THE

DISTILLER'S GUIDE;

COMPREHENDING THE WHOLE

ART

OF

DISTILLATION AND RECTIFICATION,

IN ALL ITS VARIOUS BRANCHES;

ALSO,

Genuine Recipes

FOR MAKING

RUM, BRANDY, HOLLANDS GIN,

AND ALL SORTS OF

COMPOUNDS, CORDIALS, AND SPIRITUOUS WATERS,

BY DISTILLATION, AGITATION, INFUSION, AND DIGESTION:

LIKEWISE SHOWING THE BEST

Method of distilling Simple Waters,

FROM FLOWERS, FRUITS, SPICES, AND AROMATIC PLANTS;

WITH

THE ART OF MAKING BRITISH WINES,

FROM

FRUITS, FLOWERS, AND HERBS, ALL OF THE NATIVE GROWTH OF GREAT BRITAIN.

PARTICULARLY OF

Grapes,	Dewberries,	Damsons,	Orange,
Gooseberries,	Apples,	Figs,	Sage,
Currants,	Pears,	Roses,	Turnip,
Raspberries,	Cherries,	Cowslips,	Cyprus Wine,
Mulberries,	Peaches,	Scurvy-grass,	Ditto imitated,
Elderberries,	Apricots,	Mint,	Gilliflower,
Blackberries,	Quinces,	Balm,	Mead,
Strawberries,	Plums,	Birch,	&c. &c. &c.

BY PETER JONAS,

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PREFACE.

A FEW years ago the Author wrote and published two valuable works; the first was, "An Abridgment of all the Laws of Excise;" the second, "A Treatise on the Art of Gauging," which works were highly approved and powerfully patronised. As such, it was suggested to the Author, by his friends in the distillery and the spirit trade, that a Treatise on Distillation and Rectification would be very useful, particularly so to young beginners. Agreeable to that suggestion, and with a view of rendering every service in his power to those gentlemen, he has published this Work. He has also added a complete set of genuine Recipes for making up all sorts of Compounds and fine Cordials, of every description, both by distillation, agitation, infusion, and digestion. He has endeavoured to show the best method to make Simple and Compound Waters for gentlemen's own use. He has, likewise, given a copious account of the culture and preparation of Foreign Wines and Brandies, and the best method of managing them when imported into these kingdoms; and laid down the genuine method of making British

Wines, from fruits, flowers, and herbs, all the growth of Great Britain.

It may be asked, What pretensions has the Author to attempt a task of such magnitude, the difficulty of which must be felt by every one who is acquainted with the extent of all his works and their complex nature? Without arrogating to himself superior abilities, he may be permitted to observe, that he was initiated into the revenue of Excise at the age of twenty-one, and remained in it near thirty years, as officer and supervisor. During his long continuance in the revenue, he never incurred the Honourable Board's displeasure; he had the advantage of being employed in ports of great and extensive trade, as London, Liverpool, Bristol, and Hull, where he always had distillers, spirit merchants, and sweetmakers, under his survey. He is also much indebted for the information he received from three eminent houses, whom he had the honour of surveying; *viz.* Messrs. Hatch and Co., Messrs. Metcalf and Co., malt distillers, Bromley, near Bow, and Messrs. Lush and Co., rectifiers, London. The two former houses are famous for malt distillation, and the latter house highly respectable for distilling fine cordials, compounds, &c. He has, likewise, been favoured with all the manuscripts of a deceased friend, who was well versed in the distillery in all its various branches, and was much esteemed for his knowledge. In addition to this, he has neglected no means of information, and spared no pains to obtain it from the most authentic sources. Hence he is induced to submit the result of his labours with confi-

dence to the patronage of a candid public, from whom he doubts not its meeting a reception as favourable as it shall be found to deserve.

The following explanations may be of use to young gentlemen in the trade:

ALCOHOL properly signifies pure spirit, or spirit of wine rectified so highly as to be perfectly freed from any aqueous particles. As this, however, cannot be done in practice, it is commonly used for the most highly rectified spirit of wine.

SPIRIT OF WINE.—Any spirit, from the strength of 1 *to* 2, or 50 per cent. overproof, upward, is thus deemed by act of parliament.

BRITISH SPIRITS.—British Spirits of the third extraction, which have been twice distilled from low wines, and have had any flavour added, are deemed British brandy. And all British spirits twice distilled, that have had no flavour added, are deemed rectified British spirits. And all British spirits of the second extraction, are deemed raw British spirits. And all British spirits, which are distilled from juniper-berries, caraway-seeds, aniseeds, &c. are deemed British compounds.

Note.—The various degrees of strength of spirit, either over or under proof, are expressed by numbers, with this distinction; namely, the former having the word *to*, and the latter that of *in*, inserted between the numbers expressing the quantity of liquor and that of spirit. Thus 1 *to* 2 over hydrometer proof implies, that one gallon of liquor with two gallons of spirit of that strength over proof, will make three gallons of proof spirit; and 1 *to* 3, that one gallon of

liquor, being mixed with three gallons of that strength, will produce four gallons of proof spirit, &c. On the contrary, if a spirit be said to be of the strength of 1 *in* 2 under hydrometer proof, this signifies, that in every two gallons of such spirits there is one gallon of liquor, the other gallon being proof spirit; and when of the strength of 1 *in* 3, that in three gallons of the said spirit there is one gallon of liquor, the other two gallons being proof spirit; or ten gallons at 1 *to* 10 make eleven gallons when reduced to proof; but ten gallons at 1 *in* 10 contain only nine gallons of proof spirit; and so for every other strength.

All foreign spirits, found in the stocks of dealers or retailers, of a lower degree of strength than 1 *in* 6, are seizable; and all British spirits, found in such stocks, of a higher degree of strength than 1 *in* 5, are seizable also.

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TO

THE DISTILLERY.

MALT DISTILLING.

THE PROCESS.

TAKE sixty quarters of barley grist, ground low, and thirty quarters of pale malt, grown rather coarse, make your lob with ten quarters of the malt ground into coarse flour, and thirty barrels of *liquor*, at the heat of 170 degrees; row or blend them into a uniform mass, and mix them thoroughly with the major part of the first wort, and pump them up together into the coolers; when cooled to

the temperature of 55 degrees, they are to be let down into the fermenting-back to the reserved part of the first worts, say, thirty barrels previously pitched at 60 degrees, with ten store of fresh porter yeast, which with the rest of the worts at 55 degrees, altogether compose a back of distillers' wash.

Take the specific gravity of the worts previous to their descent into the backs, and before any yeast is added, and note it down in a book or table prepared for that purpose; this do every twelve hours for three or four days, during which it may be found to increase in gravity and sweetness from the augmenting force of the fermentation; resolving the gluten, and extracting the saccharine matter. This is malting in the gyle-tun, or fermenting-back.

When the gravity seems to be stationary, or rather decreasing, a vinous tartness will begin to succeed the previous sweetness, the fermentation become

more vigorous, and the gravity more rapidly decrease; before it arrives at this period, a sensible decrease of gravity, and conspicuous change of flavour, from sweet to tart, usually takes place. Closely observe every change and appearance in the fermentation, and note it down in your book.

In the course of twelve or fourteen days the yeast head will fall quite flat, which denotes the fermentation being nearly over. If the heat appears by the thermometer to drop, and the fermentation has gone on well; or if the attenuation appears by the hydrometer, to have reduced the gravity of the wash from its original weight of twenty-eight, thirty, or greater number of pounds to two, three, or four pounds per barrel, and the wash should have a vinous odour and flavour, then all is right.

At this period some add twenty pounds of common salt, and thirty pounds of flour; rouse and keep the fermenting

back close as it should have been during the whole process. In three or four days it will taste quite tart, and should be immediately distilled.

The officers of Excise estimate six gallons of the wash to produce one gallon of spirit, at one to ten over hydrometer proof, and compute that 90 quarters of grain, yielding about 279 barrels, or 9720 gallons of wash, produce 1623 gallons of spirit at one to ten over proof; that is, 18 gallons per quarter at that strength. This is estimating at 108 gallons, or three barrels of wash, to each quarter of grain, and taking the produce of spirit at 18 gallons per quarter, as before observed.

The wash, duly fermented, is committed to the still; all the time it is running in, it should be roused up, or agitated in the fermenting-back, by a stirring engine, to mix the thick and thin parts together into one mass, and enable it to be sufficiently fluid to flow into the still;

where it is kept fluid by the stirring engine of the still, until it boils, when the agitation of the boiling usually keeps it from burning and emperumatic or burnt flavour to the *low wines;* which taint will inevitably rise from the low wines in the spirit still, during the doubling or distilling of the spirits of the second extraction.

This spirit is usually sold by weight, delivered to rectifying distillers at one to ten overproof, who rectifies or distils it over again, combining it with certain ingredients in order to clarify it from its gross oil and other impurities, with the view to render it fit for making into gin, brandy, rum, and fine cordial compound.

REPORT OF THE SUGAR COMMITTEE, 1808.

It appears from the evidence of Mr. Jackson, Commissioner of Excise, that the revenue received from the English Distillery amounts to upwards of £2,000,000 per annum, and is collected

at a halfpenny in the pound; this revenue arises from a duty of 1*s.* 9*d.* per gallon on corn wash.

CORN WASH.

ONE quarter of malt will produce about 100 gallons of wash, and this 100 gallons of wash when distilled will produce about 19 gallons of spirits, at one to ten over hydrometer proof.

MOLASSES WASH.

ONE cwt. of sugar will produce 100 gallons of wash, and this 100 gallons of wash will produce from 21 to 22 gallons of spirit, at one to ten over hydrometer proof; the Excise Duty on this wash is 1*s.* 8*d.* per gallon.

METHOD OF FERMENTING AND DISTILLING MOLASSES IN GREAT BRITAIN AND IRELAND.

THEY set the backs in the former by adding two gallons of water and one of

molasses; in the latter they add three of water, to one gallon of molasses; to which (in both places) they add about one gallon of barm or yeast, to two hundred and sometimes to three hundred of molasses so mixed, these they blend with a large birch-broom uniformly together; this they call setting. This must be attended to once or twice a day, and the head stirred in or more barm added occasionally, or the air partially excluded to keep it warm if it works slow, and admitted fully if it works fast.

In three days, or four at most, the backs must be *raised*, by adding (in Great Britain) two gallons of water more to each gallon of molasses *set*; and (in Ireland) the same, consequently they work their wash one-fifth stronger in Great Britain than in Ireland; and when they wish to evade the duty of Excise, they work their wash still stronger; but this materially hurts the quality and quantity of the produce.

In the winter time the water added to

the backs should be heated to a degree below blood warm that the backs are raised with, which may be done by heating some water scalding hot, not boiling it, in one of the stills, and drawing as much in the filling-can as will heat the remainder of the cold water to the degree wanted. When the intended portion of water is added to each back, the same proportion of barm is to be added as at setting, and all well blended together with the broom, *this is termed raising*. The same, or rather more attention must be paid after setting, and barm added if necessary.

The third stage of fermentation is cutting; which is performed four, five, or even six days after raising, but is seldom deferred so long; it is done by adding about one ounce of good jalap-root in fine powder, to every eight or ten hundred weight of molasses, in summer, and about half as much more to the same quantities in winter, with the same proportion of barm, as at setting and raising;

which must be all blended together with the barm. This is called cutting the backs; which, indeed, it very effectually does, cutting down the head or crust of flowers or barm, which the intestine motion of the fermentation threw up, and communicating a very effectual and quick fermentessence through the whole fluid mass, very distinguishable at the top of the fluid to the sight, and also to the ear, the hissing of which can now be distinctly heard. As this tumultuous motion and hissing noise lessens, the operation draws towards a conclusion; and when they can be no longer distinguished, which is generally in three or four days after cutting, the fermentation is over, and the *fermented wash* is to be emptied into the still, and the backs set anew, as before directed. This fermented wash, distilled as long as a glass of it, thrown upon the still-head, will burn or take fire from a lighted paper or candle, is called low wines, or spirits

of the first extraction. These low wines are kept for three distillations, which quantity generally fills the still; which is called doubling, or second extraction, and are drawn off as before directed. This spirit, lowered with water to the hydrometer standard, is called proof spirit.

After the setting of the backs, if an addition of the barm does not bring on a sensible fermentation through the whole, a five gallon can of warm spent wash, added to every two hundred gallons of the fermenting wash, will in general bring on the desired degree of fermentation; if not about half the quantity of jalap usually used in cutting the backs must be added now, and the other half at cutting the backs.

In winter, particularly in frosty weather, the part of the still house, where the fermentation is going on, must be heated to the temperature of temperate on the thermometer, which will much

facilitate the process. This may be done by the heat of the stills at work, in winter; and the excess of heat from the stills in summer may be counterbalanced by windows contrived to draw a current of air across the still-house.

N. B. Dr. Franklin has observed, that the wash in a distiller's vat, when in the highest and most perfect degree of fermentation, is about the temperature of animal heat; that is, from 90 to 96 degrees of Farenheit's thermometer.

The Genuine Process of preparing Hollands, agreeable to the Practice of the best Dutch Distillers.

BREWING FOR HOLLANDS GIN.

THEIR grist is composed of ten quarters of malt, ground considerably finer than our malt distillers' barley grist, and three quarters of rye meal; or, more frequently, of ten quarters of rye and three quarters of malt meal. The ten quarters are

first mashed with the least quantity of cold water it is possible to blend it up with; when uniformly incorporated, as much boiling water is added as forms it into a thin bitter; it is then put into one, two, or more casks, or gyle tuns, with a much less quantity of yeast than is usually employed by our own distillers. Generally on the third day they add the malt or rye meal, previously made into a kind of lob, prepared in similar manner, except in not being so dilute; but not before it comes to the temperature of the fermenting wash; at the same time adding full as much yeast as when at first *setting* the backs.

The principal secret in the management of the mashing part of the business is, in first thoroughly mixing the malt with the cold water, that it may still remain sufficiently dilute after the addition of the fine meal, under the form of lob, and in well rousing all together in the back, that the wash may be dilute

enough for distilling, without endangering its burning to the bottom of the still. Thus they commodiously reduce the business of brewing and fermenting to one operation. By using cold water to uniformly wet the malt, all danger of clogging the spending of the tap would be necessarily avoided; but here, there is no occasion to do any thing more, than sufficiently dilute the wash, consisting of the whole of the grain, thin enough to be fermented and distilled together, by which means the spirit of the bran and husky part, as well as of the flour of the grain, are completely extracted, yet their wash, compared to ours, is about three-eighths thinner.

For these reasons, they obtain more spirit from their grain than we do, and of a better quality, with not half the trouble taken by our distiller. Their backs usually contain as much wash as serves for one distillation. The gravity of the distillers' wash at Weesoppe, in

the neighbourhood of Amsterdam, in 1804, weighed but eighteen pounds per barrel, very little more than half the gravity of ours. Their stills usually are from three to five hundred gallons each: they constantly draw off three cans of phlegm, after the runnings cease to burn on the head of the still, when distilling wash; and five cans distilling *low wines*; a practice we are unacquainted with, we usually drawing our fire as soon as the runnings from the still burn languidly on the still-head.

This, and the great quantity of rye they use, causes their spirit to be so much more acid; and the diluteness of their wash is a very good reason for the greater purity of their spirit; though most writers mistakenly say, our spirit is much clearer.

RECTIFICATION INTO HOLLANDS GIN.

To every twenty gallons of spirits of the second extraction, about the strength of

proof spirit, take three pounds of juniper-berries, and two ounces of oil juniper, and distil with a slow fire until the feints begin to rise, then change the receiving can; this produces the best Rotterdam gin. An inferior kind is made with a still less proportion of berries, sweet fennel seeds and Strasburgh turpentine, without a drop of juniper oil. It, and a better sort, but inferior to the Rotterdam gin, are made at Weesoppe.

The distillers' wash at Scheedam and Rotterdam are still lighter than at Weesoppe. Strasburgh turpentine is of a yellowish brown colour, and very fragrant agreeable smell, its taste is the bitterest, yet the least acid of the turpentines. The juniper-berries are so very cheap in Holland, that they must have more reasons than mere cheapness for being so much more sparing of their consumption than our distillers. Indeed they are not in the habit of wasting any thing.

PREPARATION OF RUM IN THE WEST INDIES.

In the still-house, as well as the boiling-house, the greatest cleanliness is necessary; the vats, at the beginning of the crop, ought to be well washed out, both with warm and cold water, to divest them of any sour stuff which may have accumulated or adhered to their bottoms and sides since they were last in use; and if every vat, just before the first setting, or mixing the liquor in it, were to be rinsed with a little rum, I can venture to say, the distiller would be amply repaid for this trifling expense and trouble.

In setting the first round of liquor, a greater proportion of skimming from the sugar-pans must be used than will afterwards be necessary, as the distiller has no good *lees*, and very little *molasses* to add to the mass; and besides, the skimmings at this time are not so rich as they will be some time hence; that is, in March, April, and May, which are esteemed the

best yielding months. The following proportions will succeed well in the beginning: for every one hundred gallons your vat contains, put forty-five gallons of skimmings, and five gallons of *molasses*, to fifty gallons of water.

When you have got good *lees*, or *returns* as they are commonly called, mix equal quantities of *skimmings*, *lees*, and water, and for every one hundred gallons, add ten gallons of molasses.

When the mill is going, and therefore you have no *skimmings*, mix equal parts of *lees* and water, and for every hundred gallons, add twenty gallons of *molasses*.

From liquor set in these proportions, the distiller may expect to obtain from *ten* to *fifteen* per cent. of Leeward Islands proof rum, and twice as much *low-wines*. —But the quantity of spirit will depend greatly on the quality of the ingredients, and in some measure on the weather; therefore an intelligent distiller will vary his proportions accordingly.

THE DISTILLATION OF RUM IN THE WEST INDIES.

Rum differs from what we simply call sugar spirit, as it contains more of the natural flavour, or essential oil, of the sugar-cane; a great deal of raw juice, and even parts of the cane itself being often fermented in the liquor, or solution of which the rum is prepared.

From hence it is generally thought, that the rum derives its flavour from the cane itself.

Some, indeed, are of opinion, that the oily flavour of the rum proceeds from the large quantity of fat used in boiling the sugar.

This fat, indeed, if coarse, will give a rancid flavour to the spirit in our distillations of the sugar liquor, or wash, from our refining sugar-houses at home; but this is nothing like the flavour of rum.

Great quantities of rum are made at Jamaica, Barbadoes, Antigua, and other

sugar islands. The method of making it is this:

When a sufficient stock of materials is got together, they add water to them, and ferment them in the common method, though the fermentation is always carried on very slowly at first; because at the beginning of the season for making rum in the islands, they want yeast, to make it work; but after this, they, by degrees, procure a sufficient quantity of the ferment, which arises up as a head to the liquor in the operation; and thus they are able afterwards to ferment, and make their rum with a great deal of expedition, and in very large quantities.

When the wash is fully fermented, or to a due degree of acidity, the distillation is carred on in the common way, and the spirit is made up proof, though sometimes it is reduced to a much greater degree of strength, nearly approaching to that of alkohol or spirits of wine; and it is then called double distilled rum.

It would be easy to rectify the spirit, and bring it to a much greater degree of purity than we usually find it to be of, if it did not bring over in the distillation so large a quantity of the gross oil, which is often so disagreeable, that the rum must be suffered to lie by a long time to mellow before it can be used; whereas, if well rectified, its flavour would be much less, and consequently much more agreeable to the palate.

The best state to keep rum, both for exportation and other uses, is doubtless in that of alkohol, or rectified spirits. In this manner, it would be contained in half the bulk it usually is, and might be let down to the common proof strength with water when necessary.

SUGAR SPIRIT.

We mean by a Sugar Spirit, that extracted from the washings, skimmings, dross, and waste of the boiling-house.

These drossy parts of the sugar are to be diluted with water, fermented in the same manner as molasses or wash, and then distilled in the common method. And if the operation be carefully performed, and the spirit well rectified, it may be mixed with foreign brandies, and even coniac in a large proportion, to great advantage; for this spirit will be found superior to that extracted from treacle, and consequently more proper for these uses. In Barbadoes a very good spirit of this kind is prepared from the cane juice, called cane spirit, resembling very pure rum.

RAISIN SPIRITS.

By Raisin Spirit, we understand that extracted from raisins, after a proper fermentation.

In order to extract this spirit, the raisins must be infused in a proper quantity of water, and fermented.

When the fermentation is completed,

the whole is to be thrown into the still, and spirits extracted by a strong fire.

The reason why we here direct a strong fire, is, because by that means a greater quantity of the essential oil will come over the helm with the spirit, which will render it much fitter for the distiller's purpose; for this spirit is generally used to mix with common malt goods: and it is surprising how far it will go in this respect, ten gallons of it being often sufficient to give a determining flavour, and agreeable vinosity, to a whole piece of malt spirit.

N. B. In the same manner a spirit may be obtained from cider. But its particular flavour is not so desirable as that obtained from raisins.

DISTILLERS FOR HOME CONSUMPTION.

ALL persons who shall sell liquors chargeable with duty, and distil spirits, are deemed common distillers. 2 Geo. III. c. 5.

Distillers having made entry, are to cause to be painted over the outer door of every still-house, &c. the word "Distiller," on penalty of 100*l.*; but if not having made entry, they cause the word "Distiller," to be painted over their doors, the penalty is 200*l.* 19 Geo. III. c. 50.

Are not to buy or receive any British spirituous liquors (except at Excise sales) or any persons other than distillers, rectifiers, compounders, having the word "Distiller, Rectifier, or Compounder," painted over their doors, on penalty of 500*l.* 21 Geo. III. c. 55.

A distiller selling British spirits, and having the word "Distiller" painted over his door, or buying of a person not having it so painted, either may inform against the other, and in that case discharges himself of the penalties. *Ibid.* 39.

May extract spirits from any sort of grain, meal, or flour, unless it is prohibited by the King's proclamation during the recess of Parliament. 33 Geo. II. c. 9.

Corn distillers, using molasses, coarse sugar, honey, or composition, or extract of sugar, in preparing wash for distillation, or in making low wines or spirits, or having above 10lbs. thereof in their custody, incur a penalty of 100*l*. Servants assisting to use or bring in the same, incur the penalty of 20*l*. or for non-payment are to suffer three months imprisonment. 2 Geo. III. c. 70.

Are not to have any still or stills in their custody, unless the whole, being taken together, contain 100 gallons, on penalty of 100*l*. 2 Geo. III. c. 5.

Are not to have in their custody any wash-stills, containing less than 400 gallons, exclusive of the heads, nor any low wine stills containing less than 100 gallons, exclusive of the heads, on penalty of 100*l*. 14 Geo. III. c. 75.

Distillers from corn, during the time they shall work between the 15th day of November and the fifteenth day of May, are supposed to have charged their wash stills, in the proportion of three-fourths

of their contents, including the heads, at the average of five times each week; and for the other part of the year in the same proportion, at the average of four times each week. 26 Geo. III. c. 63.

Are to be allowed a credit of twenty gallons of spirits for every hundred gallons of malt or corn wash, fifteen gallons for every hundred of cider wash, twenty-two gallons for every hundred gallons of molasses wash, and twenty gallons for every hundred gallons of wash from foreign wines or foreign cider, all at the strength of 1 to 10 over hydrometer proof.

For extracting more than nineteen gallons of spirits, at the strength of 1 to 10 over hydrometer proof, from one hundred gallons of wash, penalty 5*s*. per gallon above that proportion. 28 Geo. III. c. 46.

Are to paint or cut on some conspicuous part of every moveable cask, used for British brandy, compounds, or other spirits, the full measure in gallons, on penalty of 50*l*. 26 Geo. III. c. 38.

The Distiller's and Spirit Merchant's Directory.

In rectifying and distilling compound goods, a small still is known to make a cleaner and better commodity than one that is larger: and one that is half a hogshead gauge, is acounted the fittest size for a moderate trade; both as it may be managed without fatigue, and produces a good profit. But you must have regard to the laws of Excise, which says, No distiller or rectifier for sale, or dealer in spirits, shall have any still or stills, which separately or together shall contain less than 100 gallons, on pain of forfeiting 100*l.*; and such stills, containing separately less than 100 gallons, shall be placed in one room, under the like penalty. 2 Geo. III. c. 5.

All your spirits to be distilled should be proof goods, which you try by having a small quantity put into a glass phial, and shaking it with your hand; if the blebs, or proof of it, continues a pretty

while upon the top or surface of the goods, it is then what is called proof goods (or you may try the strength by the hydrometer, which is the best way), and when it is distilled, it will yield about two-third parts of every thirty gallons, and sometimes full twenty gallons, according as the spirits are higher or lower proof; which you may make proof, or to what strength and weakness you please, by adding that proportion or quantity either of spring or river water, as is necessary thereto; as, for example, all double goods coming from the still, clear proof and without feints, must be made up with liquor to that quantity you charged your still with at first; as if with thirty gallons of proof spirits, it will yield (as above noted) about twenty gallons of high proof goods, the deficiency of ten gallons must be made up with liquor, till the whole amount to thirty gallons, your first charge; and in single goods you add one and an half part

more of liquor (*viz.* fifteen gallons) to what is ordered in double goods, whereby you will have in all forty-five gallons of single goods: but if your spirits are below proof, upon your shaking the phial, or glass, the goods will fall flat, or the blebs or proof thereof will not continue on the surface of it; and according to the degree of its being reduced more or less below proof, the goods will flatten accordingly; and when such goods are distilled, they will fall short in quantity; and upon making them proof, and no otherwise, will you know what body they were of, and how far they were reduced, except by the hydrometer.

When your still is charged with goods for distilling, and luted, then make your fire under the still; which if possible must be of coals, because their heat is most durable, and wood fires are very subject to both extremes, of too much or too little heat, which are prejudicial and hazardous.

Let your fire be first pretty moderate,

and then by degrees increased, and now and then stirred up with your poker, and by laying your hand upon the body of your still, as the fire gains strength, in the stove or furnace under the still, you will by moderate degrees ascend up your still-head, occasioned by the goods in the still boiling higher and higher. When your still-head becomes warm or hot, then prepare a damp (which is to check or lessen the violence of the fire).

Take special care that no manner of grease, tallow, soap, or any other such-like unctuous matter, get or fall into your pieces, tubs, rundlets, or cans, because they quite take off all manner of proof of the goods, and although the strength be very high, yet they will apparently fall as flat as water, and then their strength can only be ascertained by the hydrometer.

Above all things beware of lighted candles, torches, papers, or other combustible matter, being brought too near your still, or any vessel where your goods

are contained, which are subject to take fire upon very slight occasions; as it is in itself most dreadful, being compared to fire and gunpowder. But should an accident take place, get immediately a woollen blanket or rug, drenched in water, and cast upon the flame, which extinguishes it by excluding the air.

When you are to distil, you are to make ready, against your still is charged, a paste made half of Spanish whiting, and the other half of rye-meal, bean-meal, or wheat-flour, well mixed together, and made into a paste with water, of the consistence of an ordinary paste for baking; and having put on your still-head, then take your paste, working and making it pliable with the heat of your hands, and spread it upon the junctures of the body and head of your still, to keep in the goods from boiling over; reserve a piece of paste, lest the uting should crack or break out, which is very dangerous.

