

Allspice, Cloves, Cinnamon, or Nutmegs, &c.—Two ounces of spice, one pint of proof spirit. Bruise the spice, put it into a bottle, stop it close, let it remain fourteen days, and filter for use.

The oil from nutmegs is often extracted from them by decoction, before they are brought to the market, and their orifices closed again with powdered sassafras; this may be ascertained by the lightness of the nut; if it is punctured with a pin, the oil will be pressed from it when good. These oils may be obtained by expression or distillation; they hold resin in solution, and consequently sink in water. The essences usually sold are made by adding half an ounce of the pure oil to one pint of spirits of wine.

Essence of Ginger.—The best Jamaica or China ginger two ounces, proof spirit one pint. Powder the ginger, mix it with the spirit, stop close, and let it steep for twelve or fourteen days.

This is the same as is sold for "Oxley's concentrated essence of Jamaica ginger,"—a mere solution of ginger in rectified spirit—*Paris's Pharmacologia.*

Essence of Peppermint.—"A spirituous solution of the essential oil, coloured green by spinach leaves." *Ibid.* This essential oil is obtained by distillation. Four pounds of dried leaves yield one ounce.

Essence of Vanilla.—Vanilla two ounces, water ten ounces, rectified spirit three-quarters of an ounce. Cut the vanilla in small pieces, and pound it fine in a marble mortar, with loaf sugar (about a pound), adding the white of an egg and the spirit. Put it into a glazed pot, tie a piece of writing paper over it, and make a hole in it with a pin; stand the pot in warm water, keeping it at that heat for twenty-four hours, then strain for use.

One drachm of this is equal to an ounce of vanilla, and is excellent for flavouring ices, creams, liqueurs, &c.

Essence of Bitter Almonds.—This is obtained by distilling the cake or residue of the almonds after the oil has been expressed from them. It is a deadly poison, containing prussic acid, like all other nuts or leaves, which possess the bitter principle. Flies drop dead when passing over the still when it is in operation. The essence usually sold is one ounce of oil to seven ounces of rectified spirit.

SECTION XXI.—MERINGUES AND ICING.

Dry Meringues in the form of Eggs.—Ten whites of eggs, twelve ounces of sugar.

Obtain the newest laid eggs, and separate the white from the yolk very carefully; put the whites into a pan, which must be quite free from grease; whisk them to a very strong froth so as it will support an egg, or even a greater weight; have the sugar pounded and sifted through a lawn sieve, and mix it as lightly as possible; spread some pieces of board about an inch thick, then with a table or dessert spoon

drop them on the paper about two inches asunder, dust them with fine powdered loaf sugar, blow off all that does not adhere, and put them into a cool oven to bake until they are a nice light brown; if the oven should be too warm, when the surface gets dry or hardened cover them with paper; as soon as they are done take them off with a knife, press the inside or soft part down with the top or the back of a spoon, place them on sieves, and put them into the stove to dry; when they are required to be served fill them with any kind of preserved fruit or cream, if it is rather acid the better, and put two together.

The quality of the meringues will depend on the eggs being well whipped to a very strong froth, and also on the quantity of sugar, for if there is not enough they will eat tough.

[*Kisses.*—Twelve ounces of sugar powdered very fine and passed through a silk sieve, the whites of six eggs beaten to a strong froth; mix and lay out on paper, as for dry meringues: when baked, place two together. The size should be about that of a pigeon's egg.]

Italian Meringues.—One pound of sugar, the whites of six eggs. Clarify the sugar and boil it to the blow; in the mean time whip up the whites as for the last, take the sugar from the fire and rub it a little against the sides of the pan to grain it; as soon as it begins to turn white, mix in the whipped eggs, stirring the sugar well from the bottom and sides of the pan with the whisk or spatula; lay them off, and bake as dry meringues; these may be coloured by adding the liquid colour to the syrup so as to give the desired tint; and either of them may be flavoured by rubbing off the peel of oranges, lemons, or cédrats on sugar, and scraping it off as it imbibes the oil; or it may be flavoured with vanilla, by cutting it in small pieces and pounding it with some sugar, or with any liqueur by adding a spoonful or two when you mix the eggs or sugar. They may also be varied in form, and baked on tin or iron plates instead of wood, that the bottoms may be quite firm. The tops may be covered with almonds or pistachios, blanched and cut small or in fillets, or with currants, or coloured sugars; the whole depending on the taste and ingenuity of the artist.

