillaris*—grows in moist places, and the pedicle arises from the top of the stalk. I have given these particulars, because I find they are often substituted one for the other by persons who are not aware that there is any difference. Although all of them have nearly the same qualities, only two have a volatile oil, but they are all mucilaginous.

Canada capillaire two ounces, sugar two pounds. Chop the capillaire into small bits, and make an orange-flower syrup. By this method the oil is not allowed to escape, which being exceedingly odoriferous and volatile, is soon dissipated if boiled; or make a cold infusion (See Infusions) of the plant by putting one quart of water to four ounces of capillaire, add four pounds of sugar, and finish in the bain-marie, adding one ounce of orange-flower water.\* [This is a fashionable and delicate syrup, but is rarely obtained genuine.]

Simple syrup, flavoured with orange-flower water, is usually substituted for it.

*Syrup of Liquorice*.—Liquorice-root two ounces, white maidenhair one ounce, hyssop half an ounce, boiling water three pints; slice the root and cut the herbs small, infuse in the water for twenty-four hours, strain and add sufficient sugar, or part sugar and honey, to make a syrup; boil to the large pearl. An excellent pectoral.

*Syrup of Violets*.—One pound of violet flowers, one quart of water, four pounds of sugar. Put the flowers cleared from their stalks and calx, into a glazed earthen pan; pour on the water boiling hot, and stop the pan quite close; let it remain in a warm place for a day, then strain off the infusion through a thin cloth; add the sugar, and place in the bain-marie: stir it well and heat it until you can scarcely bear your finger in it; then take it off, and when cold, bottle. A laxative. This syrup is often adulterated by being made with the flowers of hearts-ease, or columbine scented with orrice-root, and coloured.

*Syrup of Pinks*.—Clove pinks, one pound eight ounces, water two pints and a half, sugar, three pounds. Let the flowers be fresh gathered, cut off the white points of the petals and weigh them. Finish as syrup of violets. This syrup may be made with a cold in-

\* The pectoral quality of this syrup—for it is often sold for such purposes in shops—would be much improved if made with the addition of liquorice-root, as ordered by the Pharmacopœias—"Five ounces of capillaire, two ounces of liquorice-root, six pints of water; white sugar a sufficient quantity; two ounces of orange-flower water."

fusion of the flowers, first pounding them with a little water in a marble mortar. Finish as before. If the flowers of the clove pink cannot be obtained, use other pinks, adding a few cloves to infuse with them, so as to give the flavour.

*Syrup of Roses*.—The dried leaves of Provence roses eight ounces, double rose leaves six ounces, water one quart, sugar four pounds. Pour the water on the leaves when nearly boiling, into a glazed earthen vessel, cover it quite close, and let it remain in a warm place for a day; then strain and finish as violets. The leaves of the damask rose are purgative.

*Syrup of Wormwood*.—There are three sorts of wormwood most generally known,—the common, sea, and Roman. The first may be distinguished by its broad leaves which are divided into roundish segments, of a dull green colour above, and whitish underneath; its taste is an intense and disagreeable bitter. The sea wormwood has smaller leaves and hoary both above and underneath; it grows in salt marshes, and about the sea coasts; the smell and taste are not so strong and disagreeable as the common. The Roman differs from the others by the plant being smaller in all its parts; the leaves are divided into fine filaments and hoary all over, the stalk being either entirely or in part of a purple colour. Its smell is pleasant, and the bitterness not disagreeable: it is cultivated in gardens. The sea wormwood is generally substituted for it.

The tops of Roman wormwood two ounces, water one pint, sugar two pounds. Make an infusion of the leaves in warm water, strain, add the sugar to the infusion, and boil to the pearl. If the common wormwood only can be obtained, put the tops into three times the above quantity of water, and boil it over a strong fire until reduced to a pint. This will deprive it of part of its bitterness and disagreeable smell.

*Syrup of Marshmallows*.—*Sirup de Guimauve*.—Fresh mallow roots eight ounces, water one quart, sugar three pounds. Cleanse the roots, and slice them; make a decoction (See Decoctions), boiling it a quarter of an hour, so as to obtain the mucilage of the root; strain, and finish as wormwood. One ounce of liquorice-root and one ounce of white maidenhair, with a few stoned raisins, may be added.