HIPPOCRATES'S BAG, OR FLANNEL-SLEEVE,

Is very necessary for a distiller or brandy merchant, whereby all bottoms of casks, though ever so thick and feculent, by putting into this bag to filter, become presently clear, the porous parts of the said bag being soon filled with grosser matter; and the thin or liquid element runs clear from the bag, and is as good as any of the rest: also any foul goods or liquor may presently be made clear and fine, by putting some powdered alabaster into the goods or liquor, or sprinkling the same on the bag to stop up its pores, by which they presently become, or run clear, leaving nothing but the sediment or gross matter in the bag; nor do the goods or liquor contract the least ill-flavour from the said alabaster-powder.

The said bag is made of a yard or ell of flannel, not over fine or close-wrought,

laid sloping, so as to have the bottom of it very narrow, and the top as broad as the cloth will allow, well sewed up the side, and the upper part of the bag folded about a broad wood hoop, and well fastened to it; then boring the hoop in three or four places, it may be suspended by a cord.

But the bottoms of fine goods, which are much more valuable, must be filtered or put through blotting-paper, folded in four parts, one part or leaf to be opened funnel-wise, and made capable to receive what it will hold of the bottoms, being put into the upper part of a large tin funnel; which will filter off all the goods from the sediment.

All brandies, whether French, Spanish, or English, being proof goods, will admit of one pint of liquor to each gallon, to be made up and incorporated therewith in your cask, for retail, or selling smaller quantities; and all persons that insist upon having proof goods,

which not one in twenty understand, you must supply out of what goods are not so reduced, though at a higher price.

For all goods which are high proof are cleaner, and have a better flavour, than the same goods will have when they are reduced.

It is a custom among some gentlemen of the trade to put one-third or one-fourth part of proof molasses brandy, proportionably to what rum they dispose of; which cannot be distinguished but by an extraordinary palate, and does not at all lessen the body, or proof of the goods, but makes them about two shillings a gallon cheaper, and must be well mixed together in your retailing cask; but you should keep some of the best rum, not adulterated, in order to please your customers, whose judgments and palates must be humoured.

When you have a mind to recover any goods to a better body or strength, which are too low or weak, if they be

brandies, rums, or fine cordial waters, you must put a proper quantity, by little and little at a time, of spirit of wine to the goods, mixing or stirring them very well together, and often trying them, until you have perfectly restored them to the proof you desire; which may be done with little or no loss; because the spirit of wine stands you in but about the same price with the cordials, and cost less than some of your brandies.

If you want to recover or amend any of your common waters, or genevas, you must put such a quantity of proof or double goods of the same kind or denomination to the other, as the price will bear, or will answer your intentions, by such composition or mixture. If by putting proof and weak goods together, the colour or face of the goods be spoiled, which before their being mixed together were both fine, as it frequently happens, you must clear and fine them, as you do when they are

newly distilled: or if you cannot stay their settling, then cast about a pound of alabaster-powder into your mixed goods, to stop up the porous parts of the flannel sleeve, which fines them immediately.

If by chance or accident any goods happen to be spoiled in their complexion, so as to become not saleable, as sometimes, especially in genevas, comes to pass; or were they by some ingredients to be turned black as ink; (an iron nail will also turn them black should it happen to drop into the cask) you must then distil them over again, only putting half the quantity of the ingredients as usual; and they will come perfectly fine as rock-water from the still, and must be dulcified according to their quantity, just as they were at their first being made. But the goods, notwithstanding the misfortune they met with, will be much better than they were at their being first made, as you receive so

great an advantage by having your discoloured goods brought to their proper complexion again, by their being distilled a second time, as is mentioned before; so that is balanced by the disadvantage that you lose all the dulcifying wherewith they were before sweetened; and by every distillation they are weakened near one in twenty, though improved in goodness as aforesaid.

You may colour any sort of goods according to the fancies of your several customers; if your raspberries grow too pale, as they will do after their being twice or thrice drawn off, and filled up with plain brandy, then a quart, or what more you find necessary, of cherry brandy must be put to the raspberry, as you make it up, to give it a deeper tincture for sale. If your plain brandy want a higher tinge, then a little burnt sugar or treacle does it immediately; and so your own judgment and experience will direct you in all the rest.

Distillers in drawing off and making up their distilled goods: namely, when you perceive about two-third parts of the first quantity you put into your still is come off, then be often trying your goods in a glass or phial; and when you see that the bell, or proof, immediately falls down, and does not continue a pretty space upon the surface, then take away the can of goods, and substitute another vessel to receive the feints; which, if suffered to run among the goods, would cause a disagreeable relish, and be longer in fining down; whereas the feints being kept separate, the goods will be clean and well-tasted, when made up with liquor to their due quantity.

It will improve your goods to throw into your still along with your materials when first charged, about six ounces of bay salt to every ten gallons of spirits, and so proportionably, whereby the goods will cleanse themselves, and separate from their phlegmatic parts.

Some also are wont to cast in a handful of grains to make the goods feel hot upon the palate, as if they bore a better body; yet this conduces nothing towards the advancement of the proof.

When your goods are all come off, and you design them for double goods, you must make them up to their first quantity with liquor; as if, for instance, you charge your still with three gallons of proof spirits, they will yield in distillation about two gallons without feints; which deficiency of one gallon must be made up with liquor, (and sugar used in dulcifying) to their determined quantity.

And if you are to make up your common or single goods, you must add over and above the prescribed quantity in compounding double goods, one and an half part more of liquor, (viz. one gallon and an half) to dilute it for single or common goods.

Thus by this specimen you may learn how to make goods proof, and how to

reduce them lower to what strength or body you please.

You must also observe when you dulcify your goods, that you never put your dissolved sugar amongst your new distilled goods, till the said dulcifying be perfectly cold, for if mixed hot with the goods, it would cause some of the spirits to exhale, and render the whole more foul and phlegmatic than otherwise they would be.

When you want to fine any goods speedily for present use or sale, (especially white or pale goods) add about two drachms of crude allum, finely powdered, to three gallons of goods; which rummage well therein, and it will immediately depurate and will become clear.

RECIPE FOR 140 GALLONS OF GIN MADE WITHOUT DISTILLATION.

TAKE 100 gallons of proof malt spirits rectified by agitation; infuse two pounds and an half of the best juniper berries

for a week or ten days; then take of oil of turpentine three ounces; oil of juniper-berries, five ounces; oil of sweet fennel-seeds, two ounces; fill these essential oils with some dry loaf sugar, and dissolve them in three pints of spirit of wine that will fire gunpowder: add them to the 100 gallons of spirits and juniper-berries, rousing them well up for an hour; next day make up to one in five, with lime water, and sweeten with a quarter of an hundred of clayed sugar. Fine with eight or ten ounces of alum dissolved in two or three gallons of the making-up water reserved for the purpose. These ingredients will make 140 gallons of as good English gin, as any usually made by distillation.

DIRECTIONS FOR PURCHASERS OF A TUN OF FINE GIN.

If you think not proper to sweeten it according to the former directions, apply to your distiller, desiring him to make

you a tun of fine gin, hydrometer proof, clean and well-tasted.

Being agreed for, you may safely buy it by weight; but this offer will doubtless be rejected, because herein the interest of the distiller would be affected.

Previous to the pipes being filled, be careful they are in good condition, clean and well-seasoned.

At measuring, fail not to keep score with the cellarman or shopman, to prevent mistakes.

When measured, (and your score agreeing with that against you) take your instrument, and be satisfied your purchase is according to agreement, that is, hydrometer proof. A bill of parcels being made out, and the business complete, take a sample of each pipe, and see them carted and sent home.

When unloaded, let the whole be started into a vat, ready for that purpose.

The general process with distillers, I have here set down.

PROCESS.

A tun of fine gin, strength
1 to 7 over proof . . . . 252 galls.
When lowered to proof,
gives water 36

Which, added together, make 288 proof;
and it is further reduced to
1 in 5 below hydrometer
proof, with water, which
gives 57

Total 345 galls.

This done, let a pound of alum be just covered with water, and dissolved by boiling; rummage the above well together, and pour in the alum, and the whole will be fine in a few hours.

To ascertain the true cost, after the business is done, supposing the price you give for the tun of 252 gallons at 14*s.* per gallon, is . . . 176 8 0
252 gallons, reduced to 1 in
5 under proof, gives 345
gallons at 12*s.* per gallon . 207 0 0
176 8 0

Profit on 345 gallons . £30 12 0

which is 1*s.* 9½*d.* per gallon, and if it is further reduced to one in four it will require sixteen gallons of water more. Therefore, I presume, the retailer gains more profit in making up his own goods, than the distiller gains in distilling them.

DIRECTIONS FOR PURCHASERS OF SINGLE PIPES.

As single pipes are seldom sold at Hydrometer proof, the buyer must rest satisfied with having the geneva as it is manufactured.

After the cask intended for its reception has been properly examined, care should be taken that the spirits is perfected bright; without which the sale will be injured, and the liquor deprived of a valuable recommendation.

Reduced gin should never be bought by weight, because water, (which is more ponderous than spirits) being great part of its composition, there will be

a loss of three gallons in a pipe; consequently, buying by measure is here most eligible.

TO PREPARE AND SWEETEN BRITISH GIN BY AGITATION.

GET from your distiller an empty puncheon or cask, which will contain about 133 gallons; then take a cask of clear rectified spirits, 120 gallons, one in five under proof, put the 120 gallons of spirits into your empty cask.

Then take a quarter of an ounce of the oil of vitriol, half an ounce of the oil of almonds, one quarter of an ounce of the oil of turpentine, one ounce of the oil of juniper-berries, get half a pint of the spirits of wine, and half a pound of lump sugar. Beat or rub the above ingredients in a mortar, until the whole is well incorporated; add another half pint of the spirits of wine to the mortar. When well rubbed together, have ready

prepared half a gallon of lime-water, and one gallon of rose-water; mix the whole in either a pail or cask, with a stick, till every particle shall be dissolved; then add to the foregoing 35 pounds of sugar dissolved in about nine gallons of clear rain or Thames water, or water that has been boiled; mix the whole well together, and stir them carefully with a stick, in the 133 gallon cask.

To force down the same, take and boil eight ounces of allum in three quarts of water, for three quarters of an hour. Take it from the fire, and dissolve by degrees six or seven ounces of salt of tartar. When the same is milk warm, put it into your gin, and stir it well together, as before, for five minutes, the same as you would a butt of beer newly fined. Let your cask stand as you mean to draw it. At every time you propose to sweeten again, that cask must be well washed out; and take great care never to shake your cask all the while it is drawing.

RECIPE FOR MAKING TEN GALLONS OF ROYAL GENEVA BY DISTILLATION.

TAKE of juniper-berries three pounds; proof spirits, ten gallons; water, four gallons. Draw off by a gentle fire till the feints begin to rise, and make up your goods to the strength required with clean water.

The distillers generally call those goods which are made up proof, by the name of royal.

COMMON GIN BY DISTILLATION.

TAKE of ordinary malt spirits, 10 gallons; oil of turpentine, two ounces; juniper-berries, one pound; sweet fennel and carraway seeds, of each four ounces; bay salt, three handfuls. Draw off by a gentle fire till the feints begin to rise, and make up your goods to the strength required.—Say 10 gallons of spirit will make about 15 gallons of common gin*.

* It would be surprising that the rich and the poor should accustom themselves to drink it for

TO MAKE TEN GALLONS OF GIN BITTERS.

TAKE ten gallons of common gin, spirits of wine half a pint, in which dissolve the following essential oils with the assistance of a little well dried loaf sugar, finely powdered, viz. essence of lemon and orange-peel, of each an ounce; oil of wormwood, a quarter of an ounce; orange-peel dried, one pound; let them digest without heat for fourteen or fifteen days, then draw off for use as wanted; taking care not to disturb the goods, by stirring the vessel they are made in.

This will be a most pleasant cheap bitter, equally wholesome, and as good as many that are much dearer.

This is only fit to be taken with gin. The same ingredients, and rectified malt

pleasure, were they not convinced of its cordial and innocent effects, compared to similar excesses committed with foreign spirits, which are also much more expensive.

spirits, or molasses spirits, will either of them make a bitter of more general use.

Compounds prepared without Distillation.

FOR MAKING FROM 120 TO 130 GALLONS OF RUM SHRUB.

TAKE sixty-five or seventy gallons of Rum, one in eight; from seven to eight gallons of lemon-juice; from six to seven gallons of orange-juice; both fresh expressed from the fruit; orange-wine, thirty gallons; two pounds of the rind of fresh lemon-peel; and one pound of the rind of fresh orange-peel; both pared off as thin as it can be done, and previously steeped for a few days in the rum; one hundred pounds of loaf-sugar. Fill up the cask of 120 gallons, or 130 gallons, with fair water; rouse them well together; if not sweet enough, sweeten to your palate; if too sweet, add more

lemon-juice. Dissolve your sugar in part of the water used for making up your shrub; let it stand till fine, set up on end, with a cock near the bottom.

FOR MAKING 130 GALLONS OF BRANDY SHRUB.

TAKE from 75 to 80 gallons of brandy; eight to ten gallons of lemon-juice; eight gallons of orange-juice; four pounds of thin rind of fresh orange-peel, and two pounds of fresh lemon-peel, both pared as thin as they can be; and add them to the brandy the first thing; with four ounces of terra-japonica; one hundred weight of loaf or clayed sugar, dissolved in part of the water used for making up, added with the above ingredients to the brandy, &c.; fill up with fair water, set the cask on end, with a cock near the bottom, and let it stand till fine.

Shrub may be made in similar manner

with British Rum or Brandy, or with a pure flavourless spirit, prepared from molasses or grain, with similar ingredients in the before-mentioned proportions. The quantity can be increased or reduced at pleasure, by duly apportioning the ingredients to the quantity of spirits employed. For instance:

TO MAKE TWO GALLONS OF RUM SHRUB.

TAKE one gallon of rum, at one in eight; of lemon and orange juice, each one pint; one quart of orange wine; and two pounds of loaf sugar; one orange and lemon peel; and fill up your two gallon vessel with water, cork it up loosely, and let it stand until fine, then cork it down close.

TO MAKE TWO GALLONS OF BRANDY SHRUB.

TAKE one gallon and a pint of brandy, one in eight; lemon and orange juice,

of each a pint; four orange and two lemon peels; sugar, two pounds; compound essence of orange and lemon-peel, a small tea-spoonful; make up with fair water, and let it stand till fine. Be careful in drawing it off not to shake the vessel.

TO MAKE TWENTY GALLONS OF PEPPERMINT CORDIAL.

TAKE thirteen gallons of rectified spirits, one in five under hydrometer proof; twelve pounds of loaf sugar; one pint of spirit of wine that will fire gunpowder; fifteen pennyweights, Troy, of oil of peppermint; water, as much as will fill up the cask, which should be set up on end, after the whole being well roused, and a cock for drawing off placed in it.

TO MAKE UP THE ABOVE.

Powder two or three ounces of sugar in a brass mortar, on which pour the oil of peppermint, and beat it into a thin paste, stirring the sugar and oil with a knife, scraping what is in the pestle and mortar together, that the oil may be uniformly incorporated with the sugar; then add the spirit of wine, and blend them well together; have the remainder of your sugar ready dissolved in four or five gallons of the water to be used for making up; rummage, or rouse, the whole well together with a paddle-staff, or rouser; and lastly, fill up the cask with pure clean water; dissolve one ounce and a half of powdered alum in the making up water, boiling over the fire; and when blood-warm, add it to fill up the cask, in which place a cock, and let it stand two or three days, in which time it will be fit for use.

If the essential oil is of your own

making, or such as you can depend on, it will require nothing more than agitation.

TO MAKE TWENTY GALLONS OF ANISEED CORDIAL.

TAKE fourteen gallons of spirits, one in six; a pint of spirit of wine, strong as the former; from six to eight pounds of loaf sugar; one ounce and an half of oil of aniseed; two ounces of finely powdered alum; dissolve the sugar in one part of the water used for making up, and your alum in the remainder; and proceed as directed in the making up peppermint cordial. Aniseed cordial does not bear to be reduced much below one in five, as part of the oil will separate when too much lowered, and render the goods unsightly.

TO MAKE TWO GALLONS OF NAUYAU.

ONE gallon and an half of French brandy, one in five; six ounces of the best fresh prunes; two ounces of celery; three ounces of the kernels of apricots, nectarines, and peaches; and one ounce of bitter almonds; all gently bruised; essence of orange-peel, and essence of lemon-peel, of each two pennyweights, killed in the same manner as the oil of peppermint; half a pound of loaf sugar; let the whole stand ten days or a fortnight; then draw off, and add to the clear Nauyau as much rose-water as will make it up to two gallons, which will be about half a gallon.

TO MAKE TWO GALLONS OF CINNAMON CORDIAL.

TAKE two pennyweights of oil of cassia-lignea, killed as before mentioned, with sugar and spirits of wine; a gallon and an half, at one in six; cardamum seeds, husked, an ounce; orange and lemon-

peel dried of each an ounce; fine with half a pint of alum water; sweeten to your palate with loaf sugar, not exceeding two pounds, and make up two gallons measure with the water you dissolve the sugar in. This is a very cheap and elegant cinnamon cordial; colour with burnt sugar.

TO MAKE TWENTY GALLONS OF CARAWAY CORDIAL.

TAKE an ounce and an half of oil of caraway; twenty drops of cassia-lignea oil, and five drops of essence of orange-peel, and the same quantity of the essence of lemon; thirteen gallons of spirits, one in five; eight pounds of loaf sugar; make it up and fine it down, as directed for aniseed.

TO MAKE TWENTY GALLONS OF CITRON CORDIAL.

INFUSE fourteen pounds of Smyrna figs, for a week, in twelve gallons of spirits,

one in five; draw off, and add to the clear spirituous infusion essence of orange and lemon, of each an ounce, killed in a pint of spirits of wine; half a pound of dried lemon, and four ounces of orange-peel; six or seven pounds of loaf sugar: make up as before, with fair water.

TO MAKE TWENTY GALLONS OF IMPERIAL RATAFIA.

In these kingdoms the most compendious way of making the best ratafia is, by taking three quarters of a pound of the kernels of peaches, nectarines, and apricots, bruised; three pounds of bitter almonds, bruised; half a gallon of rectified spirit of wine, in which dissolve half an ounce of compound essence of ambergris; twelve gallons of pure molasses spirit, one in four gallons of British Frontiniac wine; and as many gallons of rose-water as will make up the ratafia to twenty gallons; steep the kernels and almonds for ten days, then draw

off for use. This quantity will take ten pounds of loaf sugar to sweeten it; but as some may not like it so, it had better be sweetened by a few gallons at a time, as it may be wanted.

RECIPE FOR MAKING RED RATAFIA.

TAKE of cherries and gooseberries, of each thirty pounds; mulberries, seven pounds; raspberries, ten pounds. Pick all these fruits clean from their stalks, &c., bruise them, and let them stand twelve hours; but do not suffer them to ferment. Press out the juice, and to every pint add three ounces of sugar; when the sugar is dissolved, run it through the filtering bag, and to every five pints of liquor add four pints of clean proof spirit; together with the same proportion of spirit drawn from spices.

Different distillers use different quantities of the spirit drawn from spices.

The best method, therefore, is to imitate the flavour most universally approved of, which may be easily done, by adding a greater or less proportion of the spiced spirit.

TO MAKE THE SPICY SPIRIT.

TAKE of mace, one pound; nutmegs, four ounces; spirit, three gallons; and draw off the whole in balneum mariæ.

LOVAGE CORDIAL, TWENTY GALLONS.

TAKE of the fresh roots of lovage, valerian, and celery, and sweet fennel, each four ounces; of essential oil of caraway and savin, each one ounce; spirit of wine, one pint; twelve gallons of proof spirits; loaf sugar, twelve pounds; steep the roots and seeds in the spirits fourteen days; and kill, or dissolve, the oils in the spirit of wine, and add them to the undulcified cordial drawn off from the

other ingredients; dissolve the sugar in the water for making up; fine, if necessary, with alum *.

NECTAR, A TWENTY GALLON CASK.

A PLEASANT cordial for those whose stomach cannot bear a stronger, particularly if taken in the morning, for gently exhilarating the spirits, and strengthening the animal functions, may be advantageously made with fifteen gallons of the imperial ratafia, a quarter of an ounce of cassia-oil, and an equal quantity of the oil of caraway-seeds, dissolved in half a pint of spirit of wine, and made up with orange wine, so as to fill up the cask.

Sweeten, if wanted, by adding a small lump of sugar in the glass.

* This is a warm aperient active cordial medicine, capable of promoting sweat, urine, &c.

RECIPE FOR TEN GALLONS OF COMMON USQUEBAUGH BY DISTILLATION.

USQUEBAUGH is a very celebrated cordial, the basis of which is saffron.

There are different ways of making this famous Irish cordial; but the following are equal to any I have seen:

Take of nutmegs, cloves, and cinnamon, of each two ounces; of the seeds of anise, caraway, and coriander, each four ounces; liquorice-root, sliced, half a pound; bruise the seeds and spices, and put them together with the liquorice into the still, with eleven gallons of proof spirits, and two gallons of water; distil with a pretty brisk fire till the feints begin to rise. But as soon as your still begins to work, fasten to the nose of the worm two ounces of English saffron, tied up in a cloth, that the liquor may run through it, and extract all its tincture; and, in order to this, you should often press the saffron

with your fingers. When the operation is finished, dulcify your goods with fine sugar.

RECIPE FOR MAKING TEN GALLONS OF USQUEBAUGH BY DIGESTION.

TAKE of raisins, stoned, five pounds; figs, sliced, one pound and an half; cinnamon, half a pound; nutmegs, three ounces; cloves and mace, of each one ounce and an half; liquorice, two pounds; saffron, four ounces; bruise the spices, slice the liquorice, and pull the saffron in pieces; digest these ingredients eight days in ten gallons of proof spirit, in a vessel close stopped; then filter the liquor and add to it two gallons of canary wine, and half an ounce of the tincture of ambergris.

RECIPE FOR MAKING TEN GALLONS OF ROYAL USQUEBAUGH BY DISTILLATION.

TAKE of cinnamon, ginger, and coriander-seed, each three ounces; nutmegs, four ounces and an half; mace, cloves, and cubebs, of each one ounce and an half. Bruise these ingredients, and put them into an alembic, with lemon and orange peel, pared off thin, four ounces of each dried, or double the quantity of fresh peeled, and eleven gallons of proof spirit and two gallons of water, and distil till the feints begin to rise; fastening four ounces and an half of English saffron, tied in a cloth to the end of the worm, that the liquor may run through it.

Take raisins, stoned, four pounds and a half; dates, three pounds; liquorice-rod, sliced, two pounds; digest these twelve hours in two gallons of water; strain out the clear liquor, add it to that obtained by distillation, and dulcify the whole with fine sugar.

RECIPE FOR TWO GALLONS OF EAU DE LUCE.

TAKE of the oil of amber, one ounce; of highly rectified spirit of wine, four pounds; put them into a bottle, and let them remain there five days, shaking the bottle from time to time, by which means the spirit will be strongly impregnated with the oil; then put into this impregnated spirit four ounces of the choicest amber, finely powdered, and let it digest three days, by which means you will have a very rich tincture of amber.

The tincture of amber being thus made, take of the strongest spirit of sal amoniac sixteen pounds, and add it to the foregoing tincture, together with eight pounds of highly rectified spirit of wine.

Thus will you obtain the celebrated water called Eau de Luce, so greatly in request, and so useful in all faintings and lowness of spirits.

WORMWOOD CORDIAL BY DISTILLATION.

THERE are two sorts of wormwood cordial, distinguished by the epithets of greater and lesser.

RECIPE FOR MAKING TEN GALLONS OF THE LESSER COMPOSITION OF WORMWOOD CORDIAL.

TAKE of the leaves of dried wormwood, five pounds; of the lesser cardamom seeds, five ounces; of coriander seeds, one pound; of clean proof spirit, eleven gallons; water, one gallon; draw off ten gallons, or till the feints begin to rise, with a gentle fire. It may be dulcified with sugar or not, at pleasure.

RECIPE FOR TEN GALLONS OF THE GREATER COMPOSITION OF WORMWOOD CORDIAL.

TAKE of common and sea wormwood, dried, of each ten pounds; of sage, mint, and balm, dried, of each twenty hand-

fuls; of the roots of galangal, ginger, calamus, aromaticus, and coriander, of each three ounces; of cinnamon, cloves, and nutmegs, the lesser cardamoms and cubebs, of each two ounces. Cut and bruise the ingredients as they require; digest them twenty-four hours, in eleven gallons of fine proof spirit, and two gallons of water, and draw off ten gallons, or till the feints begin to rise with a pretty brisk fire.

CHERRY BRANDY.

THIS liquor is greatly called for in town and country; and is made different ways. Some press out the juice of the cherries, and having dulcified it with sugar, add as much spirit to it as the goods will bear, or the price it is intended to be sold for. But the common method is to put the cherries, clean picked, into a cask, with a proper quantity of proof spirit; and after standing

about eighteen days, the goods are drawn off into another cask for sale, and about two thirds of the first quantity of spirits poured into the cask upon the cherries. This is to stand about a month to extract the whole virtue from the cherries, after which it is drawn off as before; and the cherries pressed to take out the spirit they had absorbed. The proportion of cherries and spirit is not very nicely observed; the general rule is, to let the cask be about half filled with cherries, and then filled up with proof spirits. Some add to every twenty gallons of spirit half an ounce of cinnamon, an ounce of cloves, and about three pounds of sugar, by which the flavour of the goods is considerably increased. But in order to save expenses, not only the spices and sugar are generally omitted, but also a great part of the cherries, and the deficiency supplied by the juice of elder-berries. Your own reason, therefore, and the

price you can sell goods for, must direct you in the choice of your ingredients.—By the same method you may make raspberry brandy; and if the colour of the goods be not deep enough, it may be improved by an addition of cherry brandy, elder-juice, or other colouring substance, as log-wood, &c.

RASPBERRY BRANDY.

Is infused much after the same manner with cherry brandy, and drawn off, and made fit for sale with about the same addition of brandy to what you draw off from the first, second, and third infusion, and dulcified accordingly, first making it of a bright deep colour; but omitting cinnamon and cloves in the first, but not in the second and third infusion.

The first infusion will be of a colour deep enough without help or art to it; the second infusion will be somewhat paler, and must be made deeper co-

loured, by adding cherry brandy about a quart to ten, or more gallons of the said raspberry brandy; and the third infusion will take more cherry brandy to colour the raspberry, which your own judgment will direct you in; here you may assist the colour and flavour with the juice of the elder-berry.

TO MAKE ELDER JUICE.

When you make elder juice let your berries be fully ripe, and all the stalks (which are very many) be clean picked from them; then, if you have a press for drawing all the juice from them, have ready four hair cloths somewhat broader than your press, and lay one layer above another, having a hair cloth betwixt every layer, which must be laid very thin, and pressed first a little, and then more, till your press be drawn as close as you can; then take out the berries, and press all you have in the like manner; then take your pressed berries,

and break out all the lumps, and put them into an open-headed vessel, and put upon them as much liquor as will just cover them, and let them infuse so for seven or eight days, and put your best juice into a cask proper for it to be kept in, and put one gallon of malt spirits, not rectified, to every twenty gallons of elder-juice, which will effectually preserve it from becoming sour for two years at least.