Mushrooms.—To make these, take either of the pastes for meringues or light icing, as for cakes; put some into a bag in the shape of a cone, with a tin pipe at the end, the same as used for Savoy biscuits; lay them off in drops the size you wish them to be, on iron plates rubbed quite clean and dry, bake them as you would meringues, make also a smaller drop to form the stalk; when they are baked, take them off the tin and scoop out a little with your finger from the bottom near the edge, to form the hollow rough surface underneath; then dry them in the stove; scrape some chocolate and dissolve it in a little warm water, and rub a little over the rough part underneath; then place the stalk in the centre, fixing it with a little icing, and let the flat part which was on the tin be placed outermost to represent where it was cut.

Icing for Wedding or Twelfth Cakes, &c.—Pound, and sift some treble-refined sugar through a lawn sieve, and put it into an earthen pan, which must be quite free from grease; to each pound of sifted sugar add the whites of three eggs, or sufficient to make it into a paste of a moderate consistence, then with a wooden spoon or spatula beat it well, using a little lemon-juice occasionally, and more white of egg if you find that it will bear it without making it too thin, until you have a nice light icing, which will hang to the sides of the pan and spoon; or, if it is dropped from the spoon, it should remain on the top without speedily losing the form it assumed. A pan of icing, when well beat and finished, should contain as much again in bulk as it was at the commencement: use sufficient lemon-juice to give the icing a slight acid, or it will scale off the cake in large pieces when it is cut. Many prefer the pyroligneous acid to the lemon-juice, but the flavour is not so delicate, and it always retains a smell of the acid; neither did I ever find, as some assert, that it improves the quality and appearance of the icing; the only advantage derived from it is that of economy.

On piping Cakes, Bon-bons, &c.—This is a method of ornamenting wedding, twelfth-cakes, and other articles with icing, by means of small pipes or tubes; these are most generally made with writing-paper folded in the form of a cone, in the same manner as a grocer makes up his papers for small lots of sugar, tea, &c. The tube is filled with icing, made as for cakes, the base of the cone, or the place where it was filled, is turned down to prevent the sides opening, and the escape of the icing; the point is then cut off with a sharp knife or scissors, so as to make a hole sufficiently large to form the icing, when squeezed or pressed out, in a thread of the required size, and which will either be fine or coarse according to the length of the point which is cut off. If the hole at the point of the cone is not perfectly straight when the icing is pressed out, it will form a spiral thread, which is very inconvenient to work with. Stars, borders, flowers, and different devices, are formed on cakes after they are iced, the execution of which depends on the ability and ingenuity of the artist. Baskets, Chinese and other temples, &c., are formed on moulds by these means, first giving them a coating of white wax, which is brushed over them after it is melted, and when cold, the icing is formed on it like trellis-work; when finished, the mould is warmed, and the icing easily comes off. Some of the pipes which are used cannot be formed with paper, as the tape and star-pipes, which are made of tin, having a bag fastened to them in a similar manner to that generally used for dropping out Savoy biscuits, macaroons, &c., only much smaller, the point of the tin tube of the one being fluted to form a star, and in the other it is flat, so that when the icing is forced or squeezed through, it comes out in a broad thin sheet, like a piece of tape. I employ a set of pipes made of tin, with small bags fastened to them; these are of different dimensions; the orifice of the round ones commences at the size of a common pin, and the tape pipes from

a quarter to half an inch in width. I find these much better than paper ones, as the trouble and time which is lost in constantly making new ones is amply repaid by the others, as they are not very expensive and are always ready for use. These pipes should be in the hands of the confectioner what the pencil or brush is to the painter,—capable of performing wonders with men of genius. Some of the bon-bons, which may be seen in the shops, are proofs of what I assert; and many things are so cleverly done, that many persons would believe that they were either formed in a mould or modelled. I have not space to enlarge further on this subject, but much more might be given in explanation; therefore the artist must be guided by his own genius and fancy.*

SECTION XXII.—GUM PASTE.