[*Syrup of Sarsaparilla*.—Half a pound of bruised sarsaparilla root, two ounces of ground orange peel, one ounce liquorice-root, sassafras bark bruised, two ounces, one gallon of water; boil to half a gallon, strain; to each pint of liquor add one pound of sugar; put on the fire till it boils, and take off the scum which arises.]

*Syrup of Coltsfoot*.—Fresh Coltsfoot flowers one pound eight ounces, water one quart, sugar three pounds. Pick the flowers about February, and make an infusion of them with hot water; strain, and finish as wormwood syrup. Two or three handfuls of the leaves may be pounded and infused instead of the flowers.

*Syrup of Ginger*.—Ginger two ounces, water one pint, sugar two pounds.



Slice the root if fresh, or bruise it if dried; pour the water on it boiling, and let it macerate in a warm place for a day, then strain, and boil to the pearl.

[*Another.*—A better flavoured and a richer ginger syrup is made in the following manner.—Take any quantity of scraped, white, Jamaica ginger and infuse for several days in good spirits of wine; decant the clear liquor when sufficiently saturated with the ginger, and add to the hot sugar, previously boiled to the ball or feather, a sufficient quantity of the liquor to impart to the syrup the agreeable aroma of the ginger root.

The spirit will be rapidly driven off when it is poured into the boiling syrup, and a bland and beautiful syrup will be the result; let it cool, and bottle immediately.]

*Syrup of Almonds*—*Sirop de Orgeat*.—One pound of sweet almonds, four ounces of bitter ones, one pint and a half of water, sugar three pounds, orange-flower water two ounces.

Blanch the almonds, and as they are blanched throw them into cold water; when they are finished, take them out and pound them in a marble mortar, sprinkling them with a little orange-flower water to prevent their oiling, or use water with the juice of a lemon; add sufficient in the pounding to reduce them to a paste, and when quite fine add half a pint more water; mix, and strain through a tamis cloth twisted tight by two persons: receive the milk which comes from the almonds into a basin; what is left in the cloth must be pounded again with some of the water, and strained. Continue this until the whole of the milk is obtained, and the water is consumed; then clarify, and boil the sugar to the crack; add the milk of almonds, and reduce it to the pearl; then strain it again, add the orange-flower water, and stir it well until nearly cold; when cold, bottle; shake the bottles well for several succeeding days, if you see it at all inclined to separate, which will prevent it.

*Sirop de Pistache* is made in the same manner, colouring it green with a little spinach.

*Syrup of Coffee*.—Fresh roasted Mocha coffee two pounds, water one quart, sugar three pounds eight ounces. Grind the coffee in mill, and make a cold infusion with the water in a close vessel; let it stand for a day, then filter it through blotting paper; add the sugar, and finish in the bain-marie.

*Syrup of Rum Punch*.—Jamaica rum one quart, the juice of twelve or fourteen lemons, sugar four pounds. Rub off the yellow rind of half of the lemons on a piece of the sugar, and scrape it off with a knife into a basin as it imbibes the oil; clarify and boil the remaining portion to the crack; strain the juice into the rum, and add to it the sugar with that on which the peels were rubbed; mix together, and give it one boil. The yellow rind of the peels may be cut off very thin, and infused in the spirit for some days before the syrup is made.

*Brandy and Wine Syrups* may be made in the same manner.

SECTION III.—CRYSTALLIZED SUGAR, AND ARTICLES CRYSTALLIZED, COMMONLY CALLED CANDIES.

*Crystallized or Candied Sugar*.—Provide a round mould, smaller at the bottom than the top, of any size you may think proper, made either of tin or copper, with holes pierced round the sides about three inches asunder, so as to fasten strings across in regular rows from the top to the bottom, leaving sufficient room for the sugar to crystallize on each string without touching, or it will form a complete mass; paste paper round the outside to prevent the syrup from running through the holes. Have the mould prepared, and let it be clean and dry; take sufficient clarified syrup to fill the mould, and boil it to the degree of crystallization or the feather, and add a little spirit of wine; remove it from the fire, and let it rest until a thin skin is formed on the surface, which you must carefully remove with a skimmer; then pour it into the mould, and place it in the hot closet, where you let it remain *undisturbed* for eight or nine days, at 90 degrees of heat, or half that time at 100; then make a hole, and drain off the superfluous sugar into a pan placed below to receive it; let it drain quite dry, which will take about twelve hours; then wash off the paper from the mould with warm water, place it near the fire, and keep turning it to warm it equally all round; then turn it up and strike the mould rather hard upon the table, when the sugar will relieve itself and come out: put it on a stand or sieve in the closet, raise the heat to 120 degrees, and let it remain until perfectly dry. Particular attention should be paid to the heat of the closet, which must be kept regular and constant, and this can easily be accomplished at a small expense with many of the patent stoves which are now in general use, and also without causing any dust. A Fahrenheit's or Reaumur's thermometer should be so placed that the heat may at all times be ascertained.