SPIRITUOUS TINCTURES, OR INFUSIONS.

RECTIFIED spirit of wine is the direct menstruum of the resins and essential oils of vegetables, and totally extracts these active principles from sundry vegetable matters, which yield them to water either not at all, or only in part.

It dissolves likewise the sweet saccharine matter of vegetable, and generally those parts of animal bodies, in which their peculiar smells and tastes reside.

The virtues of many vegetables are extracted almost equally by water and vitrified spirit; but in the watery and spirituous tinctures of them there is this difference, that the active parts, in the watery extractions, are blended with a large proportion of inert gummy matter, on which their solubility in this menstruum in great measure depends, while rectified spirit extracts them almost pure from gum. Hence, when the spirituous tinctures are mixed with watery liquors, a part of what the spirit had taken up from the subject generally separates and subsides, on account of its having been freed from that matter, which being blended with it in the original vegetable, made it soluble in water. This, however, is not universal; for the active parts of some vegetables, when extracted by rectified spirit, are not precipitated by water, being almost equally dissoluble in both menstrua.

Rectified spirit may be tinged by

vegetables of all colours, except blue. The leaves of plants in general, which give out but little of their natural colour to watery liquors, communicate to spirit the whole of their green tincture, which, for the most part, proves elegant, though not very durable.

GENERAL RULES FOR EXTRACTING TINCTURES.

1. THE vegetable substances ought to be moderately and newly dried, unless they are expressly ordered otherwise. They should likewise be cut and bruised before the menstruum is poured on them.

2. If the digestion be performed in balneo, the whole success depends upon a proper management of the fire; it ought to be all along gentle, unless the hard texture of the subject should require it to be augmented; in which case the heat may be increased so as to make the menstruum boil a little towards the end of the process.

3. Very large circulatory vessels ought to be employed for this purpose, which should be heated before they are luted together. Circulatory vessels are those which are so contrived, and of such a height, that the vapour which arises during the digestion, may be cooled and condensed in the upper part, and fall down again into the liquor below; by these means the dissipation both of the spirit and of the volatile parts of the ingredients, is prevented. They are generally composed of two long-necked matrasses, or bolt-heads; the mouth of one of which is to be inserted into that of the other, and the juncture secured by a piece of wet bladder.

The use of heating the vessels is to expel a part of the air, which otherwise, rarifying in the process, would endanger bursting them or blowing off the uppermost matrass. A single matrass with a long neck, or with a glass pipe inserted into its mouth, is more commodious than the double vessel.

4. The vessel is to be frequently shaken during the digestion.

5. All tinctures should be suffered to settle before they are committed either to the filter or strainer.

6. In the tinctures (and distilled spirits likewise) designed for internal use, no other spirit, drawn from malt, molasses, or other fermented matter, is to be used, than that expressly prescribed.

7. Resins and resinous gums yield tinctures more successfully, if, after being ground into powder, they be mixed with some white sand, well washed and dried, which will prevent their running into lumps by the heat. If the powders prescribed be sufficient for this purpose, such an addition is unnecessary.

BITTER TINCTURE.

TAKE of gentian-root, two ounces; yellow rind of Seville orange-peel, dried, one ounce; lesser cardamom seeds, freed from the husks, half an ounce; proof spirit, two pints; digest without heat, and strain off the tincture.

This is a very elegant spirituous bitter. As the preparation is designed for keeping, lemon-peel is an excellent ingredient in the watery bitter infusions.

STOMACHIC ELIXIR.

TAKE of gentian-root, two ounces; Curaçoa oranges, one ounce; Virginian snake-root, half an ounce; cochineal, half a drachm; French brandy, two pints.

Let them steep for three days, and then filter the elixir.

AROMATIC TINCTURE.

TAKE of cinnamon, six drachms; lesser cardamom seeds, freed from husks, three drachms; long pepper and ginger, of each two drachms; proof spirit, two pints. Digest without heat, and then strain off the tincture.

This is a very warm aromatic, too much so to be given without dilution. A tea-spoonful or two may be taken in wine, or any other convenient vehicle, in languors, weakness of the stomach, flatulencies, and similar complaints.

The stomachic tincture, described hereafter, is similar in intention to this, but contrived less hot of the spices, that it may be taken by itself.

TAKE of cinnamon, six drachms; lesser cardamom-seeds, one ounce; garden angelica-root, three drachms; long pepper, two drachms; proof spirit, two pounds and a half.

Macerate seven days, and filter.

This preparation is improved from the preceding editions, by the omission of some articles either superfluous or foreign to the intention; galangal, gentian, zedoary, and bay-berries. As now reformed, it is a sufficiently elegant warm aromatic.

Of making Compounds or Cordials.

THE perfection of this grand branch of distillery depends upon the observation of the following general rules, easy to be observed and practised.

1. The artist must always be careful to use a well-cleansed spirit, or one freed from its own essential oil, as were before observed.

For as a compound cordial is nothing more than a spirit impregnated with the essential oil of the ingredients, it is necessary that the spirit should have deposited its own.

2. Let the time of previous digestion be proportioned to the tenacity of the ingredients, or the ponderosity of their oil. Thus cloves and cinnamon require a longer digestion before they are distilled than calamus aromaticus, or orange-peel. Sometimes cohobation (as subsequently explained) is necessary; for instance, in making the strong cinnamon cordial, because the essential oil of cinnamon is so extremely ponderous, that it is difficult to bring over the helm with the spirit without cohobation.

3. Let the strength of the fire be proportioned to the ponderosity of the oil intended to be raised with the spirit. Thus, for instance, the strong cinnamon cordial requires a much greater degree of fire than that from lax vegetables, as mint, balm, &c.

4. Let a due proportion of the finest parts of the essential oil be united with the spirit; the grosser and less fragrant

parts of the oil not giving the spirit so agreeable a flavour, and at the same time renders it thick and unsightly. This may in a great measure be effected by leaving out the feints, and making up to proof with fine soft water in their stead.

These four rules, carefully observed, will render this extensive part of distillation far more perfect than it is at present. Nor will there be any occasion for the use of burnt alum, white of eggs, isinglass, &c. to fine down cordials, for they will presently be fine, sweet, and pleasant tasted, without any further trouble.

RECIPE FOR SIXTEEN GALLONS OF STRONG CINNAMON CORDIAL.

CINNAMON is a very useful and elegant aromatic bark, of a fragrant delightful smell, and sweet pungent taste, with some degree of astringency; it corro-

borates the viscera, and proves of great service in all kind of alvine fluxes, and immoderate discharges from the uterus; it is cordial and stomachic.

Take eight pounds of fine cinnamon, bruised; seventeen gallons of clear rectified spirit, and two gallons of water. Put them into your still, and digest them twenty-four hours with a gentle heat; after which, draw off sixteen gallons by a pretty strong heat.

I have ordered a much larger quantity of cinnamon than is common among distillers; because when made in the manner above directed, it is justly looked upon as one of the noblest cordials of the shops; but when made in the common way, of two pounds to twenty gallons of spirit, as some have ordered, is only an imposition on the buyer.

RECIPE FOR TEN GALLONS OF HUNGARY WATER.

ROSEMARY, the principal ingredient in Hungary water, has always been a favourite shrub in medicine; it is full of volatile parts, as appears by its taste and smell. It is a very valuable cephalic, and is good in all disorders of the nerves; in hysteric and hypochondriac cases, in palsies, apoplexies, and vertigoes. Some suppose that the flowers possess the virtues of the whole plant in a more exalted degree than any other part; but the flowery tops, leaves, and husks, together with the flowers themselves, are much fitter for all purposes, than the flowers alone.

Take of the flowery tops, with the leaves and flowers of rosemary, fourteen pounds; rectified spirit, eleven gallons and a half; water one gallon; distil off ten gallons with a moderate fire. If you perform this operation in

balneum mariæ, your Hungary water will be much finer than if drawn by the common alembic.

This is called Hungary water, from its being first made for a princess of that kingdom.

Some add lavender flowers, and others Florentine orange-root; but what is most esteemed is made with rosemary only.

RECIPE FOR TEN GALLONS OF SIMPLE LAVENDER WATER.

TAKE fourteen pounds of lavender flowers, ten gallons and a half of rectified spirit of wine, and one gallon of water; draw off ten gallons with a gentle fire, or, which is much better, in balneum mariæ.

Both the Hungary and lavender water may be made at any time of the year, without distillation.

RECIPE FOR MAKING THREE GALLONS OF COMPOUND LAVENDER WATER.

TAKE of lavender water, above described, two gallons; of Hungary water, one gallon; cinnamon and nutmegs, of each three ounces; and of red saunders, one ounce; digest the whole three days in a gentle heat, and then filter it for use. Some add saffron, musk, and ambergris, of each half a scruple; but those are now generally omitted.

RECIPE FOR TEN GALLONS OF CARDAMOM CORDIAL.

THE seed from whence this cordial takes its name, is called by botanists cardamum minus, or the lesser cardamom; to distinguish it from the cardamomum majus, or grains of paradise.

The lesser cardam is a small short fruit, or membraneous capsule, of a

triagonal form, about a third of an inch long, and swelling out thick about the middle, beginning small and narrow from the stalk, and terminating in a small but obtuse point at the end. It is striated all over very deeply with longitudinal furrows, and consists of a thin but very tough membrane, of a fibrous texture, and pale brown colour, with a faint cast of red.

When the fruit is thoroughly ripe, this membrane opens at the three edges all the way, and shows that it is internally divided by three thin membranes into three cells, in each of which is an arrangement of seeds, separately lodged in two series. The seeds are of an irregular angular figure, rough, and of a dusky brown colour on the surface, with a mixture of yellowish and reddish, and of a white colour within. They have not much smell, unless first bruised, when they are much like camphire, under the nose. They are of an

acid, aromatic, and fiery hot taste. They should be chosen sound, close shut on all sides, and full of seeds of a good smell and of an acrid aromatic taste.

Take of the lesser cardamom seeds, husked, two pounds and an half; of clean proof spirit, ten gallons and an half; and of water, one gallon; draw off ten gallons by a gentle heat. You may either dulcify it or not with fine sugar, at pleasure.

This water is carminative, assists digestion, and is good to strengthen the head and stomach. A tincture or infusion is still better.

RECIPE FOR A GALLON OF JAMAICA PEPPER WATER.

JAMAICA pepper is the fruit of a tall tree growing in the mountainous parts of Jamaica, where it is much cultivated, because of the great profit arising from the cured fruit, sent in large quantities annually into Europe.

Take of Jamaica pepper, half a pound; water, two gallons and an half; draw off one gallon with a pretty brisk fire. The oil of this fruit is very ponderous, and therefore this water is best made in an alembic.

RECIPE FOR FIVE QUARTS OF COMPOUND GENTIAN WATER.

GENTIAN root, sliced, three pounds; leaves and flowers of the lesser centaury, of each eight ounces; infuse the whole in six quarts of proof spirits, and one quart of water; and draw off the water till the feints begin to rise. This water is frequently used as being a very fine stomachic.

Distilled Spirituous Waters.

BY distilled spirits are understood such as are drawn with a spirit that has been previously rectified, or which is reduced nearly to that strength in the operation;

by spirituous waters, those in which the spirit is only of the proof strength, or contains an admixture of about an equal measure of water. These last have been usually called compound waters, even when distilled from one ingredient only; as those on the other hand, which are drawn by common water, though from a number of ingredients, are named simple; the title simplex, here relating not to simplicity in respect of composition, but to the vehicles being plain water.

GENERAL RULES FOR THE DISTILLATION OF SPIRITUOUS WATERS.

1. The plants and their parts ought to be moderately and newly dried, except such as are ordered to be fresh gathered.

2. After the ingredients have been steeped in the spirit for the time prescribed, add as much as will be sufficient to prevent a burnt flavour, or rather more.

3. The liquor which comes over first in the distillation is by some kept by itself, under the title of spirit; and the other runnings, which prove milky, fined down by art. But it is better to mix all the runnings together, without fining them, that the waters may possess the virtues of the plant entire; which is a circumstance to be more regarded than their fineness or sightliness.

4. In the distillation of these waters, the genuine brandy obtained from wine is directed.

Where this is not to be had, take instead of that proof spirit, half its quantity, of a well-rectified spirit, prepared from any other fermented liquors. In this steep the ingredients, and then add spring water enough, both to make up the quantity ordered to be drawn off, and to prevent burning.

By this method, more elegant waters may be obtained than when any of the common proof spirits, even that of wine

itself, are made use of. All vinous spirits receive some flavour from the matter from which they are extracted; and of this flavour, which adheres chiefly to the phlegm or watery part, they cannot be divested without separating the phlegm, and reducing them to the rectified state of spirits of wine.

RECIPE FOR TEN GALLONS OF LEMON WATER.

THE peel of the lemon, the part used in making this water, is a very grateful bitter aromatic, and on that account very serviceable in repairing and strengthening the stomach.

Take dried lemon-peel four pounds, clean proof spirit ten gallons and a half, and one gallon of water. Draw off ten gallons by a gentle fire. Some dulcify lemon water, but by that means its virtues, as a stomachic, are greatly impaired.

RECIPE FOR ONE GALLON OF JESSAMINE WATER.

THERE are several species of jessamine, but that sort intended here is what gardeners call Spanish White, or Catalonian Jessamine. This is one of the most beautiful of all the species of jessamine.

Take of Spanish jessamine flowers, twelve ounces; essence of Florentine citron, or burgamot, eight drops; fine proof spirit, one gallon; water, two quarts. Digest two days in a close vessel, after which draw off one gallon, and dulcify with fine loaf sugar.

RECIPE FOR ONE GALLON OF SPIRIT OF SCURVYGRASS.

SCURVYGRASS, fresh gathered and bruised, fifteen pounds; horse-radish root, six pounds; rectified spirit of wine, one gallon; and three pints of water; digest the whole in a close vessel two days,

and draw off a gallon with a gentle fire.

This is of great service in all scorbutic cases, and is given from twenty to eighty drops.

ANTISCORBUTIC WATER.

TAKE of the leaves of water-cresses, garden and sea scurvygrass, and brooklime, of each twenty handfuls; of pine tops, germander, horehound, and the lesser centaury, of each sixteen handfuls; of the roots of bryony and sharp-pointed dock, of each six pounds; of mustard seed, one pound and an half. Digest the whole in ten gallons of proof spirit, and two gallons of water, and draw off by a gentle fire.

This is a fine water for the purposes mentioned in the title, against scorbutic disorders. As also in tremblings, and disorders of the nerves.

RECIPE FOR TEN GALLONS OF PLAGUE WATER.

THERE are several methods for making plague water; the following I presume is the best:—

Take of the roots of masterwort and butter-burr, of each one pound and a quarter; of Virginia snake-root and yedoary, of each ten ounces; angelica seeds and bay-seeds, of each fourteen ounces; and of leaves of scordium, one pound and a half. Cut or bruise these ingredients, and put them into the still, with twelve gallons of clean proof spirit, and two gallons of water; digest the whole for twenty-four hours, and draw off ten gallons.

RECIPE FOR MAKING TEN GALLONS OF RED SURFEIT WATER.

TAKE of the flowers of red poppies, two bushels, and eleven gallons of clean proof spirit, and digest them with a

gentle heat for three days, or till the spirit has extracted all the colour of the flowers; then press out the liquor from the flowers, and add to the tincture of the seeds caraway and coriander, and liquorice-root, sliced, of each ten ounces; of cardamoms and cubebs, of each four ounces; of raisins, stoned, five pounds; of cinnamon, five ounces; of nutmegs, mace, and ginger, of each three ounces; of cloves, two drachms; of juniper-berries, three ounces; let the whole be digested three days, then press out the liquor, adding to it a gallon of rose-water, and then strain or filter the whole through a flannel bag.

RECIPE FOR ONE GALLON OF THE WATER FOUR SPICES.

FOUR spices, viz. cloves, mace, nutmegs, and cinnamon.

Take of cinnamon two ounces; nutmegs and cloves, of each three drachms;

mace, six drachms; bruise the spices in a mortar, and add proof spirit one gallon, and water, two quarts. Digest twenty-four hours in a close vessel, and distil with a brisk fire till the feints begin to rise; and dulcify with fine sugar.

This is an excellent stomachic, good in depression of spirits, and paralytic disorders.

RECIPE FOR THREE GALLONS OF WATER FOR THOSE AFFLICTED WITH THE STONE AND GRAVEL.

TAKE of the best flowers of the white thorn, eight pounds; of nutmegs, bruised, six ounces; infuse them together six days in a close vessel with two gallons of generous white wine, and the same quantity of proof spirits; after which draw the water by a gentle distillation till the feints begin to rise.

This water is of infinite use in fits of the stone and gravel, a glass of it often

procuring ease in the racking pains of that dreadful disorder.

RECIPE FOR TEN GALLONS OF GOUT WATER.

TAKE of the flowers of camomile, leaves of penny-royal, lavender, marjoram, rosemary, sage, and ground-pine, of each eight ounces; myrrh, four ounces; cloves and cinnamon, of each one ounce; roots of piony, two ounces; pellitory of Spain, and Cypress orrice, of each one ounce; the lesser cardamoms and cubebs, of each half an ounce; nutmegs, two ounces; cut and bruise these ingredients, and digest them four days in eleven gallons of proof spirit and two gallons of water, then draw off ten gallons, and dulcify with fine sugar.

This is reckoned a fine cordial for the above complaint, and also good in all nervous cases; and continued moderate use of it will comfort and fortify the fibres, so as to prevent the discharge of

such juices upon the joints as cause arthritic pains and swellings. It is also of excellent use in palsies, epilepsies, and loss of memory, particularly when these distempers proceed from old age, or when the principal springs of life begin to decay.

RECIPE FOR MAKING A GALLON OF BEAUTY WATER, OR EAU DE BEAUTE.

THIS water has its name from its use in washing the face, and giving an agreeable smell. It is drawn from thyme and marjoram, which gives it a very elegant odour.

Take of the flowery tops of thyme and marjoram, of each one pound; proof spirits, five quarts; water, one quart. Draw off in balneum mariæ, till the feints begin to rise, and keep it close stopped for use.

The Tincture and Essence of Ambergris, Musk, and Civet.

1. AUTHORS have long been divided with regard to the origin of ambergris; some taking it for a vegetable juice, which either dropped into the water from the trunks or branches of some trees growing on the sea-coast, or exudated from their roots which run out of the earth into the sea; some for an animal production, and formed either by a secret process from honeycombs, or the dung of birds; and others have very circumstantially recorded that it is produced in the whale.

These opinions are, however, now looked upon as false; ambergris being universally allowed to be a mineral production of the number of bitumens. It is a light frothy substance, which generally bubbles up out of the earth in a fluid form, principally under water, where it is by degrees hardened into the masses we see it in.

Ambergris, in its natural or common form, is a lax and coarse substance of an irregular structure, friable, and so light as to swim upon water; it is of a pale grey colour, with a faint tinge of brown in it; but pieces perfectly and uniformly of this colour are rare; what we usually meet with is composed of whitish, yellowish, and blackish granules; and in proportion as there is more or less of this whitish matter in these masses, it is more or less scented and valuable. It is found in pieces perfectly irregular, and from the bigness of a pea to those of ten, twenty, or more pounds; nay, there have been masses found of more than two hundred weight.

It should be chosen in clean and not over friable pieces, of a pale grey colour, and as uniform as possible in its structure with small black specks within.

There are two sorts of essences made from this perfume; one, without addition of any other odoriferous substance,

and the other from ambergris, compounded with musk and civet.

RECIPE FOR MAKING THE ESSENCE OF AMBERGRIS.

TAKE of ambergris and white sugar-candy, of each three drachms; grind them well together in a glass mortar, adding to them, by slow degrees, five ounces of rectified spirit of wine; digest the whole in a matrass, well stopped, for four days, and then separate the clear tincture or essence, in a bottle, well stopped, for use.

RECIPE FOR MAKING THE COMPOUND ESSENCE OF AMBERGRIS.

TAKE of ambergris and white sugar-candy, of each two drachms; musk, twelve grains; grind all these well together in a glass mortar, adding by degrees four ounces of rectified spirit of wine; digest, and separate the clear

essence for use, as in the preceding recipe.

2. Musk is a dry, light, and friable substance, of a dark blackish colour, with some tinge of a purplish or blood colour in it. It is soft, and somewhat smooth and unctuous to the touch, and of a highly perfumed smell. It is brought to us sewed up in a kind of bladders or cases of skin, covered with brownish hair, which are the real bags in which the musk is lodged, while on the animal.

Musk should be chosen of a very strong scent, and in dry sound bladders; and must be kept close shut down in a leaden box, by which means it will retain its smell and not grow too dry.

RECIPE FOR MAKING THE ESSENCE OF MUSK.

TAKE of musk and white sugar-candy, of each one drachm; rub them well

together in a marble mortar, adding by degrees, during the rubbing, five ounces of rectified spirit of wine; put the whole into a matrass; digest three days in a gentle heat, and pour off the clear essence, which keep in a bottle well stopped for use. Some add a few grains of civet to their essence of musk, which considerably augments the fineness of the perfume.

3. Civet is produced like musk, in bags growing to the lower part of the belly of an animal. It is of different colours, from a pure lively whitish to a black; but the nearer it approaches to the white the better it is; of an extremely strong smell, and a bitterish pungent taste.

The essence of civet is rarely used alone, but of great service in making additions to other odoriferous waters, and therefore I shall here give the method of making it.

RECIPE FOR MAKING THE ESSENCE OF CIVET.

TAKE of civet and double refined sugar, of each two drachms; rub them well together in a glass mortar, adding, by degrees, five ounces of rectified spirit of wine; put the whole into a matrass, digest three days in a gentle heat, and pour off the clear essence for use.

Though the essences are, properly speaking, chemical preparations, and therefore might be foreign to the business of a distiller, yet as they are often added to perfumed waters, and easily made, I thought the foregoing recipes would not be unacceptable to the reader.

RECIPE FOR TWO GALLONS OF AROMATIC CEPHALIC WATER.

THIS water has its name from its delicate smell, and great use in all swimmings and giddiness in the head.

Nutmegs, mace, cloves, and cinnamon, of each two ounces; golangals, and calamus aromaticus, of each one drachm; flowers of lavender, three handfuls; infuse the whole in nine quarts of proof spirit, and draw off two gallons by gentle distillation.

This is an excellent composition; it makes an admirable cordial, and may be rendered more pleasant by sweetening it with sugar.

BALM WATER, COMMONLY CALLED EAU DE CARMES.

TAKE of balm in flower, fresh gathered and clear from the stalks, two pounds; lemon-peel, fresh, as soon as pared from the fruit, four ounces; coriander seeds, eight ounces; nutmegs, cloves, cinnamon, each, bruised, two ounces; angelica roots, dried and bruised, one ounce; spirit of wine, highly rectified, ten pints. Steep the several ingredients in the spirit four or five days, and then draw off, in the heat of a water bath,

ten pints. Rectify the distilled liquor by a second distillation in a water-bath, drawing off only about eight pints and three quarters.

BALSAMUM VITÆ.

TAKE of cinnamon, one ounce and an half; ginger, one ounce; mint, one ounce; oil of vitriol, six ounces; rectified spirit of wine, two pounds.

Drop the oil of vitriol by little and little into the spirit of wine, and digest them together in a sand-bath, with a very gentle heat, for three days; then add the other ingredients; continue the digestion, in the same gentle heat, for three days longer, and afterwards filter the tincture in a glass funnel.

SWEET ELIXIR OF VITRIOL.

TAKE of the aromatic tincture, one pint; dulcified spirit of vitriol, eight ounces by weight. Mix them together.

This is designed for persons whose stomachs are too weak to bear the foregoing acid elixir.

Of Feints, and the Uses they may be applied to.

In many of the recipes I have ordered the receiver to be removed as soon as the feints begin to rise; because otherwise the goods would contract a disagreeable taste and smell. It is not, however, to be understood that these feints are to be thrown away, nor the working of the still immediately stopped; for they are far from being of no value, notwithstanding they would be of great disadvantage if suffered to run among the more spirituous parts of the goods before drawn off. As soon, therefore, as you find the clear colour of the goods begin to change of a bluish or whitish colour, remove the receiver and place another under the nose of the worm,

and continue the distillation as long as the liquor running from the worm is spirituous, which may be known by pouring a little of it on the still-head, and applying a lighted candle to it; for if it is spirituous it will burn, but otherwise, not. When the feints will no longer burn on the still-head, put out the fire, and pour the feints into a cask for that purpose; and when, from repeated distillations, you have procured a sufficient quantity of those feints, let the still be charged with them almost to the top; then throw into the still four pounds of salt, and draw off as you would any other charge, as long as the spirit extracted is of sufficient strength; after which the receiver is to be removed, and the feints saved by themselves as before.

The spirits thus extracted from the feints will serve in several compositions as well as fresh; but they are generally used in aniseed cordials, because the

predominant taste of the aniseeds will entirely cover what they had before acquired from other ingredients.

General Rules for the Distillation of Simple Waters.

1. PLANTS and their parts ought to be fresh gathered. Where they are directed fresh, such only must be employed; but some are allowed to be used dry, as being easily procurable in this state at all times of the year, though rather more elegant waters might be obtained from them whilst green.

2. Having bruised the subjects a little, pour thereon thrice its quantity of spring water.

This quantity is to be diminished or increased, according as the plants are more or less juicy than ordinary.

When fresh and juicy herbs are to be distilled, thrice their weight of water will be fully sufficient, but dry ones require a much larger quantity.

In general, there should be so much water, that after all intended to be distilled has come over, there may be liquor enough left to prevent the matter from burning to the still.

3. Formerly some vegetables were slightly fermented with the addition of yest, previous to the distillation.

4. If any drops of oil swim on the surface of the water, they are carefully taken off.

5. That the waters may be kept the better, about one-twentieth part of their weight of proof spirit may be added to each, after they are distilled.

STILLS USED FOR SIMPLE WATERS.

THE instrument chiefly used in the distillation of simple waters are of two kinds, commonly called the hot still, or alembic, and the cold still.

The waters drawn by the cold still from plants are much more fragrant, and

more fully impregnated with their virtues than those drawn by the hot still, or alembic. The method is this:

A pewter body is suspended in the body of the alembic, and the head of the still fitted to the pewter body; into this body the ingredients to be distilled are put, the alembic filled with water, the still-head luted to the pewter body, and the nose luted to the worm of the refrigeratory or worm.

The same intention will be answered, by putting the ingredients into a glass alembic, and placing it in a bath heat, or balneum mariæ.

The cold still is much the best adapted to draw off the virtues of simples, which are valued for their fine flavour when green, which is subject to be lost in drying; for when we want to extract from plants a spirit so light and volatile as not to subsist in open air any longer than while the plant continues in its growth, it is certainly the best method

to remove the plant from its native soil, into some proper instrument, where, as it dies, these volatile parts can be collected and preserved. And such an instrument is what we call the cold still, where the drying of the plant, or flower, is only forwarded by a moderate warmth, and all that rises is collected and preserved.

As the method of performing the operation by the cold still is the very same, whatever plant or flower is used, the following instance of procuring a water from rosemary, will be abundantly sufficient to instruct the young practitioner in the manner of conducting the process in all cases whatever.