TAKE one ounce of picked gum-tragacanth; wash it in water, to take off any dust or dirt; put it into a clean pot, and pour on it rather more than half a pint of water, or sufficient to cover the gum about an inch; stir it frequently, to accelerate the solution; it will take twenty-four hours to dissolve; then squeeze it out through a coarse cloth, as directed for lozenges, taking care that everything employed in the making is very clean, or it will spoil the colour; put it into a mortar, adding gradually six or eight ounces of treble-refined sugar, sifted through a lawn sieve; work it well with the pestle, until it is incorporated and becomes a very white smooth paste; put it into a glazed pot, cover the paste with a damp cloth, and turn the pot upside-down on an even surface, to exclude the air. When it is wanted, take a little of it and put it on a clean marble, and work some more sugar into it (which has been sifted through a lawn sieve) with the fingers, until it is a firm paste, which will break when pulled; if it is not stiff enough, it will roll up under the knife when you cut it from the impressions in your paste-boards; if it is too stiff, work in a little of your prepared paste with it, to soften it. When your paste works harsh and cracks, it has too much gum in it; in this case, use a little water to work it down; and if the gum is too thin it will crack, and dry too soon from the excess of sugar, therefore add some more strained gum that has not been mixed with sugar. The same observation also holds good with respect to lozenges. If it is required coloured, add a little prepared cochineal, or any other colour in fine powder; mix it on the stone. If they are to be flavoured with any essence, add it at the same time. This paste is fit to be eaten, and is the foundation of gum-paste comfits, dragees, &c.

Gum Paste for Ornaments.—Take some of the prepared paste, as

* An excellent work for the use of the ornamental confectioner is Page's "Acanthus," which may be obtained of any bookseller.

for the last, and work into it on the stone some very fine starch powder, using equal quantities of starch and sugar. This may also be made with rice flour, instead of starch. These are chiefly used for *pièces montées*. It may be moulded or modelled into any form, or cut out from figures or borders carved in wood, called gum-paste boards, using a little starch-powder to prevent its sticking whilst working it; a little tied up in a small muslin bag is the handiest for use. When you want to get the paste from the impressions in the boards, take a small piece of paste and press it at each end; if it does not come out very readily, moisten the piece, and touch that in the impression at three or four places, which, being damp, adheres to it and draws it out.

Paste for gilding on.—Take some dissolved gum, as before, and make it into a paste with a little starch-powder to finish it; or it may be made with some of the prepared sugar gum-paste, finishing it with starch-powder.

Papier Mâché.—Take the cuttings of either white or brown paper, and boil them in water until reduced to a paste; press the water from it when cold enough, and pound it well in a mortar; put it into a pan or glazed pipkin, with a little gum Arabic, Senegal, or common glue, made into rather a thick mucilage with water; this is to give it tenacity; place it on the fire and stir it until well incorporated; if it is not stiff enough when cold, flour may be added to make it of the proper consistence; it should be about the same substance as gum paste. This may be used for forming the rocks of a *pièce montée*, or for vases, cassolettes, &c.; in fact anything you desire may be made with it, as with gum paste; it is very durable, not being easily broken, and is very light; it is now much used, instead of composition, for the decorations of rooms and articles of furniture. It is from this that paper trays, snuff boxes, &c., are manufactured, and it is much used in France for making various beautiful little ornaments for containing bon-bons, &c. It may be moulded or modelled into any form, or cut from impressions in wood or plaster, &c. When the object is dry, give it a coating of composition, made with parchment size, and whitening or lamp-black, mixed to the consistence of oil paint, according to the colour it is required. Smooth it with glass paper, and paint or gild as wood, or japan it.*