This may be coloured with prepared cochineal, or other liquid colour, or by grinding any particular colour with the spirits of wine, and adding it to the syrup before it comes to the feather.

*Fruits to Crystallize*.—Have a square or round tin box, smaller at the bottom than the top, with wire gratings made to fit at convenient distances, and having a hole with a tube or pipe to admit a cork, and drain off the syrup. Take any of the preserved fruits wet (which see), drain from them the syrup, and dip them in lukewarm water to take off any syrup which may adhere to them; dry them in the closet; when dried, place them in layers on the gratings, side by side, so as not to touch each other; continue in this manner with any sort of fruit until the box is full; then fix the whole with a weight, to keep it steady. Boil a sufficiency of clarified sugar to fill the box to the degree of crystallization or the blow, add a little spirit of wine, and remove it from the fire. When a thin skin has formed on the top, remove it carefully with a skimmer, and pour the sugar into the



mould; place it in the closet at 90 degrees of heat, and let it remain for twelve hours, then drain off the syrup into a pan from the tube at bottom, and let it remain in the closet until quite dry; then turn them out by striking the box hard upon the table, separate them carefully, and put them in boxes with paper between each layer. When different fruits, paste, knots, &c., are mixed together indiscriminately, it is termed mille-fruit candy. Any sort of fruit or gum pastes, when thoroughly dried, may be crystallized in the same manner. When the syrup is drained off, if you find the size of the crystals is not large enough, another lot of syrup may be prepared and poured over it; let it remain in the closet for seven or eight hours, then drain and finish as before.

If small pieces of stick are pushed down at each corner, or in any other vacancy, when you fill the mould, one of these may be withdrawn at any time you may wish to ascertain the size of the crystals, which will save the trouble of giving a second charge of sugar.

*Crystallized Chocolate.*—Prepare some sugar, as in the preceding articles, and pour it into the box. When a thin crust is formed on the top, make a hole on one side, and push the articles previously shaped with chocolate, as for drops, gently under with your finger; put them in the stove to crystallize, as other articles. After the syrup is drained off, and the articles dried, they must remain until quite cold before being turned out, as the chocolate continues soft for some time.

*Liqueur Rings, Drops, and other Devices.*—These are all made after the same manner. A square box is necessary, which you fill with very dry starch powder. Sugar, powdered very fine and dried, will answer the same purpose. The depth of the box should be suited to the articles intended to be made. Shake the box, or pass a knife repeatedly through the powder, that it may be solid; smooth the surface with a straight piece of wood; have a thin piece of flat board, on which is fastened a number of little devices, about an inch asunder, and to suit the width of the box; these may be made either of lead, plaster, or wood, in the form of rings, diamonds, stars, bottles, scissors, harps, shoes, or any other form your fancy may suggest; make the impressions in the powder in regular rows, until the box is full; then prepare some sugar as for the preceding articles, boiling it to the blow, and flavouring it with any sort of spirit or liqueur, such as brandy, rum, noyau, Maraschino, cinnamon, rosolis, &c., colouring the syrup accordingly. It should be prepared in a pan with a lip to it. When a thin skin has formed on the top, place a cork in the lip of the pan, but not to close it, allowing a space for the sugar to run out, the cork being merely to keep back the skin; then fill the impressions you made in the powder and place them in the stove at 90 degrees; let them remain a day, then take them out, and their surfaces will be found quite hard and solid; brush the powder from them with a light brush, when they may either be painted, crystallized, or piped. Many of these bon-bons are beautifully piped and coloured to

represent dogs, horses, costumes, and theatrical characters; the fur on the robes is imitated with white or coloured sugar in coarse grains, and lace-work is done by means of a pin.