Take rosemary, fresh gathered, in its perfection, with the morning dew upon it, and lay it lightly and unbruised upon the plate or bottom of the still; cover the plate with its conical head, and apply a glass receiver to the nose of it. Make a small fire of charcoal under

the plate, continuing it as long as any liquor comes over into the receiver.

When nothing more comes over, take off the still head, and remove the plant, putting fresh in its stead, and proceed as before; continue to repeat the operation successively, till a sufficient quantity of water is procured.

Let this distilled water be kept at rest in clean bottles, close stopped for some days in a cold place; by this means it will become limpid, and powerfully impregnated with the taste and smell of the plant.

In this water are contained the liquor of dew, consisting of its own proper parts, which are not without difficulty separated from the plant, and cleave to it even in drying. This dew also, by sticking to the outside, receives the liquid parts of the plant, which being elaborated the day before, and exhaled in the night, are hereby detained, so that they concrete together into one

external liquid, which is often viscid, as appears in manna, honey, &c.

Simple Distilled Waters.

SIMPLE ALEXETERIAL WATER.

TAKE of spearmint leaves, fresh, a pound and an half; sea wormwood tops, fresh, angelica leaves, fresh, each one pound; water, as much as is sufficient to prevent burning. Draw off by distillation three gallons.

Or,

Take of elder flowers, moderately dried, two pounds; angelica leaves, fresh gathered, one pound; water, a sufficient quantity. Distill off three gallons.

These waters are sufficiently elegant with regard to taste and smell, though few expect from them such virtues as their title seems to imply.

SIMPLE CINNAMON WATER.

TAKE of cinnamon, one pound; water, a gallon and an half; steep them together for two days; and then distil off the water till it ceases to run milky.

This is a very grateful and useful water, possessing in an eminent degree the fragrance and aromatic virtues of the spice.

SIMPLE PEPPERMINT WATER.

TAKE of peppermint leaves, dry, a pound and a half; water as much as will prevent the leaves burning.

Draw off by distillation one gallon.

This is a very elegant and useful water. It has a warm pungent taste, exactly resembling that of the peppermint itself.

SIMPLE PENNYROYAL WATER.

TAKE of pennyroyal leaves, dry, a pound and an half; water, as much as will prevent burning.

Draw off by distillation one gallon.

WATER OF PENNYROYAL.

TAKE of pennyroyal leaves, fresh, any quantity; water, three times as much. Distil as long as the water comes off well flavoured of the herb.

These waters possess, in a considerable degree, the smell, taste, and virtues of pennyroyal.

They are frequently taken in hysteric cases, and not without good effects.

This water is principally valued on account of its fine flavour, which approaches to that generally admired in the rose itself.

DAMASK-ROSE WATER.

TAKE of damask-roses, fresh gathered, six pounds; water as much as will keep them from burning. Distil off a gallon of the water.

Or,

Take three parts of water to one of the fresh roses, and distil as long as the water which comes over has smell of the flowers.

This water is principally valued on account of its fine flavour, which approaches to that generally in the rose itself. The purgative virtue of the roses remain entire in the liquor left in the still, which has therefore been generally employed for making the solutive honey, and syrup, instead of decoction or infusion of fresh roses prepared on purpose: and this piece of frugality the College have now admitted.

RECIPE FOR ORANGE-FLOWER WATER.

TAKE two pounds of orange-flowers, and twenty-four quarts of water, and draw over three pints.

Or,

Take twelve pounds of orange flowers, and sixteen quarts of water, and draw over fifteen quarts.

RECIPE FOR ONE GALLON OF ORANGE-PEEL WATER.

THE orange is a fruit too well known to need any comment.

Take of the outward yellow rind of Seville oranges, four ounces; water, three gallons and an half; draw off one gallon by the alembic, with a pretty brisk fire.

SIMPLE SPEARMINT WATER.

TAKE of spearmint leaves, fresh, any quantity; water, three times as much.

Distil as long as the liquor which comes over has a considerable taste or smell of the mint.

Or,

Take spearmint leaves, dried, a pound and a half; water, as much as is sufficient to prevent burning. Draw off by distillation, one gallon.

These waters smell and taste very strong of the mint; and prove, in many cases, useful stomachics.

Boerhaave commends them (cohobated) as a present and incomparable remedy for strengthening a weak stomach, and curing vomiting proceeding from cold viscous phlegm, as also in lienteries.

To make up Rum, Brandy, and Hollands Gin.

On the arrival of the West India fleets, it is usual for dealers in spirits to purchase large quantities of rum from the

importers at once, and acquaint their correspondents therewith, and the price they then bear; part of the rums are bonded, and the remainder taken home. Preparation being made for their reception, the abovè rums are carted home, and started into a back or a large vessel, the overproof reduced with water. Being well rummaged, and further reduced, suppose we say to one in ten under proof (which is a good mercantile strength.) In purchasing rums you may have some from Barbadoes, Antigua, and other sugar plantations, as well as Jamaica; for it cannot be supposed that Jamaica can supply all the country with rums, therefore by mixing the different rums together, and letting them remain in the aforesaid back till they are wanted, will greatly mellow and improve their flavour.

Having given the process, it is necessary to demonstrate clearly what each puncheon stands you in.

MADE UP RUM.

JAMAICA rum one hundred gallons, one to three and four per cent.
The per cents 37 reduced

137 gallons of proof spirits at 18*s.* per gallon .	123	0	0
17 further reduced to 1 in 10			
154 gallons 1 in 10 under proof at 19*s.* per gallon . . .	146	6	0
Bought at first cost	123	0	0
	£23	6	0

It appears by this calculation, there is a profit on each puncheon, twenty-three pounds, six shillings. From this sum, the various expenses and losses must be deducted, and the remainder will be the distiller's profit.

The above calculations will answer

for brandy and Hollands geneva, and you can make them up to any strength, but not under one in six.

TO MAKE BRITISH BRANDY.

To sixty gallons of clean rectified spirits, put one pound of sweet spirit of nitre into it, one pound of cassia buds ground, one pound of bitter almond meal (cassia and almond meal to be mixed together) before they are put to the spirits, two ounces of orris root, sliced, (not powdered) and about thirty or forty prune stones, pounded; rummage them all well together two or three times a day, for three days or more; let them settle, then add one gallon of the best wine vinegar, and if you wish to have it better than British brandy is in common, add to every four gallons one gallon of foreign brandy, which will make it nearly equal to foreign itself.

TO MAKE AN ARTIFICIAL PROOF.

To make an artificial proof for spirits, take pearl ashes, a quarter of a pound; pot ashes, ditto; soper's lye water, three quarts; one ounce of the oil of vitriol, one pint of the oil of almonds; lime water, one gallon; add a little of this mixture to your goods, by degrees, till you find it carries a good head.

Notwithstanding I have given this recipe, I do not recommend any person in the spirit trade to make use of it.

TO MAKE A FOUR GALLON CASK OF LIME WATER.

TAKE eight pounds of unslacked lime, put it into a pail or tub, and pour on it three quarts of water to dissolve it; in about an hour after add three gallons more of water, and let it stand for twenty-four hours, then pour the fine off into your four gallon cask, and put

a cock in it, and it is always ready for use.

Some may think lime water is very unwholesome, but it is quite the contrary; it is much used in medicine, and the distillers wash their back with it.

CAPILLAIRE.

TAKE fourteen pounds of loaf sugar, three pounds of coarse sugar, and six eggs, well beat up. Put these into three quarts of water; boil it up twice, skim it well, and then add a quarter of a pint of orange flower water; strain it through a jelly-bag, and put it into bottles for use. A spoonful or two of this syrup put into a draught of either warm or cold water, makes it drink exceeding pleasant.

THE VITRIOLIC LIQUOR, OR ETHER.

TAKE of rectified spirit of wine, oil of vitriol, of each thirty-two ounces; pour

the spirit into a glass retort, that will bear the sudden heat, and pour the acid, at once, upon it; mix them gradually and cautiously together, by gently shaking the retort; and immediately distil, by a sand heat, prepared beforehand for that purpose, the recipient being placed in a vessel of snow or water. The fire should be so regulated, that the liquor may boil as soon as possible, and continued to boil till sixteen ounces are distilled, when the retort is to be removed.

To the distilled liquor add two drachms of the stronger common caustic; and distil again, from a very high retort, with a very gentle fire, the recipient being placed as before in a refrigeratory. Continue the distillation till ten ounces are drawn off.

To the acid residuum, after the distillation, if you pour sixteen ounces of rectified spirit of wine, and repeat the distillation, more ethereal liquor may be

obtained, and this process may be repeated several times.

The preparation of this singular fluid has hitherto been confined to few hands; for though several processes have been published for obtaining it, the success of most of them is precarious, and some of them are accompanied with danger to the operator. Where the dulcified spirit only is the object, the method, as before directed for it, succeeds to perfection: but when it is made with a view to the other, a variation is necessary, for only a small quantity of ether can be separated from the spirit so prepared; there, the distillation is performed with an equable and gentle heat; here the fire should be hastily raised, so as to make the liquor boil; for on this circumstance the produce of ether principally depends.

Ether is the lightest, most volatile, and inflammable of all known liquids. It is lighter than the most highly rec-

tified spirit of wine in proportion of about seven to eight. A drop let fall on the hand, evaporates almost in an instant, scarcely rendering the part moist. It does not mix, but only in a small quantity, with water, spirit of wine, alkaline lixivia, volatile alkaline spirits, or acids; but is a powerful dissolvent for oils, balsams, resins, and other analogous substances. It has a fragrant odour, which, in consequence of the volatility of the fluid, is diffused through a large space. Its medical virtues are not as yet much known, though it is not to be doubted that a fluid of so much subtilty must have considerable effects. It has often been found to give ease in violent head-achs, by being applied externally to the part, and to relieve the tooth-ach, by being laid on the afflicted jaw. It has been given also internally, with benefit, in hooping-coughs and hysterical cases, from two or three drops to five-and-twenty, in a glass of wine or

water, which should be swallowed as quick as possible, as the ether so speedily exhales.

DULCIFIED SPIRIT OF NITRE.

TAKE of rectified spirit of wine, three pounds; nitrous acid, one pound; pour the rectified spirit of wine into a large bolt head, placed in a vessel of cold water, and add, by degrees, the acid, carefully shaking the vessel; set it in a cool place, lightly stopped, for seven days; afterwards distil the liquor in a water-bath, the receiver being placed in a vessel filled either with water or snow, as long as any spirit arises.

Here the operator must take care not to invert the order of mixing the two liquors, by pouring the vinous spirit into the acid; for if he should, a violent effervescence and heat would ensue, and the matter be dispersed, in highly noxious red fumes. The most conve-

nient and safe method of performing the mixture seems to be, to put the inflammable spirit into a glass body, with a narrow mouth, placed under a chimney, and to pour upon it the acid, by means of a glass funnel, in very small quantities at a time, shaking the vessel as soon as the effervescence ensuing upon each addition ceases, before a fresh quantity is put in. By these means the glass will be heated equally, and be prevented from breaking. During the action of the two spirits upon one another, the vessel should be lightly covered; if close stopped, it will burst; and, if left entirely open, some of the more valuable parts will exhale. Lemery directs the mixture to be made in an open vessel, by which unscientifical procedure he usually lost, as he himself observes, half his liquor: and we may presume that the remainder was not the medicine here intended.

Dulcified spirit of nitre has been long

held, and not undeservedly, in great esteem. It quenches thirst, promotes the natural secretions, expels flatulences, and moderately strengthens the stomach. It may be given from twenty drops to a drachm, in water, tea, or wine. Mixed with a small quantity of spirit of hartshorn, the spiritous volatilis aromaticus, or any other alkaline spirit, it proves a mild, yet efficacious, diaphoretic, and often notably diuretic; especially in some febrile cases, where such a salutary evacuation is wanted. *A small proportion of this spirit, added to malt spirits, gives them a flavour approaching to that of French brandy.*

THE QUALITIES OF RECTIFIED SPIRIT OF WINE.

We have seen that these spirits, from whatever vegetable subjects they have been produced, are, when perfectly pure, the same. They have a hot pungent

taste, without any particular flavour; they readily catch flame, and burn entirely away, without leaving any marks of an aqueous moisture behind; distilled by a heat less than that of boiling water, they totally arise, the last runnings proving as flavourless and inflammable as the first: they dissolve essential vegetable oils and resins into an uniform transparent fluid.

These spirits are the lightest of almost all known liquors; expressed oils, which swim upon water, sink in these to the bottom; a measure which contains ten ounces by weight of water, will hold little more than eight and a quarter of pure spirit. The uses of vinous spirits, as menstrua for the virtues of other medicines, we have seen, and in this place consider only their own.

Pure alcohol coagulates all the fluids of animal bodies, except urine, and hardens the solid parts; applied externally it strengthens the vessels, thickens the

juices in them, and thus powerfully restrains hæmorrhages. It instantly contracts the extremities of the nerves it touches, and deprives them of sense and motion, by these means easing them of pain, but at the same time destroying their use. Hence employing spiritous liquors in fomentation (notwithstanding the specious titles of vivifying, heating, restoring mobility, resolving, dissipating, and the like, usually attributed to them) may sometimes be attended with unhappy consequences. These liquors, received undiluted into the stomach, produce the same effects, thickening the fluid and contracting all the solid parts which they touch, and destroying, at least for a time, their use and office: if the quantity be considerable, a palsy or apoplexy follows, which ends in death. Taken in a small quantity, and duly diluted, they brace up the fibres, raise the spirits, and promote agility; if further continued, the senses are disorder-

ed, voluntary motion destroyed, and at length the same inconveniences brought on as before. Vinous spirits, therefore, in small quantities, and properly diluted, may be applied to useful purposes in the cure of diseases; whilst in larger ones, or if their use be long continued, they act as a poison of a particular kind.

A

COMPLETE SET OF TABLES,

EXHIBITING

THE EXACT WEIGHT

OF

SPIRITUOUS LIQUORS,

FROM THE LOWEST QUALITY TO ALCOHOL:

AND ALSO OF

WATER AND VINEGAR;

FROM ONE GALLON TO TWO HUNDRED AND FIFTY-TWO,
OR ONE TUN.

Gallons.	*Weight of Water.* C. qr. lb. oz. dr.	*Weight of Spirits under Proof.* 1 in 2 C. qr. lb. oz. dr.	1 in 4 C. qr. lb. oz. dr.
1	0 0 8 7 5	0 0 8 1 4	0 0 7 15 5
2	0 0 16 14 10	0 0 16 2 8	0 0 15 14 10
3	0 0 25 5 15	0 0 24 3 12	0 0 23 13 15
4	0 1 5 13 4	0 1 4 5 0	0 1 3 13 4
5	0 1 14 4 9	0 1 12 6 4	0 1 11 12 9
6	0 1 22 11 14	0 1 20 7 8	0 1 19 11 14
7	0 2 3 3 3	0 2 0 8 12	0 1 27 11 3
8	0 2 11 10 8	0 2 8 10 0	0 2 7 10 8
9	0 2 20 1 13	0 2 16 11 4	0 2 15 9 13
10	0 3 0 9 2	0 2 24 12 8	0 2 23 9 2
20	1 2 1 2 4	1 1 21 9 0	1 1 19 2 4
25	1 3 15	1 3 6	1 3 3
30	2 1 2	2 0 18	2 0 14
35	2 2 16	2 2 2	2 1 25
40	3 0 2	2 3 15	2 3 9
45	3 1 17	3 1 0	3 0 21
50	3 3 3	3 2 12	3 2 3
55	4 0 17	3 3 24	3 3 14
60	4 2 3	4 1 9	4 0 26
65	4 3 17	4 2 21	4 2 9
70	5 1 4	5 0 6	4 3 20
75	5 2 18	5 1 18	5 1 4
80	6 0 4	5 3 2	5 2 15
85	6 1 18	6 0 15	5 3 27
90	6 3 5	6 1 27	6 1 10
95	7 0 19	6 3 12	6 2 22
100	7 2 5	7 0 24	7 0 5
110	8 1 6	7 3 21	7 3 0
120	9 0 6	8 2 18	8 1 23
130	9 3 7	9 1 14	9 0 18
140	10 2 7	10 0 11	9 3 13
150	11 1 8	10 3 8	10 2 8
160	12 0 8	11 2 5	11 1 3
170	12 3 9	12 1 2	11 3 26
180	13 2 10	12 3 26	12 2 21
190	14 1 10	13 2 23	13 1 16
200	15 0 11	14 1 20	14 0 11
210	15 3 12	15 0 17	14 3 6
220	16 2 13	15 3 13	15 2 1
240	18 0 13	17 1 6	16 3 18
252	19 0 2	18 0 19	17 3 1

N. B. A gallon of spirits at 1 in 3 weighs 7 lb. 15 oz. 6 dr. and a tun C. qr. lb. 17 8 17
Ditto..... at 1 in 5 weighs 7 13 12½ and a tun 17 2 20.

Weight of Spirituous Liquors under Proof.

Gallons.	1 in 6					1 in 8					1 in 10				
	C.	qr.	lb.	oz.	dr.	C.	qr.	lb.	oz.	dr.	C.	qr.	lb.	oz.	dr.
1	0	0	7	13	7	0	0	7	12	12	0	0	7	12	7
2	0	0	15	10	14	0	0	15	9	8	0	0	15	8	4
3	0	0	23	8	5	0	0	23	6	4	0	0	23	5	5
4	0	1	3	5	12	0	1	3	3	0	0	1	3	1	12
5	0	1	11	3	3	0	1	10	15	12	0	1	10	14	3
6	0	1	19	0	10	0	1	18	12	8	0	1	18	10	10
7	0	1	26	14	1	0	1	26	9	4	0	1	26	7	1
8	0	2	6	11	8	0	2	6	6	0	0	2	6	3	8
9	0	2	14	8	15	0	2	14	2	12	0	2	13	15	15
10	0	2	22	6	6	0	2	21	15	8	0	2	21	12	6
20	1	1	16	12	12	1	1	15	15	0	1	1	15	8	12
25	1	3	0			1	2	26			1	2	26		
30	2	0	11			2	0	9			2	0	9		
35	2	1	22			2	1	19			2	1	19		
40	2	3	5			2	3	3			2	3	2		
45	3	0	16			3	0	14			3	0	13		
50	3	2	0			3	1	26			3	1	25		
55	3	3	11			3	3	9			3	3	8		
60	4	0	22			4	0	20			4	0	19		
65	4	2	5			4	2	3			4	2	2		
70	4	2	16			4	3	14			4	3	13		
75	5	0	27			5	0	25			5	0	24		
80	5	2	10			5	2	8			5	2	6		
85	5	3	22			5	3	19			5	3	17		
90	6	1	5			6	1	2			6	1	0		
95	6	2	16			6	2	13			6	2	11		
100	6	3	27			6	3	24			6	3	22		
110	7	2	21			7	2	18			7	2	16		
120	8	1	16			8	1	12			8	1	10		
130	9	0	10			9	0	6			9	0	4		
140	9	3	4			9	3	0			9	2	25		
150	10	1	27			10	1	22			10	1	19		
160	11	0	21			11	0	16			11	0	13		
170	11	3	15			11	3	10			11	3	7		
180	12	2	10			12	2	4			12	2	1		
190	13	1	4			13	0	26			13	0	22		
200	13	3	26			13	3	20			13	3	16		
210	14	2	21			14	2	14			14	2	10		
220	15	1	15			15	1	8			15	1	4		
240	16	3	3			16	2	24			16	2	20		
252	17	2	13			17	2	6			17	2	1		

N. B. A gallon of spirits at 1 in 7 weighs lb. 7 oz. 13 dr. 2, and a tun C. 17 qr. 2 lb. 9.
Ditto..... at 1 in 9 weighs 7 12 8, and a tun 17 2 3.

Weight of Spirituous Liquors under Proof.													*Hydrometer Proof.*				
Gallons	1 in 15					1 in 20											
	C.	qr.	lb.	oz.	dr.	C.	qr.	lb.	oz.	dr.			C.	qr.	lb.	oz.	dr.
1	0	0	7	12	2	0	0	7	11	13			0	0	7	11	3
2	0	0	15	8	4	0	0	15	7	10			0	0	15	6	6
3	0	0	23	4	6	0	0	23	3	7			0	0	23	1	9
4	0	1	3	0	8	0	1	2	15	4			0	1	2	12	12
5	0	1	10	12	10	0	1	10	11	1			0	1	10	7	15
6	0	1	18	8	12	0	1	18	6	14			0	1	18	3	2
7	0	1	26	4	14	0	1	26	2	11			0	1	25	14	5
8	0	2	6	1	0	0	2	5	14	8			0	2	5	9	8
9	0	2	13	13	2	0	2	13	10	5			0	2	13	4	11
10	0	2	21	9	4	0	2	21	6	2			0	2	20	15	14
20	1	1	15	2	8	1	1	14	12	4			1	1	13	15	12
25	1	2	26			1	2	25					1	2	24		
30	2	0	9			2	0	8					2	0	7		
35	2	1	19			2	1	18					2	1	17		
40	2	3	2			2	3	1					2	3	0		
45	3	0	13			3	0	12					3	0	11		
50	3	1	24			3	1	23					3	1	21		
55	3	3	7			3	3	6					3	3	4		
60	4	0	17			4	0	17					4	0	14		
65	4	2	0			4	1	27					4	1	25		
70	4	3	11			4	3	10					4	3	7		
75	5	0	22			5	0	21					5	0	18		
80	5	2	4			5	2	3					5	2	1		
85	5	3	15			5	3	14					5	3	11		
90	6	0	26			6	0	25					6	0	22		
95	6	2	9			6	2	8					6	2	4		
100	6	3	20			6	3	18					6	3	15		
110	7	2	13			7	2	12					7	2	8		
120	8	1	7			8	1	6					8	1	1		
130	9	0	0			8	3	27					8	3	22		
140	9	2	22			9	2	20					9	2	15		
150	10	1	15			10	1	14					10	1	8		
160	11	0	9			11	0	7					11	0	1		
170	11	3	3			11	3	0					11	2	22		
180	12	1	24			12	1	22					12	1	15		
190	13	0	18			13	0	15					13	0	8		
200	13	3	11			13	3	9					13	3	1		
210	14	2	4			14	2	2					14	1	22		
220	15	0	26			15	0	24					15	0	15		
240	16	2	14			16	2	11					16	2	2		
252	17	1	23			17	1	20					17	1	10		

Weight of Spirituous Liquors over Proof.

Gallons.	1 to 20.					1 to 15.					1 to 10.				
	C.	qr.	lb.	oz.	dr.	C.	qr.	lb.	oz.	dr.	C.	qr.	lb.	oz.	dr.
1	0	0	7	10	9	0	0	7	10	9	0	0	7	10	4
2	0	0	15	5	2	0	0	15	5	2	0	0	15	4	8
3	0	0	22	15	11	0	0	22	15	11	0	0	22	14	12
4	0	1	2	10	4	0	1	2	10	4	0	1	2	9	0
5	0	1	10	4	13	0	1	10	4	13	0	1	10	3	4
6	0	1	17	15	6	0	1	17	15	6	0	1	17	13	8
7	0	1	25	9	15	0	1	25	9	15	0	1	25	7	12
8	0	2	5	4	8	0	2	5	4	8	0	2	5	2	0
9	0	2	13	15	1	0	2	13	15	1	0	2	12	12	4
10	0	2	20	9	10	0	2	20	9	10	0	2	20	6	8
20	1	1	13	3	4	1	1	13	3	4	1	1	12	13	0
25	1	2	23			1	2	23			1	2	23		
30	2	0	6			2	0	6			2	0	5		
35	2	1	16			2	1	16			2	1	15		
40	2	2	26			2	2	26			2	2	25		
45	3	0	8			3	0	8			3	0	7		
50	3	1	19			3	1	19			3	1	18		
55	3	3	2			3	3	1			3	3	0		
60	4	0	12			4	0	11			4	0	10		
65	4	1	22			4	1	22			4	1	20		
70	4	3	5			4	3	4			4	3	2		
75	5	0	15			5	0	14			5	0	12		
80	5	1	26			5	1	25			5	1	23		
85	5	3	8			5	3	7			5	3	5		
90	6	0	18			6	0	17			6	0	15		
95	6	2	1			6	1	27			6	1	25		
100	6	3	11			6	3	10			6	3	7		
110	7	2	4			7	2	2			7	2	0		
120	8	0	24			8	0	23			8	0	20		
130	8	3	17			8	3	15			8	3	12		
140	9	2	10			9	2	8			9	2	4		
150	10	1	2			10	1	1			10	0	25		
160	10	3	23			10	3	21			10	3	17		
170	11	2	16			11	2	14			11	2	9		
180	12	1	8			12	1	6			12	1	2		
190	13	0	1			12	3	27			12	3	22		
200	13	2	22			13	2	19			13	2	14		
210	14	1	14			14	1	12			14	1	6		
220	15	0	7			15	0	5			14	3	27		
240	16	1	21			16	1	18			16	1	12		
252	17	1	1			17	0	26			17	0	19		

Weight of Spirituous Liquors over Proof.

Gallons.	1 to 8.					1 to 6.					1 to 4.				
	C.	qr.	lb.	oz.	dr.	C.	qr.	lb.	oz.	dr.	C.	qr.	lb.	oz.	dr.
1	0	0	7	9	15	0	0	7	9	4	0	0	7	8	5
2	0	0	15	3	14	0	0	15	2	8	0	0	15	0	10
3	0	0	22	13	13	0	0	22	11	12	0	0	22	8	15
4	0	1	2	7	12	0	1	2	5	0	0	1	2	1	4
5	0	1	10	1	11	0	1	9	14	4	0	1	9	9	9
6	0	1	17	11	10	0	1	17	7	8	0	1	17	1	14
7	0	1	25	5	9	0	1	25	0	12	0	1	24	10	3
8	0	2	4	15	8	0	2	4	10	0	0	2	4	2	8
9	0	2	12	9	7	0	2	12	3	4	0	2	11	10	13
10	0	2	20	3	6	0	2	19	12	8	0	2	19	3	2
20	1	1	12	6	12	1	1	11	9	0	1	1	10	6	4
25	1	2	22			1	2	21			1	2	20		
30	2	0	4			2	0	3			2	0	1		
35	2	1	14			2	1	13			2	1	11		
40	2	2	24			2	2	23			2	2	21		
45	3	0	7			3	0	5			3	0	2		
50	3	1	17			3	1	15			3	1	12		
55	3	2	17			3	2	25			3	2	22		
60	4	0	9			4	0	7			4	0	3		
65	4	1	19			4	1	17			4	1	13		
70	4	3	1			4	2	27			4	2	22		
75	5	0	11			5	0	9			5	0	4		
80	5	1	21			5	1	19			5	1	14		
85	5	3	3			5	3	0			5	2	23		
90	6	0	13			6	0	10			6	0	5		
95	6	1	23			6	1	20			6	1	14		
100	6	3	5			6	3	2			6	2	24		
110	7	1	25			7	1	22			7	1	15		
120	8	0	18			8	0	14			8	0	6		
130	8	3	10			8	3	6			8	2	26		
140	9	2	2			9	1	26			9	1	17		
150	10	0	22			10	0	17			10	0	8		
160	10	3	14			10	3	9			10	2	27		
170	11	2	6			11	2	1			11	1	18		
180	12	0	26			12	0	21			12	0	10		
190	12	3	19			12	3	13			12	3	1		
200	13	2	11			13	2	4			13	1	20		
210	14	1	3			13	0	24			14	0	11		
220	14	3	23			14	3	16			14	3	2		
240	16	1	7			16	1	0			16	0	13		
252	17	0	15			17	0	7			16	3	19		

N. B. A gallon of spirits at 1 to 9 weighs lb. 7 oz. 9 dr. 15, and a tun C. 17 qr. 0 lb. 17.
Ditto..... at 1 to 7 weighs 7 9 10, and a tun 17 0 11.