To gild Gum Paste, &c.—Those articles which are gilt are seldom intended to be eaten, therefore first give them a coating of parchment size and whitening, as the *papier mâché*, or paint them with oil colour. When this is dry, brush over a coat of gold size, and let it remain until nearly dry, or so as it will stick to the fingers a little; then take a small dry brush, termed by gilders a tip, rub a little

* For further particulars, and for the method of taking the impressions of moulds with composition, see the 'Guide to Trade—The Carver and Gilder,' Knight & Co., p. 53.

grease over the back of your hand, and pass the brush over it gently; apply it to the gold leaf, which it will take up, and place it on the part you intend to gild; blow on it to make it smooth; the gold leaf may first be divided into small pieces with a knife on a leather pad or cushion, to suit the size of your work; rub it over gently with a piece of wool, to make it appear glossy. Those parts which have not taken the gold, just breathe on, then apply a small piece of the leaf, and rub again with the wool. If your piece is intended to be eaten, let the paste be perfectly dry and smooth; then prepare some mucilage of gum Arabic, strain it, and grind it well with an equal portion of white sugar candy; lay it over the part you intend to gild with a stiff brush; when dry, breathe on it, so as to moisten it, and gild as before.

To Bronze Gum Paste.—Prepare your object, if not to be eaten, as for gilding, giving it a coat of invisible green, prepared with turpentine, a little japan gold size, and a small portion of oil; when it is nearly dry, dip a fitch pencil in some bronze powder, shake off the loose pieces which hang about the brush, and apply it to the parts you wish to assume the appearance of copper, which are in general the most prominent.

Another method.—Smooth your finger with sand-paper, and give it a coat of isinglass dissolved, or parchment size; when this is dry, give it a coat of colour made as follows:—Take a sufficient quantity of prepared indigo, with verditer blue, and a little spruce ochre or saffron, in such proportions as to make a deep green; grind them together with white of egg and powdered sugar-candy, or with parchment size; give it a coat of this, and when nearly dry apply the bronze as before.

On the Construction of Assiettes and Pièces Montées.—To be a proficient in this part requires a general knowledge of the fine arts, particularly the principles of architecture; for without this, however well your piece may be finished with regard to workmanship, it still remains a dull, heavy, unmeaning mass, having no proportion nor a particle of true design in it. I have seen many pieces, and some in the principal shops, with these defects, although otherwise well executed. My limits will not allow me to enter into the details necessary to illustrate this part, therefore the artist must refer to books on the subject; but in the absence of these it is best to work from some correct drawing, which, with the few notes I shall subjoin, may serve for general purposes.

There are many prevailing styles or orders of architecture, as the Egyptian, Grecian, Roman, Saxon, Norman, Gothic, &c. The Gothic is the most beautiful, being pointed, and is generally used for cathedrals and churches. The Norman is plain and simple, with semi-circular arches. The Saxon is after the same style, into which are introduced some ornamental workings. The Egyptian is more flat and square, embellished with hieroglyphics. In the Grecian and

Roman architecture there are five orders, viz., Tuscan, Doric, Ionic, Corinthian, and Composite; and a building may be denominated Ionic, Corinthian, &c., merely from its ornaments. The number of columns, windows, &c., may be the same in either order, but varied in their proportions. The height of the columns in each is,—for the Tuscan, seven times its diameter; Doric, eight; Ionic, nine; Corinthian, ten; Composite, ten. The Tuscan is quite plain, without any ornament whatever; the Doric is distinguished by the channels and projecting intervals in the frieze, called *tryglyphs*; the Ionic by the ornaments of its capital, which are spiral, and called *volutes*; the Corinthian by the superior height of its capital, and its being ornamented with leaves, which support very small *volutes*; the Composite has also a tall capital, with leaves, but is distinguished from the Corinthian by having the large *volutes* of the Ionic capital. The Grecian and Roman orders differ in some respects as to the style of each, but for particulars refer to works on the subject. These orders are adopted for buildings, with various modifications, in most parts of the world.