Liqueur drops are made with the impression of half a ball to any required size, or other forms. If the flat parts of two are moistened, put together, and dried in the stove, they will form drops perfectly round.

*To form a Chain with Liqueur Rings.*—Have some moulds to form the impressions in powder, as in the preceding, in the shape of the links of a chain; fill them with syrup at the blow, as before, and put them in the stove for a day; when they are hard and fit to be taken out, place them on their ends in the powder; have another mould of a link in two halves, and with this form the impression between each of the others so as to make it complete; then fill them, and finish as before.

## SECTION IV.—CANDY—BONBON—CONSERVE.

THE articles that come under this head are made by the sugar being brought to the ball, when it is grained by rubbing it against the sides of the pan. From this all fancy articles are made, such as fruit, eggs, cups, vases, &c.

*Ginger Candy.*—Take clarified syrup and boil it to the ball; flavour it either with the essence of ginger or the root in powder; then with a spoon or spatula rub some of it against the side of the pan until you perceive it turn white; pour it into small square tins with edges, or paper cases, which have been oiled or buttered, and put it in a warm place, or on a hot stone, that it may become dappled. The syrup should be coloured yellow, while boiling, with a little saffron.

*Peppermint, Lemon and Rose Candy* are made after the same manner, colouring the lemon with saffron, and the rose with cochineal.

*Coltsfoot or Horehound Candy.*—Make a strong infusion of the herbs, (See Infusions under the head of Syrups,) and use it for dissolving the sugar, instead of taking syrup; raw sugar is mostly used for those candies. Boil it to the ball, grain it and finish as ginger candy.

*Artificial Fruit, Eggs, &c.*—Prepare moulds with plaster of Paris from the natural objects you wish to represent; make them in two, three, or more pieces, so as to relieve freely, and have a hole at one end into which the sugar may be poured; let them be made so as each part may be fitted together exactly; and for this purpose make two or three round or square indentions on the edge of one part, so that the corresponding piece when cast, will form the counterpart, which may at all times be fitted with precision. Let the object you would take the cast from be placed in a frame made either of wood or of stiff paper, embed a part of it in fine sand, soft pipe-clay, or



modelling wax, leaving as much of the mould exposed as you wish to form at one time, and oil it with sweet oil; mix some of the prepared plaster with water, to the consistency of thick cream, and pour over it; when this is set, proceed with the other portions in the same manner until it is complete. Let them dry and harden for use.

Take a sufficient quantity of syrup, (clarified with charcoal or animal black) to fill the mould, and boil it to the small ball; rub some of it against the side to grain it; when it turns white, pour it into the moulds: take them out when set, and put them into the stove at a moderate heat to dry. The moulds must be soaked for an hour or two in cold water previously to their being used, which will be found better than oiling them, as it keeps the sugar delicately white, which oil does not. Colour your articles according to nature with liquid colours (see Colours) and camel's-hair pencils, or the usual pigments sold in boxes may be used. If a gloss is required, the colours should be mixed with a strong solution of gum Arabic or isinglass, to the desired tint. Eggs and fruit may be made as light and apparently as perfect as nature, by having moulds to open in two, without any orifice for filling them. Fill one half with the grained sugar, immediately close the mould, and turn it round briskly that it may be covered all over equally. To accomplish this, it is necessary to have an assistant that it may be done as speedily as possible.

*Burnt Almonds.*—Take some fine Valencia or Jordan almonds, and sift all the dust from them; put a pint of clarified syrup into the pan for each pound of almonds, and place it with the almonds on the fire; boil to the ball, then take it off and stir the mixture well with a spatula that the sugar may grain and become almost a powder, whilst each almond has a coating. Put them into a coarse wire or cane sieve, and sift all the loose sugar from them, and also separate those which stick together. When cold, boil some more clarified syrup to the feather, put in the almonds, give them two or three boils in it, take them from the fire, and stir them with the spatula as before, until the sugar grains; sift and separate them, and keep them in glasses or boxes. A third coat may be given them in the same manner as the second, if they are required large.

*Burnt Almonds—Red.*—The same as the last, using prepared cochineal to colour the syrup whilst it is boiling.

*Filberts and Pistachios.*—These are done the same as burnt almonds, but they are usually denominated prawlings, the nuts being only put into the sugar for two or three minutes before it is taken from the fire, and stirred.