Gallons.	Weight of Spirits, P. O. 1 to 2. C. qr. lb. oz. dr.	Weight of Alcohol. C. qr. lb. oz. dr.	Weight of Vinegar. (Wine Measure.) C. qr. lb. oz. dr.
1	0 0 7 5 7	0 0 6 15 6	0 0 8 7 0
2	0 0 14 10 14	0 0 13 14 12	0 0 16 14 0
3	0 0 22 0 5	0 0 20 14 2	0 0 25 5 0
4	0 1 1 5 12	0 0 27 13 8	0 1 5 12 0
5	0 1 8 11 3	0 1 6 12 14	0 1 14 3 0
6	0 1 16 0 10	0 1 13 12 4	0 1 22 10 0
7	0 1 23 6 1	0 1 20 11 10	0 2 3 1 0
8	0 2 2 11 8	0 1 27 11 0	0 2 11 8 0
9	0 2 10 0 15	0 2 6 10 6	0 2 19 15 0
10	0 2 17 6 6	0 2 13 9 12	0 3 0 6 0
20	1 1 6 12 12	1 0 27 3 8	1 2 0 12 0
25	1 2 15	1 2 6	1 3 15
30	1 3 24	1 3 13	2 1 1
35	2 1 5	2 0 19	2 2 15
40	2 2 13	2 1 26	3 0 1
45	2 3 22	2 3 5	3 1 16
50	3 1 3	3 0 12	3 3 2
55	3 2 11	3 1 19	4 0 16
60	3 3 20	3 2 26	4 2 2
65	4 1 1	4 0 4	4 3 16
70	4 2 9	4 1 11	5 1 3
75	4 3 18	4 2 18	5 2 17
80	5 0 27	4 3 25	6 0 3
85	5 2 7	5 1 4	6 1 17
90	5 3 10	5 2 10	6 3 3
95	6 0 25	5 3 17	7 0 18
100	6 2 5	6 0 24	7 2 4
110	7 0 23	6 3 10	8 1 4
120	7 3 12	7 1 23	9 0 4
130	8 2 1	8 0 9	9 3 5
140	9 0 19	8 2 22	10 2 5
150	9 3 8	9 1 8	11 1 6
160	10 1 25	9 3 22	12 0 6
170	11 0 15	10 2 7	12 3 6
180	11 3 4	11 0 21	13 2 7
190	12 1 21	11 3 7	14 1 7
200	13 0 11	12 1 20	15 0 7
210	13 3 0	13 0 6	15 3 7
220	14 1 17	13 2 19	16 2 8
240	15 2 24	14 3 19	18 0 9
252	16 2 0	15 2 18	18 3 26

	lb.	oz.	dr.		C.	qr.	lb.
N. B. A gallon of spirits at 1 to 5 weighs	7	8	15,	and a tun	17	0	1.
Ditto..... at 1 to 3 weighs	7	7	6,	and a tun	16	3	3.

METHOD OF CASTING A RECTIFIER'S STOCK.

Number of Casks.	1	2	3	4	5	6	7	8	9	10	11
Strength of Spirits in each Cask.	Spirits of Wine.	Over Proof.			Proof.	Under Proof.					
		1 to 20	1 to 10	1 to 15		1 in 6	1 in 5	1 in 4	1 in 3	1 in 2	2 in 3
Quantity of Gallons in each Cask.	9	656	690	—	65	—	1679	737	1306	174	231

1 to 20	1 to 10	1 in 5	1 in 4	1 in 3		2 in 3
20) 656	10) 690	5) 1679	4) 737	3) 1306	1 in 2	3) 231
32	69	335	184	435	2) 174	
688	759	1344	553	871	87	77

TOTAL OF PROOF SPIRITS COLLECTED.

Strengths.	Gallons.
1 to 20	688
1 to 10	759
Proof	65
1 in 5	1344
1 in 4	553
1 in 3	871
1 in 2	87
2 in 3	77
Total	4444
Multipied by the Factor	1.3636
	54544
	54544
	54544
	54544
	6059.8384
Spirits of Wine doubled	18.

Total at 1 in 3 and $\frac{1}{2}$..... 6077. under Hydrometer Proof, according to G. III. c. 73.

Note.—Showing how to find the above factor. Divide 3.75 by 2.75, the product will be 1.3636, as above,

GENERAL RULES,

WITH

EXAMPLES,

For calculating Spirit of any given Strength, to ascertain its proper Quality of any other assigned Strength.

RULE I.

To bring the given strength to hydrometer proof, divide the given quantity by its given strength over or under hydrometer proof; if over proof, add the quotient to the quantity given; if under proof, deduct it therefrom, which gives the quantity at hydrometer proof.

EXAMPLE I.

Suppose 100 gallons of spirit at 1 to 10 over proof, what quantity of liquor

will be necessary to reduce it to hydrometer proof?

10) 190

10 Liquor necessary.

110 Quantity when lowered.

EXAMPLE II.

Suppose 100 gallons of spirit at 1 in 10 under proof, how many gallons at hydrometer proof?

10) 100

10 Subtract

90 Gallons at hydrometer proof.

RULE II.

If your spirit be of the strength of 2 in 3, or 3 in 4, &c. under hydrometer proof, divide by the last figure, and the quotient will be the quantity at hydrometer proof.

EXAMPLE III.

Suppose 92 gallons of spirit at 45 in 46 under proof, how many gallons at hydrometer proof?

46) 92 (2 gallons at hydrometer proof.
92

MIXING OF SPIRITS.

To find the value of a mixture of spirits, multiply each quantity separately by its value per gallon; add the products together, and divide the sum total by the number of gallons in the whole quantity: the quotient will be the value of the mixture per gallon.

EXAMPLE.

I wish to mix 25 gallons of French brandy at 20*s.* per gallon, 20 gallons at 18*s.*, and 15 gallons at 12*s.*; what

will be the value of a gallon of the mixture?

25 by 20 are	£.25
20 by 18 are	18
15 by 12 are	9
60	52

52
20

6|0) 104|0 (20
17*s.*

20
12

6|0) 24|0
4*d.*

Answer 17*s.* 4*d.* per gallon.

To fill a Cask of 100 *Gallons with Brandy at* 16*s. and Brandy at* 12*s. so as to sell it at the rate of* 14*s. the Gallon.*

	s.		*s.*
Given price . .	14	Highest price .	16
Lowest ditto .	12	Lowest ditto .	12
Difference . . .	2		4

Given quantity . . 100

2

4)200

50

Thus I find, that in 100 gallons of this mixture there must be 50 gallons of the best brandy, and consequently 50 gallons of the worst.

I wish to know what strength the following spirits will be after they are mixed; namely, 120 gallons 1 *to* 10 over proof, and 56 gallons 1 *in* 5 under proof.

10) 120 5) 56

12 11 2

132 proof. 44 6 proof.

44 6

176 6 total proof.

Here I find, that 120 gallons at 1 to 10 are equivalent to 132 gallons at proof;

and 50 at 1 in 5, to 44 gallons 6 pints at proof; which, added together, make 176 gallons 6 pints at proof; but as the whole mixture is only 176 gallons, it is consequently 6 pints better than proof.

Note.—I presume I have given sufficient instructions for mixing of spirits, &c.; therefore, I trust, no person will be at a loss how to calculate any mixture that may occur in business with a little practice.

It must be observed, that it is found by experience, when spirits are lowered by the addition of liquor, (particularly over proof spirits) or by being mixed with any other fluid of a more dense nature than such spirits, the mixture is not increased according to the quantity of liquor, or other fluid so added; but as the concentration or diminution in quantity will always vary in proportion to the quantities, weight, and temperature of the goods so mixed together; therefore this table shows that the defi-

ciency occasioned by the mixture of water with spirits at the different strengths, by some called the concentration, is as follows:

Gallons.		Gallons.
75	to the 100 over proof	5
72½	. . . . .	4¾
70	. . . . .	4½
67½	. . . . .	4¼
65	. . . . .	4
62½	. . . . .	3¾
60	. . . . .	3½
57½	. . . . .	3¼
55	. . . . .	3
51½	. . . . .	2¾
48½	. . . . .	2½
45	. . . . .	2¼
41½	. . . . .	2
37½	. . . . .	1
33	. . . . .	1½
28½	. . . . .	1¼
24	. . . . .	1
19½	. . . . .	¾
15	. . . . .	½
10	. . . . .	¼

UNDER PROOF.

Gallons		Gallons.
12	in the 100 under proof	¼
20	. . . . .	½
30	. . . . .	¾
40	. . . . .	1
50	. . . . .	¾
60	. . . . .	½
70	. . . . .	¼

FOREIGN WINES.

GENERAL REMARKS.

By Wine, which is the most safe and sanative cordial bestowed on man, is here meant the juice of the grape. The vine was no doubt cultivated in the earliet ages of the world. Moses, in sacred history, informs us, that Noah* was intoxicated with wine, probably not many years after he had quitted the ark.

* Gen. ix. 21.

The immoderate use of this superior fluid, it is hoped, could not have contributed to the vices of the antediluvians, which the sacred historian ascribes to them as the cause of their being extirpated by the flood.

The admired wisdom of Mahomet in after ages, so strongly manifested in making it an article of religious faith in the Alcoran, that his followers or believers should not drink any wine, from finding them disobedient and ungovernable when intoxicated with it, must be allowed was a remarkable stroke of good policy, in a man who combined in himself the great and extraordinary offices of general, prophet, and lawgiver, to enact, under those circumstances, *Thou shalt drink no wine;* and though a precaution well calculated to secure good order and obedience in an army of religious fanatics, would be a precedent unworthy the imitation of rational and enlightened people. Were it not ad-

hered to as an article of their faith, they would have been a more healthy race of people, and probably not subject to the plague, so much more fatal to them than to their neighbours, who indulge in the liberal use of this sanative, tonic, and antiseptic beverage. This should be a useful hint to all who come among them not to follow their example, lest they should share their fate.

Ancient historians mention, that the Asiatics first learned the art of cultivating the vine from the Egyptians, the Grecians from the Asiatics, and the Romans from the Greeks. These two last nations certainly understood the art of cultivating the vine, and the most judicious mode of preparing and managing their wines, and their philosophers and physicians the healthful and medicinal application of them.

Of all the inestimable products of nature, there is probably none more numerous in its species or diversified in its

qualities than this divine plant; one of the greatest blessings bestowed on man by the great all-wise Creator of the universe; the highest luxury in nature, both in the delicious quality of its fruit as a food and the exquisite delicacy of its wine as a drink. Hence the difference in virtue and the delicacy of taste in wines proceed, for the most part, from the different nature of the grapes from which they are made, the various degrees of maturity, and the nature of the soil where the vineyards are planted, the mode of culture, the diversity in the manner of preparation, and the sundry changes induced on each species of the vine from the temperature of climate; therefore a knowledge of these essential particulars are indispensible.

We learn from Pliny, that the Romans were very curious in searching after the most excellent wines; the distinction between many of them consisted in the place of their growth, as the Setiranum, the Cacubum, the Falernum, the Gau-

ranum, the Faustianum, the Albanum, the Surrantinum, and the Massicum, which were the most delicate wines of Italy in the time of that author.

Among the wines of Greece, they esteemed the Maronean the Thracian, the Cretan, the Coan, the Chian, the Lesbian, the Icarian, the Syrinean, &c. Their luxurious taste carried them in search of the wines of Asia, as those of Mount Lebanus and others, as may be seen in the same author.

The ordinary process of making wine is as follows.—The saccharine principle of the grape having arrived at perfection, they are then pressed, and the juice flows into a receiver, or vessel of suitable capacity, in which the fermentation appears, and proceeds in the following manner.—At the end of several days, and frequently in a few hours, according to the heat of the atmosphere, the nature of the grapes, the quantity of the liquid, and the temperature of the place, the

operation is performed, a movement or intestine motion is produced in the liquor, which continually increases; expansion takes place; and accumulating heat and the volume of the fluid proportionally increases; it becomes turbid and oily; carbonic acid, or fixed air, is disengaged, which fills all the unoccupied part of the vessel, and the temperature increases from sixty-five to seventy-five degrees of Farenheit's thermometer, and often higher, with a strong ebullition.

At the end of several days the intestine motion ceases, the heat decreases, the mass falls, the feculencies subside, and the liquor becomes clearer, and is found to be less saccharine, more odorant, of a vinous flavour, and more or less of a red colour, from the re-action of the ardent spirit upon the colouring matter of the skin of the grape, which ardent spirit is produced by the previous fermentation. The wine is usually taken

out of the fermenting vessels at the period when all the phenomena of fermentation have subsided.

When the mass is settled, the wine then assumes its natural colour; when it has become clear, and its heat dissipated, it is put into casks, where, by a second and insensible fermentation, the wine clarifies, its principles combining more perfectly together, and its taste and smell become more and more developed. If this fermentation is stopped or suffocated, the gaseous principles are retained, and the wine is brisker, and more of the nature of must.

The causes of an imperfect fermentation are the following:—

1. A deficiency of heat; in which case the fermentation languishes, the saccharine and oily matters are not sufficiently attenuated or elaborated, and the wine is unctuous and sweet.

2. When the saccharine matter is not sufficiently abundant, as happens in rainy seasons; the wine is then weak,

and the mucilage, which is predominant by its decomposition, causes it to become sour.

3. When the juices are too watery, in which case must, concentrated by boiling, is added.

4. When the saccharine principle is not sufficiently abundant; this effect may be remedied by the addition of sugar.

Macquier has proved that excellent wine may be made of verjuice and sugar; and M. de Bullion has made wine at Bellejames with the verjuice of his wine and moist sugar.

There have been many disputes to determine whether grapes should be pressed with the stalks or without. This depends on the nature of the fruit; when they are highly charged with saccharine and mucilaginous matter the stalk corrects the insipidity of the wine by its bitter principle; but when, on the contrary, the juice is not too sweet, the stalk renders it drier and very rough.

The colouring principle of wines is of

a resinous nature, and is contained in the skin of the grape; therefore the fluid is not coloured until the wine is formed, for until then there is nothing that can dissolve it; and hence it is that white wine may be made of red grapes when the juice of the grape is not suffered to stand and ferment on the hisks and mark. They are in this case separated from the must as soon as the juice of the grapes is expressed. If the must be evaporated, the colouring principle remains in the residue, and may be extracted by spirit of wine.

Old wines lose their colour, a pellicle being precipitated, which either falls to the bottom or is deposited on the side of the bottle. If wine be exposed to the heat of the sun during the summer, the colouring matter is detached in a pellicle, which falls to the bottom when the vessel is open, the discolouring is more speedy, and is effected in a few days during the summer. Wine thus deprived of its colour is not perceptibly weakened.

The colour of wine is frequently artificial; a deep red is almost always the effect of artificial additions, as the red woods, elderberries, bilberries, &c.

There are a great variety of grapes colourless, yellow, bluish, and red, more or less sweet, and of more or less flavour. The colour, it is remarked, is lodged not in the juice but in the skin of the grape; the juice, however, as a menstruum, frequently extracts and becomes impregnated with it during its expression from the fruit, and is developed more and more, as it is suffered to stand longer or shorter on the skins and mark, as already observed.

One and the same kind of grape proves greatly different in taste and flavour, according to the culture, soil, and climate, and exposure to the sun. In cold countries, the vine, if it grows at all, never ripens its fruit; and even in France and Italy it may be observed, that the grapes produced on the south side of hills are

much sweeter than those which are grown on the plains.

In very warm dry seasons the grapes at the bottom of the hills are best, in warm and moist ones those at the top; such as grow in the middle are always good. In dry summers the grapes are sweetest but least juicy, in rainy ones they abound with juice, which is proportionably weaker and more dilute. Frosts in autumn promote their ripening; but frosts, succeeding heavy rains, make them apt to burst and shed their juice.

In some places the grape is concentrated, or rendered richer, by suffering it to remain on tilt; great part of its aqueous moisture exhaled, the stem of each cluster being cut half through when the fruit is ripe, to prevent the afflux of any fresh juice from the plant. The sweet Hungarian and Spanish wines are made from grapes that have thus been half dried.

The juice of the grape is called, be-

fore its fermentation, must. Different sorts of must are obtained from the same kind of grape, produced in the same vineyard according to the mode of management; the best is that which issues upon breaking, bruising, or treading the picked fruit; inferior sorts are extracted by forcibly pressing the entire cluster, stalks and all.

Dilute watery musts are enriched by infusing dried grapes in them, or by inspissating a part of the liquor, and adding this to the rest. By these means strong full-bodied wines are obtainable from the poorest juices; and, by similar management, even the better sort of grape wines are imitable by the juices of other fruits, artificially concentrated or heightened by the simple sweetness of sugar.

Wine may be divided, with respect to the fermentation, into three classes; those of the first do not indeed deserve the name of wines, as having scarcely suffered any degree of fermentation at

all, and being very little other than boiled must. Several of the Italian wines are of this sort, and are called by the general name of Vino-collo, or boiled wine.

It is to thin watery juices, extremely prone to ferment, and in which fermentation, when once began, can scarcely be suppressed, till it has run beyond the vinous state, that this process is applied. By boiling, the fermentive quality is restrained, and the liquor becomes richer, and continues fit for drinking for at least a year or two, though it is never so wholesome as the fermented wines.

The effects of must and wine upon animal bodies are diametrically different; must relaxes, and liquifies, and, if drank immoderately, is apt to produce dangerous fluxes; perfect wine, on the contrary, corroborates and constringes.

The second class comprehends those wines which have undergone fermentation, but not a complete one; of these there are two kinds: the first are the thin sweet wines, which are no other

than must partially fermented, or whose fermentation is checked, while it can be checked, before the sweetness has gone off. These wines can scarcely be kept above a year, which are the Tyrol, some of the Savoy, and several of the Italian. The second sort is the strong, full-bodied, rich, sweet wines, which are generally a mixture of fermented and inspissated must, the latter added to increase the richness of the liquor and prevent the fermentation running beyond its due limits. These kind of wines greatly heat the constitution, and ought to be very sparingly drank; such as Malmsey, Canary, and some of the Spanish and Hungarian wines.

The third class belong to those wines which have been completely fermented and have thrown off their gross matter. These are the most perfect wines, and for common use the most wholesome.

Wines sensibly waste in keeping, how closely soever the cask is stopped, a part transpiring through the pores of the

wood; it is not the spiritous but the watery part that is thus lost, for the remaining wine proves stronger than at first, and the strength continues to increase as the quantity diminishes.

In filling up the vessels (for it is necessary they should be kept full) we must be careful not to mix wines of dissimilar qualities.

The Hungarian does not well bear any other wine, particularly Rhenish; if the spontaneous diminution of a cask of Hungarian wine is made up with Rhenish, though both keep extremely well by themselves, the mixture presently spoils.

Cool cellars are of primary consequence for the preservation of wines: it is owing wholly to the want of good cellarage, and defence from the warmth of the weather, that wines are apt to fret or run into a new fermentation on the approach of summer.

The goodness and wholesomeness of wines are judged from their being bright, clear and sparkling in the glass; of an

agreeable reviving smell and taste, leaving, when retained in the mouth some time, a slight sense of astringency; being moderately strong and spirituous, passing freely by urine, exciting appetite, promoting a gentle increase of perspiration in the night, keeping the body open next day, without being followed by a headach, heaviness of the limbs, or other uneasiness. Such a wine, moderately used, is a very valuable cordial.

The sweet rich wines are either new or very strong and fiery, they heat the blood much more, and, if drank to any degree of excess, their effects continue much longer than those of the thinner wines that contain an equal quantity of spirit. The red wines in general have the greatest astringency, which renders them more tonic and corroborating. Wine quickens the circulation, raises the pulse, promotes perspiration, warms the habit, and clears the spirits.

If we are inclined thoroughly to investigate the doctrine of fermentation,

we must be guided by no theory, we must attend to nature herself, and trace her through all her instructive windings; it is hypothetical reasoning, not nature, that misleads mankind in general; he is seldom wrong that resorts to her for instruction, she does not bias with specious or fallacious reasoning.

Must is a sweet liquor, that neither sends spirits to the head to intoxicate, though drank ever so freely, nor affords the least vestige of any when committed to distillation.

Management of Foreign Wines.

TREATMENT WHEN IMPORTED ON LANDING.

RED WINES. The less they are exposed the better; for they are affected by the seasons, and more or less by the climate. March and April are the proper times for shipping wines from France, as they will be landed in the United Kingdoms in much the same degree of

temperature. The great art in keeping wines is to prevent their fretting, which is done by keeping them in a degree of heat. In spring and fall the wines in Bourdeaux are subject to changes that may prove dangerous, if not prevented by necessary rackings; these changes are solely the effect of the seasons. If wines are chilled, and of course turn sour, from being shipped and landed in cold weather, they will recover, by putting them in a warm vault, well covered with saw-dust. As soon as they are in the vault, they ought to be covered up.

But if shipped or landed in summer, if the smallest degree of fermentation be found in them, it will be requisite to dip the bung cloths in brandy, and to leave the bungs loose for some days, to give the wines time to cool; and if in a fortnight or three weeks the fermentation do not cease, and the wine become bright, it will be proper to rack it (matching the hogsheads well with brimstone) and to force it with the whites of

eight eggs. If it then becomes fine, bung it tight, and let it remain so until it is bottled. If wines new landed are wanted soon for the bottle, it will be necessary to force them immediately, and let them remain bunged close for at least a month, to recover from the forcing, or if two months the better; for wines bottled in high order come much sooner into drinking than if bottled when flat, which all wines are after forcing.

Wines must never be bottled the least foul, which produces a tendency to fret, and if bottled in this state, will never come in order, but may possibly be lost; for this, it is thought, there is no remedy but repeated rackings; and care must be taken (after rinsing the hogsheads well, and drawing them) to burn a good piece of match in them; this cools the wine, and there is no foundation for the supposition usually entertained, that it will hurt the colour, as it recovers it in a little time; but if it did, it is absolutely necessary; for if wine is suffered to

continue on the fret, it will wear itself to nothing.

Wines bottled in good order may be fit to drink in six months; but they are not in perfection before twelve; from that to two years they may continue so; but it would be improper to keep them longer, for wines, in general, have not the body they had formerly, from the vines, by the present mode of culture, being too much forced. It sometimes happens that wines, scuddy and stubborn, will not fall with one or even two forcings. It will then be proper to give them five or six gallons of good strong wine, and force them with the whites of a dozen eggs with a spoonful of sand produced from the sawings of marble, or a small spoonful of table salt of the basket kind.

Bottled wine should be well covered with saw dust in winter; and if the vaults are cold and damp, strew it deep on the floor; if saw-dust is thrown upon the hogsheads, and their sides are bedded

some inches thick, it will keep the wines from the fret.

White wines are to be treated in the same manner, except they require to be higher matched, particularly Muscat wines, such as Fontingnac, Beziers, Malmsey, &c. which are often partly sweetened with honey, and very subject to fret; those can only be kept cool by frequently racking and matching them. Hermitage, from not being sufficiently dry, and possessing more richness than claret, is also very liable to come on the fret, and will require much the same treatment as Muscat wines. Attention should be had to bottle in fine weather, when the wind is north; but to avoid cold or frosty weather. The months of April and October are favourable.

The best time to bottle port wine is four years after the vintage, and to keep them two years in bottle before you begin to use them. When wines are destined for warm climates, it may be pro-

per to rinse the hogsheads with brandy; and in bottling, to rinse the bottles and corks with it. Wines that have remained three or four months in a vault, and made less or more lee, ought never to be sent into the country, without first racking them, otherwise they may be liable to fret; and if bottled in that state, may risk being lost.

Wines which may be ordered for immediate drinking, should be forced previous to their being shipped, and in a few weeks after they are landed they will be fit for bottling. The forcing proper for red wines, particularly claret, are the whites of ten or a dozen sound eggs, beat up with two tea-spoonsful of salt, and well worked into the wine with a forcing-rod; this is for one hogshead. The forcing for white wines is isinglass dissolved in wine; one ounce is sufficient for a pipe; no salt is to be used in forcing white wines.

Wine may be concentrated by freez-

ing. When wines are exposed to the action of congelation by freezing, it is the aqueous part that congeals, the spiritous part remains unfrozen. By the repetition of this process, the best wines may be reduced to about one-sixth of their original value.

Wines thus concentrated, or freed from their redundant phlegm, are no longer the delicate liquors they were before; they are too unpleasant, as well as too strong to be drank by themselves; and when mixed with other wines, communicate to them their disagreeable taint. The phlegm that is separated by freezing retains a considerable part of their agreeable vinosity, as appears from its being convertible to vinegar; but this phlegm, mixed with frozen wine, does not restore its pristine qualities; both the phlegm by itself, and the mixture, soon corrupt.

Vinegar may be more successfully concentrated by freezing; the aqueous

parts freezing, while the acid parts remain uncongealed, with the advantage of the acid of the vinegar not being injured by this process; it still retains its specific properties, and continues as different from any of the mineral acids as before, though it can be concentrated to a degree of strength, in regard to acidity, greater than the mineral acid of sea-salt, retaining its peculiar taste and agreeable odour in every stage of increased strength.

Wine concentrated by boiling, called Vino Cotto. This is a grand mistake. It is Must, not Wine, that is boiled. Must may be and frequently is evaporated, but not wine, without the loss of its vinosity and spirituosity, which would be dissipated by this process. Must yields nothing to evaporation or distillation but aqueous vapour; hence it may be inspissated by boiling, and frequently is, as may be seen under Vino Cetto. Stum is Must unfermented. Stum is

prevented fermenting by matching the cask with the fumes of brimstone; the fumes of brimstone are the volatile vitriolic acid in a state of vapour; and, as before observed, has the property of preventing fermentation in must, and retards it in vinous fluids.

When these fumes are condensed into the sulphuric or vitriolic acid, as in the preparation of oil of vitriol, it has the same effect, but in a less degree. This circumstance was well known to the Grecians, who never risked the exportation of their wines without the addition of a gill of this acid to a hogshead of the wine, a circumstance then injudiciously reprobated by the uninformed; a class of beings, who in every age are ready to raise a clamour, by condemning what they do not understand. Inspissated or boiled Must will not so soon fall into fermentation as the unboiled; it requires to be well stoomed, that is, fumigated with brimstone, by burning several matches in the cask when empty,

when quarter, half, and three quarters full, and much agitated all the time of its fumigation, and placed in a cold vault, out of the reach of the influence of the atmosphere. Wine merchants, and their coopers, know how to apply it occasionally to advantage. If it should, notwithstanding all these precautions, ferment, it becomes good wine.

Nevertheless, all that has been said by ancient and modern authors, we may gather from these observations, that wine is not to be concentrated by boiling, and, that it is spoiled when concentrated by freezing; a very necessary doctrine to be promulgated in a work like this.