The Chinese have a peculiar kind of style, which needs no description, as it is generally represented in this country on our delft ware, &c. The Swiss style, which is something of the Gothic, is very well adapted for *pièces montées*, as well as the Doric, Ionic, and Corinthian orders, they being more light and elegant.

Of Pièces Montées.—These are in general made to represent buildings of all descriptions, fountains, trophies, vases, cups, helmets, the last being generally mounted on pedestals and filled with flowers, fruit, &c.; also rocks, bridges, fortifications, &c. &c., the building, &c., being generally made with gum-paste, confectioners' or almond pastes. The bodies of rocks may be formed with pieces of rock sugar, cakes, biscuits, &c., of all descriptions, being fixed together with caramel sugar; those not intended to be eaten may be made with papier mâché and common gum-paste; the rocks or bottoms of these are often formed with pieces of cork, flocks, and paper, the surface being afterwards covered with a coating of very thin icing, which is applied with a brush.

To construct your pieces with accuracy, first cut out your intended design in stout paper, in suitable parts to be put together; then roll out the paste thin on a marble stone; lay your pattern on it, and cut your paste to it with a small sharp-pointed knife; let it dry, and fix it together with some dissolved gum, or a little gum-paste made rather thin with water. Cut your ornaments or decorations from paste-boards; let them dry a few minutes, and fix them in their proper places. Water may be represented with a piece of looking-glass, and falling water with silver web or spun glass.

Biscuit Paste to imitate Marble Rocks, &c. for Pièces Montées.—Prepare some paste as for Savoy cakes (see p. 94); take one-third of the mixture, and add to it some dissolved chocolate; stir the whole well together, and divide into two equal portions; to one part add some more of the mixture, when you will have a light and dark

brown; mix together some prepared cochineal or carmine and infusion of saffron, to make a dark orange, and stir this into another portion of paste; divide it, and add to one part some more of the paste, which will give a light and dark orange; butter or paper a square tin, and put in a spoonful of each coloured paste in rotation, spreading it with the spoon so as it may appear in layers, beginning with the dark colours, and so alternately until the whole is used; or one-half of each may be put into another tin, and mixed all together, so that it may appear in veins; bake it in a moderate oven, and when cold cut it into pieces as it is required, to represent pieces of rock, marble, &c. For variety, the paste may be coloured with spinach green, infusion of saffron, red, and blue, and either put in layers or mixed together as before.

Pâte d'Office, or Confectioners' Paste.—Take one pound and a quarter of fine flour, and ten ounces of loaf sugar sifted through a fine sieve; make a bay, and put in it a sufficient quantity of the yolks or whites of eggs, or whole eggs, to make it into a moderate stiff paste; work it well, and make it quite smooth; let it remain covered over for a short time, that it may get mellow. If this paste is required white and delicate, use the whites only of the eggs. This is used for the frame-work or building of the *pièces montées*, or for the bottom or foundation on which you build your biscuits, sugar, &c. Roll it out on an even board or marble slab until it is about one-sixth of an inch in thickness, or more, according to the weight it has to bear. Dust your sheet, and roll it on the pin; then lay or roll it over a baking-plate slightly buttered; press out any air-bladders which may be underneath, and prick it with the point of a sharp-pointed knife in a few places; lay on your patterns, cut it out to the desired form, and bake in a moderate oven; or it may be cut out when the paste is half baked, and finish baking it afterwards; or it may be dried in the stove instead of being baked. If it should be blistered when it is taken from the oven, put it immediately on an even board, and place another on it; remove it when it is cold, and it will be quite straight.

This paste may be made with the addition of half an ounce of dissolved gum-dragon, pounding it well in a mortar, and using less eggs. Each of these may be coloured to any desired tint, when it should be dried in a stove instead of being baked. Fix the parts together, when finished, with some of the same paste made thin with dissolved gum, or with caramel sugar; ornament it with spun sugar, or with coloured sugar-sands. (See Coloured Sugar).

From this paste, or almond paste, may be made cottages, temples, fountains, pyramids, castles, bridges, hermits' cells, vases, or any other required forms, which are to be made in different pieces and put together afterwards, or formed in moulds, and either baked or dried in the stove.