*Common Burnt Almonds.*—These are made with raw sugar and skimmings, if you have any. Put some water with the sugar to dissolve it; when it is near boiling, add the almonds, and let them boil in it until it comes to the small ball; or when the almonds crack, take them from the fire, and stir them with a spatula until the sugar grains and becomes nearly a powder; put them into a sieve, and separate the lumps.

*Orange Prawlings.*—Take four or five Havanna oranges, and cut off the peel in quarters, or small lengths; take off all the pith or white part of the peel, leaving only the yellow rinds, and cut in small pieces, about an inch long, and the size of pins. Have about a pint of clarified sugar boiling on the fire; when it comes to the blow, put in the pieces of peel, and let them boil until the sugar attains the small ball; take them off, and stir them with the spatula until the sugar grains and hangs about them; sift off the loose sugar; when cold, separate and keep them in a dry place.

*Lemon Prawlings.*—As orange.

#### SECTION V.—CRACK AND CAMEL.

THESE comprehend all articles in sugar-boiling which eat short and crisp. They are used for all sorts of ornamental sugar-work. The rules and observations already laid down under this head must be particularly noted, especially those for greasing the sugar so as to prevent its graining.

*Barley Sugar.*—Boil some clarified loaf sugar to the crack or caramel degree, using a little acid to prevent its graining: pour it out on a marble slab, which has been previously oiled or buttered. Four pieces of iron, or small square bars, are usually employed to form a sort of bay to prevent the sugar running off the stone, which is necessary in large casts. When the edges get set a little, remove the bars, and turn them over into the centre. This is occasionally flavoured with lemons. When it is required, pour a few drops of the essential oil of lemons in the centre, before the edges are folded over, then cut it into narrow strips with a large pair of scissors or sheep-shears. When nearly cold, twist them, put them into glasses or tin boxes, and keep them closed to prevent the access of air. It is seldom boiled higher than the crack, and saffron is used to make it the colour of caramel.

This derives the name of barley sugar from its being originally made with a decoction of barley, as a demulcent in coughs, for which it is now most generally used.

*Barley Sugar Drops.*—Boil some sugar as for the preceding. Spread some finely powdered and sifted loaf sugar on a table or tea-tray, with a piece of stick, round at the end similar to the half of a ball; make several holes, into which you run the sugar from a lipped pan, or it may be dropped on an oiled marble slab with a funnel, letting only one drop fall at a time; or from the lip pan, separating each drop with a small knife, or a straight piece of small wire; take them off the stone with a knife, mix them with powdered loaf sugar, sift them from it, and keep in glasses or tin boxes.

*Barley Sugar Tablets or Kisses.*—Spread some sugar, as for the last; have a piece of wood about an inch and a half thick, with the



surface divided into small squares, each being about an inch, and half an inch in depth; with this form the impressions in the sugar, and fill them with sugar boiled as for drops, flavouring it with essence of lemon; or instead of this it may be poured out in a sheet on an oiled marble slab, as for barley sugar, and when nearly cold divide it into pieces with a tin frame, having small square divisions, when the whole sheet may be divided at once by pressing hard on it so as to cut it nearly through. When cold, separate them and mix them with powdered sugar, take them out and fold them separately in fancy or coloured papers, with a motto on each. They are also occasionally made into balls thus:—First cast the sugar in a sheet on an oiled marble slab; when the edges are set, fold them in the middle, then oil a small square tin with edges to it, put the sugar in this, and place it under the fire-place of the stove so as to keep warm; cut off a piece and roll it into a pipe, then cut it into small pieces with a pair of shears, and let your assistant roll it into small balls under his hand on a sand-stone; marble is too smooth for this purpose. Many lads who are used to it can turn eight or ten under each hand at one time. When they are finished, put them into powdered sugar, wrap them in fancy papers, fringed at the ends, put a motto in each, and fasten them with small bands of gold paper. Sometimes a cracker is folded up in each, which is made with two narrow strips of stiff paper, a small piece of sand or glass paper is pasted on the end of each, and these are placed over each other with a little fulminating powder between, a piece of thin paper is bound round it, and pasted to keep them together; when these are pulled asunder, the two rough surfaces meeting cause the powder to explode, and out flies the ball of sugar with the motto. This innocent amusement often causes much mirth in a company.