Forcing or fining of wines is more connected with their quality, colour, and flavour, than is generally understood, and has a greater share in the management of them, after they are well cellared in our vaults, than some may imagine. There is a scud or flying-lee in red wines, particularly in claret, that will not always yield to the common forcings

made use of. The same evil in red-port wine is not uncommon; it frequently arises in both from incongruous mixture at the place of their growth. As these wines, as well as Burgundy, should be deep-coloured and bright before they are bottled, we must pursue the following means of defecation:—An obstinate scud may be subdued, without injury to the colour of the wine, by the addition of a small table-spoonful of glass-grinders' sand, with which they have given the rough polish to looking-glass plates, added, well beat up with the whites of the eggs intended for a hogs-head of claret. If this does not answer, the same quantity of gypsum, powdered so fine as to pass a sarcenet silk sieve, will scarcely ever fail. The eggs, and sandy or earthy addition, should be mixed up with a gallon of strong, bright, deep Bene Carlo, Alicant, or Rousillon wine, to insure the clarification. If the wine has a tendency to acidity, the gypsum must be calcined previous to its

being powdered; it may be purchased in powder very fine, under the name of plaster of Paris, from the workers in statuary or stucco.

This is calcined gypsum, and must be killed in a pint of water, to prevent its setting, before beat up with the eggs, or mixed with the wine.

This will effectually and speedily bring down the scud.

Port wine may be treated in a similar manner, using a heaped table-spoonful of the terrene or earthy substances, and triple the quantity of Bene Carlo wine, of Valencia, or the strong Mataro of Catalonia, partaking of the flavour of port and claret.

Plaster of Paris, in proportion to the calcination, partakes, more or less, of the quality of lime, and will proportionably discharge the colour. This may be avoided by substituting the same quantity of statuaries' sand, that has been employed for sawing marble. And where the acid tendency is great, frag-

ments of marble, so finely pulverized as to pass the finest silk sieve, may be employed in the same quantity without injury to the colour.

No class of people are better acquainted with bottling of wines than the gentlemen of the hamper-trade, except their coopers. The colour of red wines, that are not sufficiently deep after being parted with Rousillon or Bene Carlo, may be helped with beet-roots, or turnsole, for claret or Burgundy, and logwood for port, or other strong red wines.

The best beet-roots, baked with as much water as will cover them, and the colour extracted with some of the wine, when they are perfectly cold, for claret, for the turnsole infused in the wine; and the logwood-powder steeped in the brandy used for making-up port, or infused in chips in the wine.

WHITE WINES.

THE before-mentioned terrene substances, mixed with the isinglass em-

ployed for forcing or fining, will have the same effect; killed plaster of Paris for Madeira and Teneriff wines that have an acid tendency; when that is not the case, glass-grinders' sand, as before, for the former, and marble-sawyers' sand, as before, for the latter, blended with the finings.

For Sherry and St. Luçar wines marble-sawyers' sand, and, when there is an acid tendency, finely pulverized marble. It being the present fashion to run upon pale white wines, particularly pale sherry; this is at all times attainable by adding from a pint to a quart of lamb's blood to a butt of sherry, which will discharge the colour from these wines, from which it must be racked when fine. Tawney ports and clarets may have the colour discharged in the same manner, and restored by colouring substances before-mentioned. Beet-root preserves the softness of claret, and log-wood helps the astringency of port and ren-

ders them salubrious. Gypsum*, uncalcined or calcined, improves the agreeable binding smack for which Madeira and Teneriffe wines are rendered so desirable to weak stomachs, and for which they are esteemed by delicate palates, at the same time improving their sanative qualities; nor is it less congenial to red port. Weak-flavoured sherries are improved to the highest degree of flavour by bitter almonds, or almond-cake, and a few sprigs of sweetbrier infused in the wine. The same cake, in much less quantity, restores Madeira and Teneriffe wines to their pristine flavour.

Ropy wines are cured by alum, tartar, or nitre, two ounces of alum to one of tartar to a pipe of port wine; alum, nitre, and tartar, of each half an ounce, for a hogshead of claret or white wine; if on the decline, double these quantities. Ropy wines in bottle should be shook and set in an attic story till they recover, which will be soon in summer.

* Sulphat of lime.

When Burgundy, Champaign, or claret, in the wood, or sherry, or other wine not arrived at maturity, that require to stand any time in the forcing, are discoloured, jelly of starch must be used instead of blood to discharge the colour, it being of an incorruptible nature; a pound, made into a jelly, for a hoghead.

CELLARAGE.—Deep dry cellars, from which the air and light are shut by double doors and double window-shutters, are the best repositories for fermented fluids, if in situations that are still and quiet, so much the better; but this is not easily procured in great cities, the buildings in which are shook to their foundations by heavy carriages passing through the streets.

Agitation promotes fermentation, consequently it disturbs the lees of fermented fluids, the rising of which, from whatever cause, heat or motion, induces those liquors to fret; any thing that disturbs the progress of insensible fermentation, a process always going on in

the fermented fluids in their advance towards maturity, accelerates it, and when arrived at maturity promotes their decline. No authentic observations inform us that heat increases in proportion as we penetrate below the surface of the earth, on the contrary, may show it to decrease, though never to less than thirty-six degrees, and that its variation at the same depth below the surface constantly keeps pace with the variation of the solar heat on the surface; it therefore appears evident, that it is to this planet alone the earth owes its heat. That water, at one certain depth below the surface of the earth is in all latitudes at the same temperature, is a well known fact. This warrants the equality of temperature at a certain depth below the surface, which may be derived from its being nearly below the reach of the influence of the changes impressed on the atmosphere. Thirty-six degrees is about this temperature, below which vegetation rarely sinks, and at which evergreens can flourish, and insensible

fermentation with safety proceed, in wines approaching to maturity.

Wines on the fret should be racked, and if their own lee indicates decay, they should be racked on the sound lee of another wine, of a similar but stronger quality, to protract their decline; if this is done at an early period it may renovate the sick wine. On these occasions give the sick wine a cooler place, it will retard its progress to acidity. If convenient, such wine should be forced and bottled; previous to bottling, or rather at the forcing, give it three table-spoonsful per pipe of uncalcined gypsum, exceedingly well pulverized; this will check its tendency to acidity without exciting much intumescence, without injuring the colour of red wine, and without retarding its coating on the bottle, which it rather promotes. Large cellars should be divided and subdivided by double doors, to prevent the admission of the air, unavoidably introduced on opening the door of the anti-cellar, opposite to which one vault should go

the whole extent of the cellars, and the separate cellars, right and left, parted off by double doors on each hand. Vaulted roofs are indispensable to almost all wines that are not of the Madeira or Teneriffe quality, which are the better for exposure to the vicissitudes of the atmosphere. Port wine, and other wines of that class, may be kept sufficiently warm in cold cellars, packed in sawdust, dry sand, or bone-ashes. The packing or stowing away wines or other fermented liquors in bulk is a bad practice, particularly in the manner it is done in the open cellars of these kingdoms, which are exposed to the fluctuating changes of our unsteady atmosphere, and sudden and frequent alterations of which are more or less injurious to them, impairing their quality and reducing their value. This might be remedied by having grooved upright posts, and sliding-boards to slip in and out, as the bottles are piled up or taken down, into which the sawdust, &c. might be put, so as to cover or defend the extremities of

the bottles in each layer, by covering the piles of bottles in bulk to occasion bins; this would not only prevent a fret, but a hasty maturity and rapid decline of the vinous liquors, at present so negligently disposed of by those unapprized of the danger.

By this time, I hope, the reader knows how to make his wines full, weak wines strong, overfull wine thin, and overstrong weak, without injury to their vinosity, flavour, or quality: to assist the colour, flavour, scent, and brightness in wines; to recover from a fret; to restore when flat; to renew briskness; to mend when tawney; cure when pricked; to restore when faint; to clarify when foul; to cure when ropy, &c.: and also to resolve these problems: the cause of acerbity, of acidity, of sharpness, of roughness, of thinness, of fulness, of briskness, of mantling, of sweetness, of dryness, of astringency, &c. in wines, and, by the confidence acquired, to become perfect master of the best way of managing foreign wines in these kingdoms.

SPIRITUOUS LIQUORS.

All spirits to be deemed of the degree of strength denoted by Clark's hydrometer. 41 Geo. III. c. 97. sec. 8.

BRANDY DEALERS.

WHOLESALE dealers in spirits are those who sell spiritous liquors in quantities of two gallons or upwards. Such dealers not being retailers, rectifiers, or distillers, are to take out and pay duty for licenses annually, on penalty of one hundred pounds. 24 Geo. III. c. 41. sec. 1, 6, 7. and 20 Geo. III. c. 63. sec. 7.

Dealers cannot, by virtue of one licence, carry on business in any other place than that for which they are licensed: being partners, and carrying on business in one house, one license is sufficient. 24 Geo. III. c. 31. sec. 8.

Dealers must make entry in writing, at the nearest office of excise, of all their warehouses, shops, cellars, or other

places for keeping brandy, or other spirits, on forfeiture of the spirits and penalty of twenty pounds. 6 Geo. I. c. 21. sec. 11, 12.

A dealer in foreign spirits cannot make entry of any room, &c. within the house in which the entry of any other such dealer is existing, unless he be a partner of the said dealer. 23 Geo. III. c. 70. sec. 2.

Dealers in foreign spirits in London (not being retailers) are to occupy a tenement of twelve pounds per annum, and pay to parish rates; in the country must pay to church and poor, otherwise their entry is void. 23 Geo. III. c. 70. sec. 1.

Every dealer in foreign spirits must cause the words, "Dealer in Foreign Spirituous Liquors," and every importer thereof for sale must cause the words, "Importer of Foreign Spirituous Liquors," to be painted over his outer door, or in front of his house, shop, &c.

on penalty of fifty pounds. 19 Geo. III. c. 69. sec. 18.

Any dealer in, or importer thereof for sale, or other, not having made due entry at the Excise Office, having the words, "Dealer in, or Importer of Foreign Spirituous Liquors," painted over his door, &c. incurs a penalty of fifty pounds. 19 Geo. III. c. 69. sec. 21.

A dealer in, or importer thereof for sale, buying of any person other than an importer and dealer, having the words, "Importer of, or Dealer in Foreign Spirituous Liquors," painted over his door, or in the front of his house, forfeits one hundred pounds; unless purchased on shipboard, or on the quays, or at salvage sales, or rum in the bonded warehouses, or arrack in the India Company's warehouses. 19 Geo. III. c. 69. sec. 19, 20.

Foreign spirits bought by any person, not being an importer or dealer, of any person not having the words, "Importer of, or Dealer in Spirituous Liquors,"

painted over his door, &c. subject the buyer to the penalty of ten pounds; and the seller, within twenty days, and before information laid, discovering the buyer, exonerates himself of such penalty. 19 Geo. III. c. 69. sec. 22.

Dealers, having different entered warehouses for spirits, not under the same roof, or which shall be separated by the intervention of land or buildings, such warehouses may be taken as distinct stocks. 26 Geo. III. c. 73. sec. 35.

Dealers are to keep foreign spirits in separate places from British, on forfeiture of ten shillings for every gallon of the latter. 8 Geo. I. c. 18. sec. 11.

Dealers are to permit the officer to enter by day (and by night with a constable) and to take account, by tasting, gauging, or otherwise; for obstructing, penalty fifty pounds. 6 Geo. I. c. 21. sec. 14.

Dealers in British spirits (not being rectifiers or compounders) are to permit

the officer to take account of their raw unrectified spirits once in three months, or oftener, if occasion require, or if directed by a superior; for obstructing, penalty two hundred pounds. 26 Geo. III. c. 75. sec. 27, 71.

Dealers are to permit the officer to take a sample not exceeding four gallons, of any foreign or British spirits, paying for the former thirteen shillings, and for the latter seven shillings a gallon; for obstructing, penalty one hundred pounds. 26 Geo. III. c. 73. sec. 36.

Dealers are not to use any standing or fixed cask for British brandy, compounds, or other spirits, until entered at the proper office of excise, and guaged and inched to the satisfaction of the officer, on forfeiture of the cask and liquor, and penalty of one hundred pounds. 26 Geo. III. c. 75. sec. 38.

Dealers in British spirits must paint or cut on some conspicuous part of every moveable cask, used by them for

sending out or keeping British brandy, compounds, or other spirits, the full measure in gallons, on penalty of fifty pounds. 26 Geo. III. c. 73. sec. 38.

Dealers in British spirits must, on twelve hours notice, in writing, from the officer, of his intention to take stock, fill up all their moveable casks of British spirituous liquors, leaving only one allage of each sort; and must set apart and keep separate for six hours, after the expiration of the twelve hours, one sort of such liquor from another, on penalty of one hundred pounds. 26 Geo. III. c. 73, sec. 39.

Dealers are not to receive British brandy, rectified British spirits, British compounds, or spirits of wine, except between the hours of five in the morning and seven in the evening in summer, and between seven in the morning and six in the evening in winter, on forfeiture of the goods, and penalty of fifty pounds. 26 Geo. III. c. 73. sec. 46.

Dealers, receiving rectified or com-

pounded spirits, legally brought from Scotland, must, within twenty-four hours, give notice thereof to the officer, who must attend and see the same reduced to the legal strength; if the trader refuse, on request to reduce the spirits, he forfeits the same. 26 Geo. III. c. 73. sec. 40.

A dealer (not being a rectifier) must not have in his custody any British spirits,(other than raw, or unrectified spirits, or spirits of wine, received by lawful permit,) or any British or foreign spirits mixed, exceeding the strength of 1 in 8 under hydrometer proof, on forfeiture thereof. 26 Geo. III. c. 73. sec. 34.

Dealers having an increase of foreign spirits without permit, unless made by mixing British in the sight of the officer, forfeit the increase with casks, &c. 8 Geo. I. c. 12. sec. 18.

Dealers having an increase in their stock, over and above what the officer found on the last preceding survey, such increase is to be deemed as brought in

without permits or certificates, and an equal quantity is to be forfeited, with the penalty of twenty pounds. 21 Geo. III. c. 55. sec. 29.

Dealers in British spirits (not being rectifiers or compounders) having an increase in stock of raw or unrectified spirits (the stock being settled and cast at 1 to 10 over hydrometer proof) forfeit the increase and fifty pounds. 26 Geo. III. c. 73. sec. 27.

Dealers are not to sell or send out British spirits mixed with foreign in any greater quantity than four gallons, on forfeiture of fifty pounds. 26 Geo. III. c. 73. sec. 57.

Dealers must not sell or send out, nor have in their custody, any foreign spirits of a lower strength than 1 in 6 under hydrometer proof; nor keep any British and foreign spirits mixed of a lower strength, except shrub, or cherry or raspberry brandy, on forfeiture of such liquors. 26 Geo. III. c. 73. sec. 31.

Dealers in British rectified spirits

may sell and send out spirits of wine of a higher strength than 1 in 8 under hydrometer proof, so as not more than one hundred and twenty gallons be sent to one person on the same day. 26 Geo. III. c. 73. sec. 32.

A dealer is entitled, on request, to a permit to accompany the removal of any quantity of brandy, or other spirits, sold in his entered premises. 6 Geo. I. c. 21. sec. 16.

Dealers are not to be allowed a permit for more than one cask or package of the same kind of foreign spirits, under sixty gallons, to be sent to one person at a time; but different permits may be granted them for sending casks of the same kind of foreign spirits to any one person by different conveyances, and at different times, though in the same day; and any number of casks, of sixty gallons or upwards, may be sent by the same conveyance to the same person by one permit. If more than one cask or package, under sixty gal-

lons, be found removed or removing by one conveyance to one and the same person, the liquor is forfeited, with the vessels containing it, and ships, boats, carriages, horses, or other cattle employed in removing it. 23 Geo. III. c. 70. sec. 3, 4, 5.

Dealers, in their request-notes for permits for the removal of foreign spirits, must specify the kind of liquor, contents of the cask, and whether to be sent by land or water, and by what mode of conveyance. 23 Geo. III. c. 70. sec. 7.

Dealers demanding a permit must specify in the request-note their trades or callings, and the quantity of spirits, distinguishing British brandy, rectified British spirits, raw British spirits, spirits of wine, or British compounds; and if raw spirits, whether made from corn, molasses, or other materials; the mode of conveyance, and whether by land or water; to which the permit must cor-

respond in all respects. 26 Geo. III. c. 73. sec. 40, 41, 42.

A dealer sending British spirits, whether raw, rectified, or compounded, to a buyer, without a permit, forfeits the spirits to the buyer, over and above double the value; but such forfeitures are not incurred, if the seller, on the trial of the cause, prove that a permit was actually obtained, and that there was a suitable decrease in his stock. 26 Geo. III. c. 73. sec. 42, 43.

Dealers taking out a permit, and not sending away the goods, nor returning the permit within the time of its limitation, forfeit treble the value of the goods; and the goods also, if on taking stock there shall not appear a sufficient decrease to answer such permit. 21 Geo. III. c. 55. sec. 27.

Dealers being convicted before the commissioners or justices of knowingly, wilfully, and fraudulently making spirits, or of having British or foreign spirits in

their custody without having received a legal permit therewith (the fact of knowingly and wilfully being set forth in the record of conviction), over and above other penalties, their entries and licences become void, and no fresh licence is to be granted them for a month. 36 Geo. III. c. 73. sec. 45.

Dealers, or others, counterfeiting or forging, or fraudulently altering or erasing any permit; or knowingly receiving, publishing, or using any counterfeited, forged, false, untrue, altered, or erased permit, incur a penalty of five hundred pounds. 23 Geo. III. c. 70. sec. 10.

Any person having in his custody above sixty-three gallons of spirits is deemed a dealer therein, and subject to the survey of excise officers. 6 Geo. I. c. 21. sec. 18.

A brandy dealer having in his custody above six pounds of coffee, tea, cocoa-nuts, or chocolate, is deemed a seller of these commodities, and thereby his

licence to retail spirits is void. 11 Geo. I. c. 30. sec. 4. and 17 Geo. II. c. 17. sec. 18.

Dealers obstructing an officer in the execution of his duty incur a penalty of two hundred pounds. 28 Geo. III. c. 46. sec. 78.

BRANDY RETAILERS.

RETAILERS of spirits are those who sell spirituous liquors to be drank in their houses, shops, &c. or who send spirits out in less quantities than two gallons. —*N. B.* A retailer's licence authorizes him to sell by wholesale likewise. 16 Geo. II. c. 8. sec. 12. and 17 Geo. II. c. 17. sec. 19.

Retailers in London are to occupy a tenement of ten pounds a year, and pay to parish rates: in the country are to pay to church and poor. 24 Geo. II. c. 40. sec. 8.

Retailers, in any part of London where there are no parish rates, are to

occupy a tenement of twelve pounds per annum. 26 Geo. II. c. 13. sec. 10.

Retailers are to be previously licensed by the justices as alehouse-keepers, and the justices' licences must be produced before the excise licence is granted. 29 Geo. II. c. 12. sec. 22.

Retailers thereof must keep a tavern, victualling-house, inn, coffee-house, or alehouse; and must exercise no other trade than the above, or that of keeping a brandy shop or a wine vault. 16 Geo. II. c. 8. sec. 10. and 9 Geo. II. c. 23. sec. 10.

A retailer being a distiller, grocer, or chandler, forfeits his licence and ten pounds. 17 Geo. II. c. 17. sec. 81.

Retailers are not to exercise the trade of a distiller, on forfeiture of their licences. 24 Geo. II. c. 40. sec. 3.

Retailers are not to be proprietors of, nor have any share in a distillery or rectifying house, on forfeiture of two hundred pounds. 26 Geo. III. c. 73. sec. 54.

Retailers are to take out, and pay

duty for an excise licence annually, which licence is to terminate on the 10th of October in each year: for neglect, penalty fifty pounds, but it may be mitigated to any sum not under five pounds. 30 Geo. III. c. 38. sec. 6, 9. and 13 Geo. III. c. 56. sec. 4.

Retailers, taking out licences, if it be between the 5th of April and the 10th of October, to be charged only a rateable proportion of the duty. 13 Geo. III. c. 56. sec. 8.

Retailers being partners, and carrying on business in one house, one excise licence is sufficient for them; but a retailer cannot by virtue of one licence carry on business in any other place than that for which he is licensed. 13 Geo. III. c. 56. sec. 10.

On retailers dying or removing, their executors, administrators, wife, child, or assignee, may, by authority of the Commissioners of Excise in London, or the collectors and supervisors in the country, carry on the business for the unex-

pired term of the licence. 13 Geo. III. c. 56. sec. 10.

Retailers void their licences if they be convicted of knowingly, wilfully, and fraudulently making spirits, or of having foreign or British spirits in their custody without having received a legal permit therewith. 26 Geo. III. c. 73. sec. 45.

Retailers being disabled by conviction from selling beer are disabled from selling spirits. 26 Geo. II. c. 31. sec. 11.

Retailers are to make entries in writing at the nearest office of excise, of all their warehouses, shops, cellars, and other places for keeping spirits, on forfeiture of the spirits otherwise kept and twenty pounds. 6 Geo. I. c. 21. sec. —, and 9 Geo. II. c. 23. sec. 6.

Retailers are to cause the words, "Dealers in Foreign Spirituous Liquors" to be painted over their doors, or in the front of their houses, on penalty of fifty pounds. 19 Geo. III. c. 69. sec. 18.

Retailers are to permit the officers at

all times by day (or by night with a constable, and on oath of suspicion) to enter and take account: for obstructing, penalty fifty pounds. 9 Geo. II. c. 23. sec. 9.

Retailers are not to bring any spirits into their entered places without giving notice and producing an authentic permit, on forfeiture of such spirits and twenty pounds. 6 Geo. I. c. 21. sec. 31. and 9 Geo. II. c. 23. sec. 7.

Retailers are not to receive foreign spirits, though in less quantity than one gallon, without a permit, on forfeiture thereof. 8 Geo. I. c. 18. sec. 13. and 21 Geo. III. c. 55. sec. 29.

Retailers increasing their spirits after taken account of by the officer, by clandestinely adding water, forfeit the spirits and forty shillings per gallon. 9 Geo. II. c. 23. sec. 8.

Retailers concealing spirits forfeit the same and forty shillings per gallon. 9 Geo. II. c. 23. sec. 6.

Retailers discovering and prosecuting the distiller who supplied them with

spirits to retail unlawfully, indemnify themselves against all penalties and forfeitures, and the distiller, knowingly selling to be unlawfully retailed, forfeits ten pounds and treble the value of such spirits. 24 Geo. II. c. 40. sec. 11.

Spirits found on the premises of a person convicted of unlawfully retailing, either at the time or within six months after, may be seized and staved, by warrant of commissioners or justices. 24 Geo. II. c. 40. sec. 9.

Spirits seized, by peace officers, on the premises of any one convicted of illegally retailing thereof, to be staved. 24 Geo. II. c. 40. sec. 9.

If spirits be sold in any house, &c. in less quantities than two gallons, the occupier of such house being privy thereto, is deemed a retailer. 11 Geo. II. c. 26. sec. 1.

Spirits given to apprentices or servants by shopkeepers, make the latter retailers of spirits. 9 Geo. II. c. 23. sec. 16.

Spirits are not to be delivered to journeymen or servants in payment of their wages, on forfeiture of twenty pounds by the master, and his being deemed a retailer of spirits. 9 Geo. II. c. 23. sec. 11.

Retailers thereof are not to take pledges of any person for the security of money owing for spirits, on penalty of forty shillings. 24 Geo. II. c. 40. sec. 12.

Spirits used by physicians, apothecaries, surgeons, or chymists, in medicines, for sick, lame, or distempered persons, are not within the meaning of the laws relative to retailing spirits.—*N. B.* Rules, forms, &c. for the removal of spirits to and from private persons not in trade, see *Wines*. 9 Geo. II. c. 23. sec. 12. and 16 Geo. II. c. 8. sec. 12.

WINE DEALERS.

WHOLESALE dealers are those who sell wines having neither a spirit nor beer licence, and not selling in less quantities than the measures in which wine may

be imported as merchandise. 26 Geo. III. c. 59. sec. 11.

Wholesale dealers are to take out wholesale licences annually; for neglect, penalty one hundred pounds. They cannot by virtue of one licence carry on business in any other places than those of which entries were made at the time such licences were taken out; but for partners, carrying on business in one house or shop, one licence is sufficient. 26 Geo. III. c. 59. sec. 8, 9, 11.

Wine may be sold wholesale or retail by persons free of the vintners' company, either by patrimony or by apprenticeship, without licence, and also by three tavern-keepers in St. Alban's, being licensed by the mayor and burgesses of that borough. 30 Geo. III. c. 38. sec. 12, 13. and 32 Geo. III. c. 59. sec. 11.

Wine dealers are to make entries in writing, at the nearest office of excise, of all storehouses, rooms, shops, cellars, &c. for keeping wines for sale, on penalty of one hundred pounds. This

does not extend to wines sold on the lawful quays, when any wine shall have been first landed, and while it shall be openly lying there. 26 Geo. III. c. 59. sec. 12.

A dealer (unless a partner) cannot make entry of any storehouse, room, shop, cellar, &c. within a house in which the entry of any other such dealer is existing. 26 Geo. III. c. 59. sec. 13.

Wholesale dealers are to cause the words "Dealer in Foreign Wine," to be painted in large legible characters over their doors, or in the front of their houses, &c. on penalty of fifty pounds. 26 Geo. III. c. 59. sec. 14.

Dealers or others, not having made entry at the Excise Office, who have the words, "Dealer in Foreign Wine," painted over their doors, &c. forfeit one hundred pounds. 26 Geo. III. c. 59. sec. 15.

Dealers are not to set up, erect, alter, or enlarge any bin, vessel, or other convenience for keeping wines, which is capable of containing above three gal-

lons, without giving previous notice thereof at the nearest office of excise, on penalty of fifty pounds. 26 Geo. III. c. 59. sec. 21.

Dealers are to mark on all casks, or other vessels, above three gallons, the number of gallons the vessel is capable of containing; and to distinguish the sort of wine therein, by French red, or French white, or if any other wine by red or white, on forfeiture of the wine. 26 Geo. III. c. 59. sec. 19.

Dealers are to permit officers at all times by day (or by night with a constable) to enter and take accounts; for obstructing, penalty one hundred pounds. 26 Geo. III. c. 17. sec. 45.

Dealers are to show to the officers every cask, vessel, &c. capable of containing above three gallons, and also every bin, or other place for keeping wines on forfeiture of all wine contained in such as shall not be so shown. 26 Geo. III. c. 17, sec. 20.

For rubbing out or defacing the marks

put by an officer on any vessel above three gallons, or on any bin, or other place for keeping wines, the penalty is fifty pounds. 26 Geo. III. c. 17. sec. 20.

Dealers receiving any wines, without leaving with the officer an authentic permit for the same, forfeit such wines, with the casks, &c. 26 Geo. III. c. 17. sec. 32.

Wholesale dealers are not to draw off or bottle wine (except to be immediately sent out) without giving six hours notice in London, and twelve hours in the country, specifying the place where, the sort and quantity to be drawn off, and the number of vessels or bottles to be filled, on forfeiture of fifty pounds. They must permit the officer, if he deem it expedient, to attend the bottling of wine; and must in such case pack the same in the officer's presence. If the officer do not attend the bottling of wine, on his next survey the trader must declare where the wine is to be, or has been piled or deposited, on forfeiture of fifty pounds. 26 Geo. III. c. 59. sec. 22.