Assiettes Montées, or dressed plates.—These are composed of pieces

of wire of different sizes to suit the dimensions of the piece, which is bound round with silver or tissue paper, and fastened with paste. These wires, after they are fashioned to the desired figure, are fixed with binding wire, and the whole is finished with stout Bristol-board or card paper, ornamented gold borders and papers, and decorated with gum paste. They are placed in the centre of the table, with bon-bons, &c.

On Modelling.—This art is most important to the confectioner. It is not so difficult to accomplish as is generally supposed; it only requires patience and perseverance, with a close attention to the proportions and orders of nature. A few modelling tools, and facility in handling the paste, is all that is requisite to become an expert modeller. The form of the body must first be made with the fingers, the more minute parts with the tools and a pair of scissors; the last is very useful for dividing the fingers on the hands and the toes of a human figure. The proportions necessary to form it are these:—the whole length of a human being is six times the length of his feet, eight times of his head (that is, from the crown to the chin), ten times of his face, or the distance from the crown to the mouth; the thumb is as long as the nose or the biggest joint of the middle finger; the fore finger is shorter than the third, and the little finger is shorter than the third by one joint; the width of the wrist is as long as the thumb, end about a quarter; this varies; the ear is also the length of the nose, its breadth half its length; the arm is three times the length of the head, or four faces; the leg, from the knee-joint to the bottom of the foot, measures two heads and a-half; the foot, which is one-sixth of the human stature, if divided into three parts, will contain first the toes from the top of the large one to the lowest joint of the little one; next the middle of the foot, and lastly the heel and instep. There is also a slight difference between the proportions of a male and female. In infancy and very early youth the form is very much alike in both sexes. The head is oval, very much extended backwards, with the forehead and top of the head comparatively flat; the jaw-bones are short and have little depth; the bones of the nose are short and flat; in the male subject, the elevation of the frontal sinuses at the eyebrows, which characterizes the male head, is wanting; and the neck is very small in proportion to the head. In old age the cheeks and mouth fall in, because of the wasting of the teeth; the nose and chin approach each other; the fat is absorbed, and the muscles shrink, which covers the surface with wrinkles; and in time, the bones too are wasted, and the figure bends beneath its own weight. With these directions proceed to model the human figure, referring to anatomical plates for the position of the muscles, &c. When the figure is complete, proceed to dress it in any style or costume you may fancy, making it from the same paste, and colouring it, giving the figure any attitude you may think proper, but always prefer the graceful, avoiding the stiff and awkward. The modelling of animals and birds is on the same principle, the wings of the latter

being pushed or cut in moulds or pasteboards. Flowers are mostly done with cutters in the form of the leaf of the flowers you would wish to represent; form the calyx in a mould, and fasten it on a piece of wire; fix the leaves on the calyx to imitate nature, and colour them accordingly.



Modelling Tools.—No. 1 is termed the rose-stick, the thin flat end being used for forming the leaves of roses out of modelling wax by flattening a piece of it on a table until it is of the required form and size; the other end is used for fluting and making borders.

No. 2 is by some termed a foot tool, being used for forming the edges and borders to wax baskets, the circular end being necessary for working underneath any part, or circular mouldings, and also for the paws of animals.

No. 3. The curved thin end is used as a cutting tool, and for the formation of leaves; and the opposite end for fluting.

No. 4 serves as a gouge, and is used in the formation of leaves for flowers.

The curves of each tool are also requisite for different purposes in modelling, and for forming the raised and depressed parts in the human figure, animals, &c. They should be made of beech, as it relieves better when used about fat or modelling wax. There are many others, but these will be found quite sufficient for most purposes, with the dotting or pointing tool, which a common skewer, or piece of round pointed stick will supply its place. The tool usually made for this purpose has a concave or semicircular hollow at the thick end, for making beading, or else with a flat round end, similar to a tambour needle; the last being used for working up the leaves of roses, &c., in the hollow of the hand, when they are made of gum-paste.