*Acid Drops and Sticks.*—Boil clarified sugar to the crack, and pour it on an oiled marble stone: pound some tartaric or citric acid to a fine powder, and strew over it about a half or three quarters of an ounce of the former, according to its quality, and less of the latter, to seven pounds of sugar; turn the edges over into the middle, and mix the acid by folding it over, or by working it in a similar manner as dough is moulded, but do not pull it; put it in a tin rubbed over with oil or butter, and place it under the stove to keep warm; then cut off a small piece at a time, and roll it into a round pipe; cut them off in small pieces the size of drops, with shears, and let your assistant roll them round under his hand, and flatten them. Mix them with powdered sugar, sift them from it, and keep them in boxes or glasses.

When flavoured with lemon, they are called lemon-acid drops,—with otto of roses, rose-acid drops. The sticks are made in the same manner as the drops, without being cut into small pieces.

*To extract the Acid from Candied Drops, &c.*—All the articles which have acid mixed with them are extremely liable to grain, when they are useless for any purpose whatever, except to sell for broken

pieces, as they cannot be boiled again unless the acid is extracted. The method of doing this is at present not generally known in the trade, and it is kept by many that are in possession of it as a great secret. A sovereign is often paid for this recipe alone. However great the secret may be considered, it is only returning to the first principle in the manufacture of sugar. When the juice is expressed from the canes, it contains a considerable quantity of oxalic acid, which must be destroyed before it will granulate into sugar: for this purpose lime is employed, which has the desired effect; so will it also in this case, but chalk or whitening is most generally used. First dissolve your acid sugar in water; when this is thoroughly accomplished, mix in a sufficient quantity of either of these alkalis in powder to cause a strong effervescence; after it has subsided, pass it through a flannel bag, according to the directions for clarifying sugar. The filtered syrup will be fit to use for any purpose, and may be boiled again to the crack or caramel degrees as well as if no acid had ever been mixed with it. Let the pan it is dissolved in be capable of containing as much again as there is in it, or the effervescence will flow over.

*Raspberry Candy.*—This may either be made from raw or refined sugar. Boil it to the crack, and colour it with cochineal; pour it on a stone rubbed over with a little oil or butter, cut off a small piece, and keep it warm to stripe or case the other part, when finished; to the remainder add a little tartaric acid (not so much as for drops), and some raspberry-paste, sufficient to flavour it. The residue of raspberries used for making vinegar, and preserved with an equal quantity of sugar, or even less, as for raspberry cakes, does very well for this purpose. Fold the edges over into the centre, and attach it to a hook fixed against the wall: pull it towards you, throwing it on the hook each time after having pulled it out; continue doing this until it gets rather white and shining, then make it into a compact long roll, and either stripe it with the piece you cut off, or roll it out in a sheet with a rolling-pin, and wrap it round it so as to form a sort of case; then pull it into long narrow sticks, and cut them the required length.

*Clove, Ginger, or Peppermint Candy.*—These are all made in the same way as raspberry, using the essential oil of each for flavour. For clove, the mixture, whilst boiling, is coloured with cochineal; ginger with saffron; but the peppermint must be kept perfectly white, except the stripes, which is done by cutting off as many pieces from the bulk as you have colours, which should be in powder; put a sufficiency in each piece to give the desired tint, and keep them warm. When the remaining portion of the sugar is pulled, lay them over the surface in narrow stripes, double the roll together, and the face each way will be alike. Pull them out into long sticks, and twist them; make them round by rolling them under the hand, or they may be cut into small pieces with a pair of shears or scissors.

*Brandy Balls, &c.*—These are made from loaf sugar, boiled to the



crack, and coloured either with cochineal or saffron, and finished in the same way as acidulated drops, without being flattened.

*Nogat.*—Two pounds of sweet almonds, one pound of sugar, one pound of water. Blanch the almonds, and cut them in slices, dry them at the mouth of a cool oven, and if slightly browned the better; powder the sugar, and put it into a stewpan, with the water; place it on the fire to melt, stirring it with a spatula until it becomes a fine brown, then mix in the almonds, and let them be well covered with the sugar; pour it out on an oiled marble stone. It may be made into a thick or thin sheet, and cut with a knife into small pieces, such as dice, diamonds, &c. The surface may be strewn with currants, fillets of pistachios, or coarse sugar, and cut into different forms with tin cutters. It may also be formed into baskets, vases, &c. Oil the interior of a mould, and spread the nogat over it, whilst warm, as thin and even as possible. To save the fingers from being burnt, it may be spread with a lemon. Detach it from the mould when warm, and let it remain until cold that it may retain its shape perfectly, then fasten the different parts together with caramel sugar. For baskets, a handle of spun sugar may be placed over it, or ornamented with it according to fancy. These may be filled with whipped or other creams when required to be served.