Wholesale dealers are not to remove wines from one bin to another without giving the officer six hours notice in London, and twelve hours in the country, specifying the bin into which the same are to be removed, on penalty of fifty pounds. 26 Geo. III. c. 59. sec. 22.

Dealers are to keep their wines (that is to say, French red, French white, and red not French, and white not French), separate and apart from each other, on penalty of fifty pounds. 26 Geo. III. c. 59. sec. 23.

Dealers are to enter every day, in one book, all the wines sold or consumed the preceding day, in quantities under three gallons; and in another book, all sold, &c. in quantities of three gallons or upwards; and they are not to have more than one entry-book of each sort in their custody at a time, on penalty of twenty pounds. 26 Geo. III. c. 59. sec. 26.

Dealers are to leave their entry-books open to the inspection of the officer; and on his request to enter up the quantities

sold each day; and are also to return them, on oath, when filled up, on penalty of twenty pounds, for refusal, neglect, or false entry. 26 Geo. III. c. 59. sec. 26.

Wholesale dealers having an increase in their stock, (except in the original casks, and then not more than two gallons per tun above the import gauge) above what the officer found on the last preceding survey, such increase is to be deemed brought in without a permit, an equal quantity is to be forfeited, and such dealers incur a penalty of double the value of the excess. 26 Geo. III. c. 59. sec. 27, 28.

Wholesale dealers having cider, sweets, British made wine, mead, spirituous liquors, or any other liquor whatsoever, which at any time shall be found in any shop, cellar, or other place entered for keeping or selling wines by wholesale, such cider, sweets, &c. shall be deemed and taken to be foreign wine within the meaning of this Act, or if separate from any wine, then the same shall be deemed

French red wine, and such increase in stock to be seized accordingly. 26 Geo. III. c. 59. sec. 29.

Dealers are not to have in their custody any British made wines or sweets, on forfeiture thereof, and ten shillings per gallon. 26 Geo. III. c. 59. sec. 25.

Licensed dealers, having occasion to remove wines from their entered premises, are entitled, on delivering a regular request-note, to permits to protect the same on removal. 26 Geo. III. c. 59. sec. 30, 31.

Request-notes for permits for the removal of wines are to specify the names of the persons to whom the same is to be sent, the sorts of wine, the numbers and contents of the casks or packages, and whether to be sent by land or water, and by what mode of conveyance. 26 Geo. III. c. 59. sec. 31, 33.

Permits for the removal thereof are to express the time they are to be in force, as well for removing out of the stock of the person by whom sold, as for deli-

vering into the stock of the person to whom the same is to be sent. 26 Geo. III. c. 59. sec. 30.

Dealers taking out permits, and neither sending away the wines, nor returning the permits within the time limited for removing the wines out of their stock, forfeit treble the value; and the wines also, if on taking their stock, there shall not appear a sufficient decrease to answer the permits; and if such dealers or sellers, shall not have in their custody or possession such like quantity of wine of that denomination, then and in such case such dealers, &c. shall forfeit one hundred pounds. 26 Geo. III. c. 59. sec. 37.

Wines not being removed into the stock of the person to whom sent within the time limited in the permit, are to be considered as removed without permit; unless the delay is proved to the Commissioners of Excise to have been unavoidable. 26 Geo. III. c. 59. sec. 35.

Removed under a description not

conformable to law, or under a false description, are forfeited, together with the cattle, carriages, boats, and vessels, used in the removal thereof. 26 Geo. III. c. 59. sec. 31, 33.

Dealers, or other persons, counterfeiting or forging, or fraudulently altering or erasing any permit, or knowingly receiving, publishing, or using any counterfeit, forged, false, untrue, altered or erased permit, incur a penalty of five hundred pounds. 26 Geo. III. c. 59. sec. 39.

Dealers are not to act as justices in matters relating to Excise laws respecting foreign wines. 26 Geo. III. c. 59. sec. 51.

Wines may be sold by auction by licensed auctioneers, by leave of the Commissioners of Excise, on proof that the duties thereof have been paid. 26 Geo. III. c. 59. sec. 10.

Above three gallons, removed without a permit, are forfeited, with the packages, boats, barges, cattle, and carriages, employed in removing the same. 26 Geo. III. c. 59. sec. 34.

Wines in casks exceeding ten gallons, or in bottles above three dozens, are not to be removed from the country to London, nor to any place within twenty miles of the Royal Exchange, without certificates that the difference between the out-port and London duty has been paid (except salvage or condemned wines) on forfeiture of such wines, with the casks, &c. 27 Geo. III. c. 13. sec. 13.

Wines for which the out-port duty and the difference between that and the London duty have been paid, being staved or destroyed in removing, and before brought within twenty miles of the Royal Exchange, the Commissioners of the Customs, on proof of the fact, are to cause re-payment of the said difference. 37 Geo. III. c. 13. sec. 14.

WINE RETAILERS.

RETAILERS of wine are those who sell wines to be drank in their houses, or who sell in less quantity than the mea-

sure in which the same may be imported by way of merchandise. 30 Geo. III. c. 38. sec. 15.

Are to take out and pay duty for licences annually; for neglect, penalty fifty pounds. Their licences to determine on the 10th of October in each year; and if taken out between the 5th of April and the 10th of October, only a rateable proportion of the duty is to be paid. 36 Geo. III. c. 38. sec. 6, 8, 9.

Before they can obtain an Excise licence, they must have a beer or ale licence duly granted by two justices; but this is not to extend to freemen of the vintners' company, or to persons licensed by the chancellor of the universities, or to the three tavern-keepers licensed by the mayor and burgesses of St. Alban's. 32 Geo. III. c. 59. sec. 9.

Retailers cannot by virtue of one licence carry on business in any other places than those in which the same was carried on, and of which entries were made at the time such licences

were taken out; but being partners and carrying on business in one house, one licence is sufficient. 30 Geo. III. c. 19. sec. 3. and 30 Geo. III. c. 38. sec. 10.

Retailers dying or removing, their executors, administrators, wives, children, or assigns, may, by authority of the Commissioners of Excise in London, or the collectors and supervisors in the country, carry on the business for the unexpired term of the licence. 30 Geo. III. c. 38. sec. 10.

Retailers are to cause the word "Wine" to be written on the sign or in the front of their house, on penalty of ten pounds. 32 Geo. II. c. 19. sec. 3.

Retailers are to keep cider, spirits, and other liquors, separate from their wines, on forfeiture of ten shillings per gallon, and all such wines and other liquors which are not kept apart. 26 Geo. III. c. 59. sec. 24.

Retailers having an increase in their stock above what the officer found in his last preceding survey, such increase is

to be deemed brought in without permit, and an equal quantity to be forfeited, and such retailers incur a penalty of double the value of such excess. 27 Geo. III. c. 31. sec. 6.

WINES REMOVED TO AND FROM PRIVATE PERSONS.

WHENEVER any private person, not being a dealer in or seller of foreign wines, either by wholesale or by retail, shall have occasion to remove any foreign wine from any part of this kingdom to any other part thereof, it shall and may be lawful to and for the officer or officers of Excise of the respective divisions or districts, in which the place whence such wine is intended to be removed shall be situate; upon such private person, or his or her known servant or servants, proving to the satisfaction of the Commissioners of Excise, or of the collector or supervisor of Excise of the collection or district, in which the place

whence such wine is intended to be removed is situate, that all the duties for such wine have been fully paid; and upon a request-note in writing, made and sent, or delivered to such officer, &c. authorized to grant a permit thereupon, under and by virtue of this Act, specifying the quantity of each sort of such foreign wine intended to be removed, and for the removal of which such permit is required, and if such wine be French wine, whether the same be French red wine, or French white wine, or, in case such wine is not French wine, whether the same be foreign red wine not French, or foreign white wine not French, and also the number and contents of the casks, bottles, jars, or vessels containing the same, and likewise whether the same is to be removed by land or water, and by what mode of conveyance such wine is intended to be sent; to give and grant, without fee or reward, a permit or permits in writing, signed by

such officer or officers, expressing the quantity of such wines so to be removed, distinguishing in such permit such foreign wines from each other, according to the denominations thereof, specified in such request-note, conformably to the directions of this Act, and expressing the name and names of such private person or persons from whom the same is intended to be removed, and to whom the same is to be removed; and that the duty of such wine so intended to be removed, has been paid, or that the same has been condemned as forfeited, or was part of the stock of some dealer or dealers, or seller or sellers of foreign wine by wholesale, of which an account has been delivered at the Office of Excise, pursuant to this Act: and all officers of Excise, granting or giving such permit or permits, shall limit and express therein the time within which such wine, in such permit or permits mentioned, shall be removed from

and out of the possession of the persons taking out such permit or permits, and also the time within which such wine shall be delivered and received into the possession of the person or persons respectively to whom the same is so permitted to be sent; and all such foreign wine, which shall be removed under a description not conformable to this Act, or under a false description, together with the casks, bottles, jars, vessels, and other packages containing the same, and the horses, cattle, carts, boats, barges, and other carriages used in the removal or carriage thereof, shall be forfeited and lost, and shall and may be seized by any officer or officers of Excise. 26 Geo. III. c. 70. sec. 33.

Wine exceeding three gallons is forfeited, if found removing or removed without a permit, together with the casks, bottles, jars, vessels, and packages containing the same, and the horses, cattle, boats, barges, and other

carriages used in such removal or carriage thereof. 26 Geo. III. c. 70. sec. 34.

If wine be not removed within the times limited in the permit, the permit must be returned to the officer who granted the same, on penalty of treble the value of such wine, to be estimated according to the best and highest rate, for which wine of that kind shall sell in London. 26 Geo. III. c. 70. sec. 38.

If any person or persons whatsoever shall counterfeit or forge, or cause to be counterfeited or forged, any permit for the removal of any foreign wine; or if any person or persons shall knowingly or willingly give any false or untrue permit for such removal of foreign wine, or shall knowingly or willingly accept or receive any such false or untrue permit, or shall fraudulently alter or erase any such permit, after the same shall be given by the proper officer of Exise; or shall knowingly or willingly publish or make use of any such permit, he she,

or they shall forfeit five hundred pounds. 26 Geo. III. c. 70. sec. 39.

FORM OF A REQUEST-NOTE FOR THE REMOVAL OF FOREIGN WINES FROM AND TO PRIVATE PERSONS.

I REQUIRE, a permit for the removal of one cask of foreign red wine, not French, containing one hundred and forty gallons; and two dozen quart bottles of foreign white wine, not French; from my house in Portman-square, London, to my house at Greenwich, Kent.—The mode of conveyance by a cart and by land carriage.

N. B. Or French red, or French white, as the case may be.

THE OATH.

I DO swear, that the above-mentioned wines have been under such care and custody since they were delivered into my possession, as to induce me verily to believe them to be a part of the iden-

tical wine specified in the permit herewith produced.

Or,

I do swear, that the permit (or permits), which came to me with the wines mentioned in my request-note, are actually lost or mislaid; that no improper use has been made thereof; and that all the legal duties on them have been paid.

N. B. Similar methods are required for the removal of spirituous liquors.

Persons within the limits of the chief office of Excise in London, have no occasion to go before the honourable Commissioners of Excise, to make the necessary affidavits before stated, as there are four private offices established in London for this purpose, namely,

No. 1, *Bartlett's Buildings, Holborn;*
4, *Lancaster Court, Strand;*
54, *James Street, Oxford Street;*
AND
13, *White Street, Borough.*

Forging or counterfeiting permit or certificate for the removal of any excise-able commodity; penalty five hundred pounds. 23 Geo. III. c. 70. sec. 10.

FORM OF A WARRANT TO RETURN AN OVERCHARGE OF DUTY.

Town and County of the Town of Kingston-upon-Hull.

To the Collector of Excise, of Hull Collection, for the time being.

Complaint having been made unto us, F. M. and J. W. Esqrs. two of his Majesty's justices of the peace for the said town and county of the town of Kingston-upon-Hull, by Messrs. Wilberforce and Smith, merchants and importers of geneva, that, on the 5th day of this instant, September, they, the said W. and S. did enter for importation one hundred gallons of geneva, and paid duty for the same, amounting to forty-four pounds, one shilling, and eight-

pence, which said geneva, by the gauge of the port officers, amounted to no more than seventy-four gallons, whereby they the said W. and S. have entered and paid duty for twenty-six gallons of geneva more than they ought to have done, amounting to eleven pounds, nine shillings, and three halfpence.

These are to certify in his Majesty's name, to authorize, and to require you to pay to the said W. and S. the aforesaid sum of eleven pounds, nine shillings, and three halfpence. And for your so doing this shall be your sufficient warrant.

Given under our hands and seals this 13th day of September, 1808.

F. M. *(L. S.)*
J. W. *(L. S.)*

The Art of making English Wines.

THAT the fertility and produce of Great Britain equals any nation under heaven in every thing which conduces to the subsistence, health, and riches of its inhabitants, will not, at this time, after so many demonstrations and proofs, be questioned. England is styled by foreigners the storehouse and granary of Europe; and nothing but want of skill and industry can at present hinder us from making those wholesome liquors called English made wines, among many other things, at least as good, if not superior to those brought from abroad, to the great exhausting of our treasure, and the manifest detriment of our inland trade particularly; nay, I must beg leave to affirm, that the liquors produced of our natural growth, are not only as pleasant in taste, if rightly made and prepared, as any other, but far more agreeable to the constitution of

Englishmen, by contributing to their natural health and vigour; and, if not taken to excess, they lengthen life, and free old age from those calamities that adulterated foreign wines and other liquors too often occasion; which is evident from the innumerable pains and diseases their sediments entail, by corrupting the good, or creating bad humours in the body.

It is incontestable that vineyards have been frequent in England, from the different places, now cultivated with corn or pasture, still retaining that name; and it is the opinion of many gentlemen of undoubted experience, that the southern parts of this island, with the industry of the natives, might produce vines as fertile as those of France, either for claret or white wines. But before I come to the making and ordering these sort of wines, it will be proper to present the reader with the most approved directions for the planting and

managing those vines that are to bring forth the grapes of which wine is to be made.

OF VINES, AND THE BEST METHOD OF PLANTING THEM.

It is the planter's business, in the first place, to consider what soil is most proper. It should be of a nitrous sulphureous nature; black, loose, and moist, proceeding from its oily quality or fatness, of which there is great plenty in this kingdom. There are many waste places, that, with a little good manuring, might be improved into vineyards, and rendered very beneficial. The only manure is a little lime, mixed with rotten cow-dung, the one cherishing, and the other heating the roots of the vines, when well mingled with the mould in which they are to be planted; and it is most proper to plant them on gradual rising hills, exposed as much as possible to the south sun, and shel-

tered from the cold north winds; or in orchards and gardens, against warm walls; or in rows, supported on rails, or layers of a moderate height. When the vines are planted from slips of old roots, layers, &c. and have well taken root, open the roots yearly, taking care not to expose them too much, if the weather be sharp or cold in February, and cover them up about the middle of March with new soil, composed of dung and mellow mould; of the first, about a quarter part; and they will bear abundantly many years. When you cover them, or sooner, if it is a proper season to cut, prune them, and the sprays cut off, by laying them in bundles in a pit of mellow earth, in seven or eight weeks they will produce scions, or suckers, capable of being planted at a fit distance in such regular form, that they may have a convenient distance to spread; and having well taken root, you may, as you see convenient, remove them to more convenient places, to be-

come standing dards, and all things will answer your expectation. A week before Easter loosen the ground about them every year, which will let in the nourishing air, (the life of vegetables, as of living creatures) and destroy the weeds that encumber them; take off the by-shoots that grow not downward on the roots; but however these off-pluck roots are not to be taken out, unless in repairing old vines. They are then called wortlings, because they are gotten about the overgrown vines, or heads; the best root on the either part is very fine to behold. You should also cleanse them from superfluous roots, and set them in for a vine. Such prepared roots, and overgrown vines, prove far better than others; for the wortlings, after they have their roots well together, are better able to endure bleak winds and frosts, when others hanging high above the elm with roots, are often killed with them, or at least are more weakened, and become like old vines;

besides, such a stock in the driving is stronger than such as are put in the ground immediately after they are cut from the vine, where they must take root, and not be taken out till they are set in the reb-stock.

If you choose a piece of ground for a vineyard, that has been husky before it was cleared of them, the first new set of twigs will drive so strongly, that a double number of them must be laid in, as eight or ten in one place; which may, by transplanting as they come to a moderate growth, be flourishing vines to bear grapes; for to one stock are laid three or four twigs called palmites, and that for some years together must be done in a new break. Without such ordering, the blossoms will yearly fall off, because the driving in such a new plat. if the ground be rich, is too strong, thrusting too violently out of the blossoms: but if you let your stock grow into the wood, it spreadeth in such new tilled ground, and is much weakened

thereby, and is brought to a temperature; for each twig receiveth so much strength and driving, as it hath need of to the full seed, and enough for the saving of it. Therefore, by a strict and attentive management in the making of British wines is the grand mean by which they are to be brought to a proper state of perfection; and without which, labour, expense, and disrepute will be the final and disagreeable consequences. To prevent the last, and promote the first, let a due observance be paid to the following general rules.—Do not let such wines as require to be made with boiling water stand too long after drawn before you get them cold; and be careful to put in your barm in due time, otherwise it will fret after being put into the cask, and can never be brought to that state of fineness it ought to be: neither must you let it work too long in the butt, as it will be apt to take off the sweetness and flavour of the fruit or flowers from which it is made.

Let your vessels be thoroughly clean and dry; and, before you put in the wine, give them a rince with a little brandy. When the wine has done fermenting bung it up close, and, after being properly settled, it will draw to your desire.

TO MAKE WINE OF GRAPES OF THE GROWTH OF ENGLAND.

When the vines are well grown, so as to bring full clusters, be careful to disencumber them of some part of their leaves that too much shade the grapes, but not so much in a hot season, as that the sun may too swiftly draw away their moisture and wither them: stay not till they are all ripe at once, for then some will be over-ripe, or burst, or incline to rot before the underlings are come to perfection; but every two or three days pick off the choice and ripest grapes, and spread them in dry shady places sideways, that they contract not a heat

and must; by which means those that remain on the clusters, having more juice to nourish them, will grow bigger, or be sooner ripe; and when you have got a sufficient quantity, put them into an open vessel, and bruise them well with your hands; or if the quantity be too large, gently press them with a flat wooden beater, that is a thick board fastened at the end of a staff; as for treading them with the feet, as practised in France, and other countries, I cannot approve thereof, it being a nasty slovenly way. Take care you break the stones as little as may be, for that will make the wine of a bitterish twang.

Having bruised the grapes well, so that they are become pulp, or mash, provide a tap at the bottom of your cask, tie a hair-cloth over the faucet, and let out that which will run voluntarily of itself, as the best wine; then take out the pulp, and gently press it by degrees in a cider-press, till the liquor is suffi-

ciently drained out; provide a new cask, well seasoned, and aired with a lighted rag dipped in brimstone till it become dry, pour the liquor in through a sieve-funnel to stop the dregs, and let it stand, only with a pebble-stone lightly laid on the bung-hole, to ferment and refine itself, ten or twelve days; then draw it gently off into another cask, well-seasoned, that the lees or dregs may remain in the first cask, and stop it no other way than before, till it has quite passed over its ferment, which you may know by its coolness and pleasant taste: and thus of your ordinary white grapes, you may make a good white sort of wine; of the red grapes, claret; and if it should want colour, heighten it with a little Brasil, boiled in about a quart of it, and strained very clear. The white grapes, not too ripe, give a good Rhenish taste, and are wonderfully cooling.

There is a sort of muscadel grapes,

growing now in many parts of England, which may be brought, by the help of a little loaf-sugar to feed on, to produce a curious sweet wine, little differing from Canary, and altogether as wholesome and pleasant.

If the wine require racking, the best time to do it is when the wind is in the north, and the weather temperate and clear; in the increase of the moon, and when she is under the earth, and not in her full height.

If the wine rope, to alter it take a coarse linen cloth, and when you have set the cask abroach, set it before the bore, then put in the linen, and rack it in a dry cask; put in five or six ounces of alum in powder, and jumble them so that they may mix well. On settling, it will be fined down, and become very clear and pleasant wine: but of fining and ordering wine and other liquors, I shall take occasion to treat more at large hereafter.

TO MAKE WINE OF GOOSEBERRIES.

Of gooseberries may be made a curious cooling wine, after the following directions:

Take gooseberries just beginning to turn ripe, not those that are quite ripe; bruise them as well as you did the grapes, but not so as to break their stones; then pour to every eight pounds of pulp a gallon of clear spring water, or rather their own distilled water, made in a cold still, and let them stand in the vessel covered, in a cool place, twenty-four hours; then put them into a strong canvass or hair bag, and press out all the juice that will run from them, and to every quart of it, put twelve ounces of loaf, or other fine sugar, stirring it till it be thoroughly melted; then put it up into a well-seasoned cask, and set it in a cool place; when it has purged and settled about twenty or thirty days, fill the vessel full, and bung it down close,

that as little air as possible may come at it.

When it is well wrought and settled, then is your time to draw it off into smaller casks or bottles, keeping them in cool places; for there is nothing damages any sort of wines more than heat.

ANOTHER METHOD OF MAKING GOOSEBERRY WINE.

When the weather is dry, gather your gooseberries about the time they are half ripe; pick them clean, and put the quantity of a peck in a convenient vessel, and bruise them with a piece of wood, taking as much care as possible to keep the seeds whole. When you have done this, put the pulp into a canvass or hair bag, and press out all the juice; and to every gallon of the gooseberries add about three pounds of fine loaf sugar; mix it all together by stirring it with a stick, and as soon as the

sugar is quite dissolved, pour it into a convenient cask, that will hold it exactly; and according to the quantity let it stand; *viz.* if about eight or nine gallons, it will take a fortnight; if twenty gallons, forty days; and so in proportion; taking care the place you set it in be cool. After standing the proper time, draw it off from the lees, and put it into another sweet vessel of equal size, or into the same, after pouring the lees out, and making it clean; let a cask of ten or twelve gallons stand about three months, and twenty gallons five months; after which it will be fit for bottling off.

This is a curious cooling drink, taken with great success in all hot diseases, as fevers, small-pox, the hot fit of the ague; it stops laxation, is good in the bloody-flux, cools the heat of the liver and stomach, stops bleeding, and mitigates inflammations; it wonderfully abates flushings and redness of the face, after hard drinking, or the like; provokes

urine, and is good against the stone; but those that are of a very phlegmatic constitution should not make use of it.

TO MAKE CURRANT WINE.

TAKE four gallons of curious cooling spring or conduit water, let it gently simmer over a moderate fire, scum it well, and stir into it eight pounds of the best virgin honey; when that is thoroughly dissolved, take off the water, and stir it well about, to raise the scum, which take clean off, and cool.

When it is thus prepared, press out the like quantity of juice of red currants moderately ripe, without any green ones among them, which being well strained, mix it well with the water and honey; then put them up in a cask, or large earthen vessel, and let them stand upon the ferment twenty-four hours; then to every gallon add two pounds of loaf or other fine sugar, stir them well to raise

the scum, and, when well settled, take it off, and add half an ounce of cream of tartar, with a little fine flour, and the whites of two or three eggs, which will refine it; and when it is well settled and clear, draw it off into a small vessel, or bottle it up; keeping it in a cool place.

Of white currants, a wine after the same manner may be made, that will equal in strength and pleasantness many sorts of white wine; but as for the black, or Dutch currants, I approve not of them but in medicinal wines, of which I shall have some occasion to speak hereafter.

ANOTHER WAY OF MAKING CURRANT WINE.

After gathering your currants, which you must do when the weather is dry, and they are full ripe, strip them carefully from the stalk, so as not to bruise them with your fingers; put them into a pan,

and bruise them with a convenient wooden pestle; then let it stand about twenty hours (according to the quantity) after which strain it through a sieve. Add three pounds of fine powder sugar to every four quarts of the liquor, and then shaking or stirring it well, fill your vessel, and put about a quart of good brandy to every six or seven gallons. As soon as it is fine, which will be in four or five weeks, you must bottle it off. If it should not prove quite clear, draw it off into another vessel, and let it stand about ten days, and then bottle it off.

Their virtues.] They allay the burning eagerness of thirst, are cooling in fevers, resist putrefaction, stay vomiting, corroborate the heart, and fortify the stomach. Currant wine is drank with success by those that have the fits of the mother; it diverts the epilepsy, and provokes the courses in women.

TO MAKE RAISIN WINE*.

To two hundred weight of raisins put about forty-four gallons of water, wine measure, stir it up well, three or four times a day; let it stand about three weeks, then take it off the raisins, and tun it up; when you put it into the cask, add about two quarts of brandy to it, which will keep it from fretting.

Let it stand about ten or twelve months, then draw it off from the lees; rince your cask, and put it in again; then fine it down with three ounces of isinglass, and a quarter of a pound of sugar candy, dissolved in some of the wine. There are many ways used to retrieve this wine, if it should chance to turn sour, which seldom happens if properly made; in this case, the most successful method is to replenish it with a further addition of raisins.

* Though raisins are not of English growth, yet as it is a wine in great esteem in England, I have inserted the method of making it.

ANOTHER METHOD OF MAKING RAISIN WINE.

PUT two hundred weight of raisins, with the stalks, into a hogshead, and fill it almost with spring water; let it steep about twelve days, frequently stirring them about, and after pouring the juice off, dress the raisins. The liquor should then be put together in a very clean vessel that will exactly contain it. You will find it hiss or sing for some time, during which it should not be stirred; but, when the noise ceases, it must be stopped close, and stand for about six or seven months; and then, if you peg it, and it proves fine and clear, rack it off into another vessel of the same size; stop it up, and let it remain twelve or fourteen weeks longer; then bottle it off. The best way when you use it, is to take a decanter and rack it off.

Their virtues.] The virtues of raisin

wine are too well known to require a particular description. There are few constitutions but what it will agree with; it strengthens and comforts the heart, revives the faded spirit, and conduces greatly to health, if used with moderation.

TO MAKE WINE OF RASPBERRIES, THE ENGLISH WAY.

TAKE what quantity you please of red raspberries, when they are nearly ripe, for if they grow over-ripe they will lose much of their pleasant scent; and after clearing the husks and stalks from them, soak them in the like quantity of fair water, that has been boiled and sweetened with fine loaf sugar, a pound and an half to a gallon; when they are well soaked about twelve hours, take them out, put them into a fine linen pressing-bag, press out the juice into the water, then boil them up together, and scum them well twice or thrice over a gentle

fire; take off the vessel, and let the liquor cool, and when the scum arises take off all that you can, and pour off the liquor by inclination into a well-seasoned cask, or earthen vessel; then boil an ounce of mace quite down, if possible, in a pint of white wine, till the third part of the wine be consumed; strain it, and add it to the liquor; let it settle two days, and when it has well settled and fermented, draw it off into a cask, or bottles, and keep it in a cool place.

THE FRENCH WAY TO MAKE THIS WINE.