Modelling Wax.—This is made of white wax, which is melted and mixed with lard to make it malleable. In working it, the tools and the board or stone are moistened with water to prevent its adhering; it may be coloured to any desired tint with dry colour.

SECTION XXII.—ON COLOURS.

MANY of the colours prepared for use in this art come more properly under the denomination of dyes, alum and cream of tartar being used as a mordant; and many of them are prepared in the same manner as for dyeing. One of the principal colours requisite for the confectioner's use is coccinella, or cochineal. The sorts generally sold are the black, silver, foxy, and the granille. The insect is of two species, the fine and the wild cochineal; the fine differs from the wild in size, and is also covered with a white mealy powder. The best is of a deep mulberry colour, with a white powder between the wrinkles, and a bright red within. A great deal of adulteration is practised with this article, both at home and abroad; it is on this account that persons prefer the silver grain, because it cannot be so well sophisticated. Good cochineal should be heavy, dry, and more or less of a silvery colour, and without smell.

To prepare Cochineal.—Pound an ounce of cochineal quite fine, and put it into a pint of river water with a little potash or soda, and

let it boil; then add about a quarter of an ounce powdered alum, the same of cream of tartar, and boil for ten minutes; if it is required for keeping, add two or three ounces of powdered loaf sugar.

Carmine.—Reduce one ounce of cochineal to a fine powder, add to it six quarts of clear rain or filtered water, as for cochineal. Put this into a large tin saucepan, or a copper one tinned, and let it boil for three minutes, then add twenty-five grains of alum, and let it boil two minutes longer; take it off the fire to cool; when it is blood warm pour off the clear liquor into shallow vessels, and put them by to settle for two days, covering them with paper to keep out the dust. In case the carmine has not separated properly, add a few drops of a solution of tin, or a solution of green vitriol, which is tin dissolved in muriatic acid, or the following may be substituted:—one ounce and a half of spirit of nitre, three scruples of sal-ammoniac, three scruples of tin dissolved in a bottle, and use a few drops as required. When the carmine has settled, decant off the clear which is liquid rouge. The first sediment is Florence lake, which remove, and dry the carmine for use. This preparation is by far superior to the first, for in this the same colour is obtained as before, which is the liquid rouge, the other and more expensive parts being invariably thrown away. The carmine can be obtained by the first process, as can be seen if the whole is poured into a clear bottle and allowed to settle, when the carmine will be deposited in a layer of bright red near the bottom. It produces about half an ounce of carmine.

Yellow.—Infuse saffron in warm water, and use it for colouring any thing that is eatable. The English hay-saffron is the best; it is taken from the tops of the pistils of the crocus flower; it is frequently adulterated with the flowers of marygolds or safflower, which is known as the bastard saffron, and is pressed into thin cakes with oil. Good saffron has a strong agreeable odour, and an aromatic taste. Gum paste and other articles which are not eaten may be coloured with gamboge dissolved in warm water.

Prussian Blue may be used instead of indigo, if preferred, but must be used sparingly.

Sap Green.—This is prepared from the fruit of the buckthorn, and is purgative.

Spinach Green.—This is perfectly harmless and will answer most purposes. Wash and drain a sufficient quantity of spinach, pound it well in a mortar, and squeeze the pounded leaves in a coarse cloth to extract all the juice; put it in a pan and set it on a good fire, and stir it occasionally until it curdles, which will be when it is at the boiling point; then take it off and strain off the water with a fine sieve; the residue left is the green; dry it and rub it through a lawn sieve. This is only fit for opaque bodies, such as ices, creams, or syrups.

Another green is made with a mixture of saffron or gamboge, and prepared indigo; the lighter the green the more yellow must be used.

Vermilion and Cinnabar are preparations of mercury, and should never be used; they are of a lively red colour, but carmine will answer most purposes instead.

Bole Ammoniac.—There is also the French and German bole. These earths are of a pale red, and possess alexipharmic qualities; they are frequently used in confectionary for painting and gilding.

Umber.—This is of a blackish brown colour; it is an earth found near Cologne.

Bistre.—This is an excellent light brown colour prepared from wood soot.