*Almond Rock.*—This is a similar production to nogat, and is made with raw sugar, which is boiled to the crack. Pour it on an oiled stone, and fill it with sweet almonds, either blanched or not; the almonds are mixed with the sugar by working them into it with the hands, in a similar manner as you would mix anything into a piece of dough. If they were stirred into the sugar in the pan it would grain, which is the reason why it is melted for nogat. Form the rock into a ball or roll, and make it into a sheet, about two inches thick, by rolling it with a rolling-pin. The top may be divided into diamonds or squares by means of a long knife or piece of iron: when it is nearly cold cut it into long narrow pieces with a strong knife and hammer.

*Almond Hardbake.*—Oil a square or round tin with low edges; split some almonds in half, put them in rows over the bottom, with the split side downward, until the surface is covered; boil some raw sugar to the crack, and pour it over them so as to cover the whole with a thin sheet of sugar. Cocoa nut, cut in thin slices, currant, and other similar candies, are made as the hardbake, except that the sugar is grained before it is poured over.

#### ON SUGAR-SPINNING.

To attain proficiency in this part, it requires much practice, and also a good taste for design, and to be expert in the boiling of sugar, taking particular care to avoid its graining. Baskets, temples, vases, fountains, &c., are made by these means. It may almost be termed the climax of the art. The moulds for this purpose may be made

either of copper or tin, so as to deliver well. Let them be slightly rubbed all over, on the part you intend to spin the sugar, with butter or oil.

Boil clarified syrup to the degree of caramel, taking care to keep the sides of the pad free from sugar. The moment it is at the crack, add a little acid to grease it (see Sugar Boiling). When it has attained the required degree, dip the bottom of the pan into cold water, take it out, and let it cool a little; then take a common table-spoon, dip it in the sugar, holding the mould in your left hand, and from the spoon run the sugar over the mould, either inside or out, with the threads which flow from it, which may be either fine or coarse, according to the state of the sugar; if they are required very coarse, pass the hand over them two or three times; for when it is hot it flows in finer strings than it will when cooler; form it on the mould into a sort of trellis-work; loosen it from the mould carefully, and let it remain until quite cold before it is taken off, that it may retain its shape. When the sugar gets too cold to flow from the spoon, place it by the side of the stove or fire to melt. Young beginners had better draw their designs for handles of baskets, &c., on a stone with a pencil before it is oiled, and then spin the sugar over them.

*To make a Silver Web.*—Boil clarified syrup to the crack, using the same precautions as before observed, giving it a few boils after the acid is added; dip the bottom of the pan in water and let the sugar cool a little; then take the handle of a spoon, or two forks tied together, dip it into the sugar, and form it either on the inside or outside of a mould, with very fine strings, by passing the hand quickly backwards and forwards, taking care that it does not fall in drops, which would spoil the appearance of the work. With this may be represented the hair of a helmet, the water of a fountain, &c. Take a fork, or an iron skewer, and hold it in your left hand as high as you can, dip the spoon in the sugar, and with the right hand throw it over the skewer, when it will hang from it in very fine threads of considerable length.

*To make a Gold Web.*—Boil syrup to caramel height, colouring it with saffron, and form it as directed for the last. It can be folded up to form bands or rings, &c. Fasten it to the other decorations with caramel.

If any of the strings or threads of sugar should pass over those parts where they are not required, so as to spoil the other decorations in the making of baskets or other ornaments, it may be removed with a hot knife without breaking or injuring the piece.

*Chantilly Baskets.*—Prepare some ratafias, let them be rather small, and as near of a size as possible; boil some sugar to the caramel degree, rub over the inside of a mould slightly with oil, dip the edge of the ratafias in sugar, and stick them together, the face of the ratafias being towards the mould, except the last two rows on the top, which should be reversed, remembering always to place their faces