These browns are harmless, but sugar may be substituted for them to any shade required by continuing the boiling after it has passed the degree of caramel until it is burnt, when it gives a black-brown, but water may be mixed with it so as to lessen the shades. Dissolved chocolate may also be substituted in some cases for the brown colours.

Black.—Blue-black is powdered charcoal, or ivory black, which is obtained from the smoke of burnt ivory; but bone black is generally substituted instead; either of these may be used, but are only required for painting gum paste, when not intended to be eaten.

Obtain any of these colours in fine powder, and mix them with some dissolved gum Arabic, a little water, and a pinch of powdered sugar candy; mix them to the required consistence for painting. For sugars they must be used in a liquid state, and be added before it has attained the proper degree; it may also be used in the same manner for ices, creams, &c., and for icings it can be used either way.

THE SHADES PRODUCED BY A MIXTURE OF COLOURS.

Purple.—Mix carmine or cochineal, and a small portion of indigo.

Lilac.—The same, making the blue predominate.

Orange.—Yellow, with a portion of red.

Gold.—The same, but the yellow must be more in excess.

Lemon.—Use a solution of saffron.

Green.—Blue and yellow.

SECTION XXIII.—DISTILLATION.

THIS art is of great importance to a confectioner, as it enables him to make his own oils, waters, and spirits for liqueurs and ratafias, instead of purchasing at a high rate those vile adulterations which are often sold.

The still or apparatus for distilling consists of a cucurbit, which is a copper pot or boiler, and contains the wash, dregs, or infusions to be distilled. A cover, with a large tapering neck or pipe in the centre, is fixed on, and a continuation of small pipe, made either of tin

or pewter, of several feet in length, is bent into a spiral form, and termed the worm. This is placed in a tub containing water, which is fastened on to the end of the neck. The joints or crevices are luted, to prevent evaporation, with a paste made of linseed meal, or equal portions of slacked lime or whitening, flour and salt, moistened with water, and spread on rags or pieces of bladder, when it is applied to the joints and crevices. The water in the tub where the worm is should be kept quite cold, except in distilling oil of anise-seeds; and for this purpose a tap or cock should be placed about half-way down the tub, that the top of the water may be drawn off when it is warm. Again fill it with cold water, and keep coarse cloths dipped in cold water to put round the alembic or still in case it should boil too fast. It is by these means that the steam or vapour which rises with the heat is condensed, and runs out at the end of the pipe in a small stream. If the operation is well conducted, it should never exceed this. When the phlegm arises, which is a watery insipid liquor, the receiver must be withdrawn, for if a drop of it should run in, it must be cohobated, that is, re-distilled, as it will thicken the spirit and spoil the taste.

The still should not be filled above three parts full, to prevent it rising over the neck, should it happen to boil violently, as in this case it would spoil what is already drawn, which must be re-distilled.

ON ESSENTIAL OILS.

To obtain these from plants or peels, the articles should be infused for two or three days, or even longer, in a sufficient quantity of cold water, until it has fully penetrated the pores of the materials. For this purpose roots should be cut into thin slices, barks reduced to a coarse powder, and seeds slightly bruised; those of soft and loose texture require to be infused two or three days, the harder and more compact a week or two, whilst some tender herbs and plants require to be distilled directly. After the solvent has fully penetrated, distil it with an open fire; that is, a fire under the still like a common washing copper, which immediately strikes the bottom. Regulate the fire so as to make it boil as speedily as possible, and that the oil may continue to distil freely during the whole process; for the longer it is submitted to an unnecessary heat without boiling, a greater portion of the oil is mixed with the water than there would otherwise be. The oil comes over the water, and either sinks to the bottom or swims on the top, according as it is lighter or heavier than that fluid. What comes over at first is more fragrant than that towards the end, which is thicker, and should be re-distilled by a gentle heat, when it leaves a resinous matter behind.

All essential oils, after they are distilled, should be suffered to stand some days in open bottles or vessels, loosely covered with paper to keep out the dust, until they have lost their disagreeable fiery odour, and become quite limpid: put them into small bottles, and keep them