STEEP two gallons of raspberries in a gallon of sack twenty-four hours, then strain them, and put to the liquor three quarters of a pound of raisins of the sun, well stoned, and let them continue four or five days, sometimes stirring them well; then pour it off gently, that the clearest may be taken away, and only the dregs and settlings remain, and

bottle that up you pour off. If you find it not sweet enough for the palate, you may add some sugar, about half a pound to a gallon will be sufficient; keep it in a cool place.

ANOTHER WAY TO MAKE RASPBERRY WINE.

GATHER the raspberries when ripe, and bruise them; strain them through a bag made of woollen into a jar. Put about a pound of the best double refined loaf sugar, mix the whole well together, and stop it close. Pour it off as clear as possible, after it has stood four days. The common method is to put two quarts of white wine to one quart of the raspberry juice; but I think that too much, as it overpowers the rich flavour of the fruit; three pints will be enough. Bottle it off, and it will be fit to drink in ten days. The juice mixed with brandy, is a fine dram. Put about two quarts of brandy to three

quarts of raspberry juice, and it will drink well in ten days.

Their virtues.] These wines, either way, are a great cordial; they cleanse the blood, prevent pestilential air, comfort the heart, ease pains in the stomach, dispel gross vapours from the brain, cause a free breathing, by removing obstructions from the lungs, and are successfully taken in apoplexies.

TO MAKE WINE OF MULBERRIES.

TAKE mulberries, when they are just changed from their redness to a shining black, gather them in a dry day, when the sun has taken off the dew, spread them thinly on a fine cloth, on a floor or table, for twenty-four hours, boil up a gallon of water to each gallon of juice you get out of them; scum the water well, and add a little cinnamon slightly bruised; put to every gallon six ounces of white sugar-candy, finely beaten,

scum and strain the water when it is taken off and settled, and put to it the juice of mulberries, and to every gallon the mixture of a pint of white or Rhenish wine; let them stand in a cask to purge or settle five or six days, then draw off the wine and keep it cool.

Its virtues.] This is a very rich cordial; it gives vigour to consumptive bodies, allays the heat of the blood, prevents qualms, and pukings in women, makes the body soluble, helps digestion, and eases distempers in the bowels.

TO MAKE MORELLA WINE.

TAKE two gallons of white wine, and twenty pounds of Morella cherries; take away the stalks, and so bruise them that the stones may be broken: press the juice into the wine; put mace, cinnamon, and nutmeg, each an ounce, in a bag grossly bruised, hang it in the wine when you have put it up in a cask, and it will be a rich drink.

TO MAKE VINUM SAMBUCEUM, OR ELDER-BERRY WINE.

TAKE elder-berries, when pretty ripe, plucked from the green stalks, what quantity you please, and press them that the juice may freely run from them, which may be done in a cider-press, or between two weighty planks, or, for want of this opportunity, you may mash them, and then it will run easily; this juice put up in a well-seasoned cask, and to every barrel put three gallons of water strong of honey boiled in it, and add some ale-yeast to make it ferment, and work out the grossness of its body; then, to clarify it, add flour, whites of eggs, and a little fixed nitre; and when it has well fermented, and grows fine, draw it from the settlings, and keep it till spring; then to every barrel add five pounds of its own flowers, and as much loaf-sugar, and let it stand seven days; at the end whereof it will grow very rich, and have a good flavour.

A DIFFERENT WAY TO MAKE ELDER WINE.

WHEN the elder-berries are ripe, pick them, and put them into a stone jar; then set them in boiling water, or rather in an oven not over-hot, till the jar is as warm as you can well bear to touch it with your hand; take the berries and strain them through a sieve or coarse cloth, squeezing them hard, and pour the liquor into a kettle. Put it on the fire, let it boil, and put in as many pounds of Lisbon sugar as there are quarts of juice, and scum it often; then let it settle, and pour it off into a jar, and cover it close. I have known many people mix it with their raisin wine, by putting half a pint of the elder syrup to every gallon of wine; it gives the raisin wine an exquisite fine flavour, equal to any foreign wine whatever.

Its virtues.] It is an excellent febrifuge, cleanses the blood of acidity, venom, and putrefaction; good in measles, small-pox, swine-pox, and pestilential

diseases; it contributes to rest, and takes away the heat that afflicts the brain.

TO MAKE ELDER-FLOWER WINE.

To six gallons of spring-water put six pounds of raisins of the sun, cut small, and a dozen pounds of fine powder sugar; boil the whole together about an hour and an half; then take elder-flowers, when pretty ripe, and pull them off to about half a peck. When the liquor is cold, put the flowers in, and about a gill of lemon-juice, and half the quantity of ale-yeast. Cover it up, and after standing three days, strain it off, pour it into a cask that is quite sweet, and that will hold it with ease. When this is done, put about a wine quart of Rhenish to every gallon of wine, let the bung be lightly put in for twelve or fourteen days; then stop it down fast, and put it in a cool dry place for four or five months, till it is quite settled and fine; and bottle it off.

TO MAKE WINES OF BLACKBERRIES, STRAWBERRIES, OR DEWBERRIES.

TAKE of these berries, in their proper season, moderately ripe, what quantity you please; press them as other berries; boil up water and honey, or water and fine sugar, as your palate best relishes, to a considerable sweetness; and when it is well scummed, put the juice in and let it simmer to incorporate it well with the water; and when it is done so, take it off, let it cool, scum it again, and put it up in a barrel, or rather, a close-glazed earthen vessel, to ferment and settle; to every gallon put half a pint of Malaga, draw it off as clear as possible; bottle it up, and keep it cool for use.

Their virtues.] These liquors are good in fevers, afflictions of the lungs, prevent the infection of pestilential airs, beget a good appetite, and much help digestion; are excellent in surfeits, and cause good blood.

TO MAKE WINE OF APPLES AND PEARS.

As for apples, make them first into good cider, by beating and pressing, and other orderings, as I shall direct, when I come to treat of those sort of liquors, after I have ended this of wines; and to good cider, when you have procured it, put the herb scurlea, the quintessence of wine, and a little fixed nitre, and to a barrel of this cider a pound of the syrup of honey; let it work and ferment at spurge-holes in the cask ten days, or till you find it clear and well settled, then draw it off, and it will not be much inferior to Rhenish in clearness, colour, and taste.

To make wine of pears, procure the tartest perry, but by no means that which is tart by sowering, or given that way; but such as is naturally so; put into a barrel five ounces of the juice of the herb clary, and the quintessence of wine, and to every barrel a pound, or pint, of the syrup of blackberries, and,

after fermentation and refining, it will be of a curious wine taste, like sherry, and not well distinguishable, but by such as have very good palates, or those who deal in it.

Their virtues.] These wines have the nature of cider and perry, though in a higher degree, by the addition and alteration; being cooling, restorative, easing pains in the liver or spleen, cleansing the bowels, and creating a good appetite.

TO MAKE WINE OF CHERRIES.

TAKE cherries, indifferently ripe, of any red sort, clear them of the stalks and stones, and then put them into an earthen glazed pan vessel, and with your clean hands squeeze them to a pulp; or you may do it with a wooden ladle, or presser, and so let them continue twelve hours to ferment; then put them into a linen cloth, not too fine, and press out the juice with a pressing-board, or any other conveniency; then let the

liquor stand till the scum arise, and with your ladle take it clean off; then pour out the clearer part, by inclination, into a cask, where to each gallon put a pound of the best loaf sugar, and let it ferment and purge seven or eight days; draw it off, when you find it clear, into lesser casks, or bottles; keep it cool, as other wines, and in ten or twelve days it will be ripe.

Its virtues.] This is a great cooler of the body in hot weather; cheers the heart, and much enlivens nature in its decay; it is also good against violent pains in the head, and swooning fits.

TO MAKE WINE OF PEACHES AND APRICOTS.

TAKE peaches, nectarines, &c. when they are full of juice, pare them, and take the stones out, then slice them thin, and put about a gallon to two gallons of water, and a quart of white wine; put them over a fire gently to simmer a considerable time, till the

sliced fruit become soft; then pour off the liquid part into other peaches that have been so used and bruised, but not heated; let them stand twelve hours, sometimes with stirring, and then pour out the liquid part, and press what remains through a fine hair bag, and put them together into a cask to ferment; then add of loaf-sugar a pound and a half to each gallon; boil well an ounce of beaten cloves in a quart of white wine, and add it, which will give it a curious flavour.

Wine of apricots may be made with only bruising and pouring the hot liquor on, not requiring so much sweetening, by reason they are of a more dulcid or luscious quality; only, to give it a curious flavour, boil an ounce of mace, and half an ounce of nutmegs, in a quart of white wine; and when the wine is on the ferment, pour the liquid part in hot, and hang a bunch of fresh borage, well flowered, into the cask, by a string at

the bung, for three days; draw it off, and keep it in bottles, which are most proper to preserve these sort of wines.

Their virtues.] They are moderately warming and restorative, very good in consumptions, to create an appetite, and recover decayed and wasting bodies; they loosen the hardness of the belly, and give ease to the pains of the stomach.

TO MAKE WINE OF QUINCES.

GATHER the quinces when pretty ripe, in a dry day, rub off the down with a clean linen cloth, then lay them in hay or straw for ten days, to sweat; so cut them in quarters, and take out the core, and bruise them well in a mashing-tub with a wooden beetle, and squeeze out the liquid part, by pressing them in a hair-bag by degrees in a cider-press; strain this liquor through a fine sieve, then warm it gently over a fire, and scum it, but suffer it not to boil; sprinkle

into it loaf-sugar reduced to powder, then, in a gallon of water and a quart of white wine, boil a dozen or fourteen large quinces thinly sliced; add two pounds of fine sugar, and then strain out the liquid part, and mingle it with the natural juice of the quinces; put it into a cask, not to fill it, and jumble them well together; then let it stand to settle; put in juice of clary half a pint to five or six gallons, and mix it with a little flour and whites of eggs, then draw it off, and, if it be not sweet enough, add more sugar, and a quart of the best Malmsey: you may, to make it the better, boil a quarter of a pound of stoned raisins of the sun, and a quarter of an ounce of cinnamon, in a quart of the liquor, to the consumption of a third part, and straining the liquor, put it into the cask when the wine is upon the ferment.

Its virtues.] This wine is a good pectoral, cooling and refreshing the vital parts; it is good, moderately taken, in

all hot diseases; allays the flushing of the face, and St. Anthony's fire; takes away inflammations, and is very beneficial in breakings out, blotches, biles, or sores.

TO MAKE BIRCH WINE.

As this is a liquor but little understood, I shall be as particular as possible in my directions concerning it. In the first place, as to the season for getting the liquor from birch trees, which sometimes happens the latter end of February or beginning of March, before the leaves shoot out, as the sap begins to rise; and this is according to the mildness or rigour of the weather; and if the time is delayed, the juice will grow too thick to be drawn out, which should be as thin and clear as possible. The method of procuring the juice is by boring holes in the trunk of the tree, and fixing faucets made of elder; but care should be taken

not to tap it in too many places at once, for fear of hurting the tree. If the tree is large, it may be bored in five or six places at once, and place bottles to let it drop in. When you have extracted a proper quantity, three, four, or five gallons from different trees, cork the bottles very close, and rosin or wax them till you begin to make your wine, which should be as soon as possible after you have got the juice.

As soon as you begin, boil the sap as long as you can take off any scum; and put four pounds of fine loaf-sugar to every gallon of the juice, and the peel of a lemon cut thin; then boil it again for near an hour, scumming it all the while, and pour it into a tub. As soon as it is almost cold, work it with a toast spread with yeast, and let it stand five or six days, stirring it twice or three times each day. Take a cask that will contain it, and put a lighted match dipped well in brimstone into the cask; stop it up till the match is burnt out,

and then turn your wine into it, putting the bung lightly in till it has done working. Bung it very close for about three months, and bottle it off for use. It will be fit in a week after it is put in the bottle.

TO MAKE WINE OF PLUMS, DAMSONS, &c.

To do this, take what plums you please, mix those of a sweet taste with an allay of those that are somewhat sour, though they must be all inclining to ripeness; slit them in halves, so that the stones may be taken out, then mash them gently, and add a little water and honey; the better to moisten them, boil to every gallon of pulp of your plums a gallon of spring-water, in it a few bay-leaves and cloves; add as much sugar as will well sweeten it, scum off the froth, and let it cool, then press the fruit, squeezing out the liquid part; strain all through a fine strainer, and put the water and juice up together in a cask; let it stand and fer-

ment three or four days; fine it with white sugar, flour, and whites of eggs, draw it off into bottles, then cork it up, that the air may not prejudice it; in twelve days it will be ripe, and taste like sherry, or rather, a nearer flavour of canary.

Damsons may be ordered as other plums, though they produce a tarter wine, more clear and lasting; but put not so much water to them as to luscious plums, unless you mix some sweet wine with it, as Malaga, Canary, or the like; or infuse raisins of the sun in it, which will give it a rich and mellow taste.

Their virtues.] These, as other wines made of English fruit, are moderately cooling, purify the blood, and cleanse the reins; cause a freeness of urine, and contribute much to soft slumbers and a quiet rest, by sending up gentle refreshing spirits to the brain, which dispel heat and noxious vapours, and put that noble part into a right temperature.

TO MAKE WINE OF ENGLISH FIGS.

To do this, take the large blue figs, pretty ripe; steep them in white wine, having made some slits in them, that they may swell, and gather in the substance of the wine, then slice some other figs, and let them simmer over a fire in fair water till they are reduced to a kind of pulp, strain out the water, pressing the pulp hard, and pour it as hot as may be to those figs that are imbued in the wine; let the quantities be nearly equal, the water somewhat more than the wine and figs; then, having infused twenty-four hours, mash them well together, and draw off what will run voluntarily, then press the rest, and if it prove not pretty sweet, add loaf-sugar to render it so; let it ferment, and add a little honey and sugar-candy to it, then fine it with whites of eggs and a little isinglass, and so draw it off, and keep it for use.

Its virtues.] This is chiefly appropriated to defects of the lungs, helping shortness of breath, removing colds or inflammations of the lungs; it also comforts the stomach, and eases pains of the bowels.

TO MAKE WINE OF ROSES.

To do this fit a glass basin, or body, or, for want of it, a well glazed earthen vessel, and put into it three gallons of rose-water, drawn with a cold still; put into it a convenient quantity of rose-leaves; cover it close, and put it for an hour in a kettle or cauldron of water, heating it over the fire to take out the whole strength and tincture of the roses, and when cold, press the rose-leaves hard into the liquor, and steep fresh ones in, repeating it till the liquor has got a full strength of the roses; and then to every gallon of liquor add three pounds of loaf-sugar; stir it well, that it may melt

and disperse in every part, then put it up into a cask, or other convenient vessel, to ferment; and to make it do so the better, add a little fixed nitre and flour, and two or three whites of eggs; let it stand to cool about thirty days, and it will be ripe, and have a curious flavour, having the whole strength and scent of the roses in it; and you may add, to meliorate it, some wines and spices, as your taste or inclination leads you.

By this way of infusion, wine of carnations, clove gilliflowers, violets, primroses, or any flower having a curious scent, may be made; to which, to prevent repetition, I refer you.

The virtues.] Wines thus made, are not only pleasant in taste, but rich and medicinal, being excellent for strengthening the heart, refreshing the spirits, and gently cooling the body; making it lenitive, and so purges the first digestion of phlegm, and even choler; abates the heat of the fever, quenches thirst, miti-

gates the inflammation of the entrails, and may, on sundry occasions, serve for a good counter-poison.

TO MAKE COWSLIP WINE.

PUT five pounds of loaf-sugar to four gallons of fair water, simmer them over a fire half an hour, to well dissolve the sugar, and when it is taken off, and cold, put in half a peck of cowslip-flowers, clean picked and gently bruised; then put two spoons full of new ale-yeast, and a pound of syrup of lemons beaten with it, with a lemon-peel or two. Pour the whole into a well-seasoned cask or vessel, let them stand close stopped for three days, that they may ferment well; then put in some juice of cowslips, and give it a convenient space to work, and when it has stood a month draw it off into bottles, putting a small lump of loaf-sugar into each, by which means you may keep it well the space of a year.

In like manner you may make wine of such other like flowers that are of a pleasant taste and scent, as oxlips, jessamine, peach-blooms, comfry, scabeous, featherfew, fumitary, and many more, as your fancy and taste may lead you; having showed you different ways to let you know that you need not exactly keep to one certain rule, but please your palate by such additions as you think convenient; though, by straying too far, you may happen to mar the whole design: therefore in all things, keep as near as you can to the rules I have given.

Its virtues.] Cowslip wine, moderately drank, much helps the palsy, cramp, convulsions, and all other diseases of the nerves and sinews; also eases pains of the joints and gout, and greatly contributes to the curing of ruptures.

TO MAKE SCURVY-GRASS WINE.

SCURVY-GRASS, or spoonwort, is a very sovereign medicinal herb, appropriated chiefly to the health of English bodies.

Take the best large scurvy-grass tops and leaves, in May, June, or July, bruise them well in a stone mortar, then put them in a well-glazed earthen vessel, and sprinkle them over with some powder of crystal of tartar, then smear them over with virgin honey, and being covered close, let it stand twenty-four hours; then set water over a gentle fire, putting to every gallon three pints of honey, and when the scum rises, take it off, and let it cool; then put your stamped scurvy-grass into a barrel, and pour the liquor to it, setting the vessel conveniently end-ways, with a tap at the bottom, and when it has been infused twenty-four hours, draw off the liquor, and strongly press the juice and moisture out of the herb into the barrel or vessel, and put the liquor up again; then put a little

new ale-yeast to it, and suffer it to ferment three days, covering the place of the bung or vent with a piece of bread spread over with mustard-seed, downward, in a cool place, and let it continue till it is fine and drinks brisk; then it is time to draw off the finest part, leaving only the dregs behind: add more herbs, and ferment it with whites of eggs, flour, and fixed nitre, verjuice, or the juice of green grapes, if they are to be had; to which add six pounds of the syrup of mustard, all mixed and well beaten together, to refine it down, and it will drink brisk, but not very pleasant; being here inserted among artificial wines rather for the sake of health than for the delightfulness of its taste.

Its virtues.] It helps digestion, warms cold stomachs, carries off phlegm, purifies the blood, purges out salt watery humours, cleanses the bowels from cold sliminess, eases pains in the limbs, head, heart, and stomach; especially those proceeding from scorbutic humours, &c.

TO MAKE WINE OF MINT, BALM, AND OTHER HERBS, &c.

FIRST, distil the herb in the cold still, then add honey to it, and work as in scurvy-grass, and then refine it, and work it down by a due proportion of its own syrup; by this means the wine will become very fragrant, and contain the whole virtue of the herb: wormwood wine, wine of rue, cardus, and such strong physical herbs, may be made by infusion only, in small white wines, cider, perry, or the like, adding a little sweets to palate them, that they may be more agreeable to the taste. That of black currants may be made as of other currants, and is very useful in all families.

Their virtues.] Wines made of mint, balm, wormwood, rue, &c. resist pestilential airs, are good in agues and cold diseases, prevent fits of the mother and vapours, ease pains in the joints and sinews, cleanse the blood, and frequently

prevent apoplexies, epilepsies, and the like. These wines contain not only the virtues of the herbs, but greatly strengthen and revive the decay of nature.

TO MAKE ORANGE WINE.

PUT twelve pounds of fine sugar, and the whites of eight eggs, well beaten, into six gallons of spring-water; let it boil an hour, scumming it all the time; take it off, and when it is pretty cool, put in the juice of fifty Seville oranges, and six spoonsful of good ale-yeast, and let it stand two days: then put it in another vessel with two quarts of Rhenish wine and the juice of twelve lemons; you must let the juice of lemons and wine, and two pounds of double-refined sugar, stand close covered ten or twelve hours before you put it into the vessel to your orange wine, and scum off the seeds before you put it in. The lemon-peels must be put in with the oranges, half the rinds must be put into

the vessel: it must stand ten or twelve days before it is fit to bottle.

TO MAKE SAGE WINE.

Boil twenty-six quarts of spring-water a quarter of an hour, and, when it is blood warm, put twenty-five pounds of Malaga raisins, picked, rubbed, and shred, into it, with almost half a bushel of red sage shred, and a poringer of ale-yeast; stir all well together, and let it stand in a tub, covered warm, six or seven days, stirring it once a day; then strain it off, and put it in a runlet. Let it work three or four days; and then stop it up; when it has stood six or seven days, put in a quart or two of Malaga sack; and when it is fine bottle it.

TO MAKE TURNIP WINE.

Take a good many turnips, pare them, slice them, put them into a cider-press, and press out all the juice very well.

To every gallon of juice have three pounds of lump sugar; have a vessel ready just big enough to hold the juice; put your sugar into a vessel; and also to every gallon of juice half a pint of brandy. Pour in the juice, and lay something over the bung for a week, to see if it works; if it does, you must not bring it down till it has done working; then stop it close for three months, and draw it off into another vessel. When it is fine bottle it off.

CYPRUS WINE IMITATED.

You must to nine gallons of water put nine quarts of the juice of the white elderberries, which has been pressed gently from the berries with the hand, and passed through a sieve, without bruising the kernels of the berries: add to every gallon of liquor three pounds of Lisbon sugar, and to the whole quantity put an ounce and a half of ginger, sliced, and three quarters of an

ounce of cloves; then boil this near an hour, taking off the scum as it rises, and pour the whole to cool in an open tub, and work it with ale-yeast, spread upon a toast of white bread for three days, and then turn it into a vessel that will just hold it, adding about a pound and a half of raisins of the sun, split, to lie in liquor till we draw it off, which should not be till the wine is fine, which you will find in January.

N. B. This wine is so much like the fine rich wine brought from Cyprus, in its colour and flavour, that it has deceived the best judges.

TO MAKE GILLYFLOWER WINE.

To three gallons of water put six pounds of the best powder-sugar, boil the sugar and water together for the space of half an hour, keep scumming it as the scum rises; let it stand to cool, beat up three ounces of syrup of

betony with a large spoonful of ale-yeast, put it into the liquor, and brew it well together; then having a peck of gillyflowers, cut from the stalks, put them into the liquor, let them infuse and work together three days, covered with a cloth; strain it, and put it into a cask, and let it settle for three or four weeks, then bottle it.

TO MAKE MEAD.

HAVING got thirteen gallons of water, put thirty pounds of honey to it, boil and scum it well; then take rosemary, thyme, bay-leaves, and sweet briar, one handful altogether; boil it an hour; then put it into a tub, with two or three handfuls of ground malt; stir it till it is blood-warm; then strain it through a cloth, and put it into a tub again; cut a toast round a quartern loaf, and spread it over with good ale-yeast, and put it into your tub; and when the liquor is quite over with the yeast, put it up in

your vessel; then take of cloves, mace, and nutmegs, an ounce and an half; of ginger, sliced, an ounce; bruise the spice, and tie it up in a rag, and hang it in the vessel; stop it up close for use.

Some curious Secrets belonging to the Art and Mystery of Vintners, in making Artificial Wines, as Malaga, Claret, Rhenish, &c. The method of recovering faded Wines, and such as have lost their Colour; and of Racking, Sweetening, &c.

OF SMALL WINES MELIORATED.

It is certain that weak wine may be raised and improved on the rich lees of wine that is drawn off; and indeed we know it is common to draw off such small wines, and put them on such lees; by this the profit of the vintners is greatly enlarged. We also see that wine is fed with proper food, as sweet flesh, salt of tartar, or the sweet and volatile spirit of tartar; but more espe-

cially with the quintessence of wine, essential salts, prepared oils, herbs, and things of an aromatical nature; why then may not small wine be greatly bettered by the animal spirit or quintessence extracted from other wines? For the animal part of wine only, and nothing else, can increase the strength of wine.

If the quintessence be drawn out of one small wine, and added to another, it will make that rich, though the other is altogether impoverished. For this reason it is better that one be lost, which may serve for vinegar, than both remain useless. This cannot be so well demonstrated by words as by practice; for which reason I shall give some examples to prove my assertion, *viz.*

TO MAKE ARTIFICIAL CLARET.

TAKE the juice or water of clary, distil it in a cold still, one part; redstreak cyder, half a part; Malaga raisins, beaten in a mortar, six pounds; the fat

mother of claret, one pound; cover them in a close vessel for fifteen days in order to ferment, then draw off the liquor into another vessel, and to every gallon add half a pint of the juice of mulberries, blackberries, or gooseberries, and a pint of the spirit of clary, to the whole put three spoonfuls of flour, and the whites of two new-laid eggs, with a drachm of isinglass; beat these together, and add to the liquor two pounds of the syrup of clary, and it will refine down, and be very rich, not distinguishable from the right claret, unless by those well skilled in wines: of this there are great quantities sold, when French wines are very dear, and scarce to be come at.

TO MAKE ARTIFICIAL MALAGA, CANARY WINE, &c.

TAKE a cask that has been well seasoned with right old Malaga; new trim it, and hoop it strong, leaving it open at

one end, to which open end a close cover must be fitted, to take off and put on at pleasure, and keep it in all seasons in a warm place; fill it with spring or conduit water, and to every gallon of water add six pounds of the best Malaga raisins, well bruised, and sprinkle on every twenty gallons a handful of calx wine; then place the cover close, and keep it warm with cloths fastened about it, and so let it continue four or five days to work and ferment; after that open it, and see if the raisins are floating on the top of the water; and if you find they are, press them down again, and so do every four or five days, letting them stand three weeks or a month; then tap the vessel three or four inches above the bottom, and try if the liquor tastes; and if does not, let it stand longer till it has got the true flavour; then draw it off into another cask that has had Malaga in it, and to every twenty gallons put a pint of the best aquavitæ, a quart of *Alicant* wine, and

two new-laid eggs beaten together, and let it stand in a vaulted cellar, or such like place, till it be fit for drinking; if it want sweetness, put in a little fine loaf sugar, and it will abundantly answer your expectation: and this, dashed with a little white wine, or curious brisk pippin cyder, may pass for canary.

And thus not only artificial Malaga may be made, but other artificial wines; for it cannot but be supposed that an ingenious person may, by these examples, invent and prepare other sorts of wines different from these in taste; for having once got the knowledge of the different herbs that bear a similarity to the different sulphur of the true wine, whether styptic, acid, mild, luscious, fat, or balsamic, so much the imitation of the different sorts of wines be, whether ribella, tent, rapadavia, canary, or any others: as for white wine, or Rhenish, you may make them of sweeter or tarter cyders, as you find in the directions given for making artificial claret; bating the co-

louring; though you must be at the labour and charge of fining them more, on purpose to keep up a good body.

TO RESTORE PRICKED WINES.

To do this, take the wine down to the lees in another cask, where the lees of good wine are fresh; then take a pint of strong aquavitæ, scrape half a pound of yellow bees-wax into it, and by heating the spirit melt the wax over a gentle fire; then dip in it a cloth, and set it on fire with a brimstone match; put it in flaming at the bung; and stop the cask close.

TO RESTORE WINE DECAYED BY TOO MUCH VENT, OR SOURING.

Stir and ferment it well with a flat-ended stick, till you have removed it in all parts, and made it ferment, but touch not the lees; then pour in a pint of aquavitæ, and stop it up close, and at the end of ten days it will be tolerably restored. Wine that is decayed by too

much vent, may be recovered by putting burning-hot crusts of bread into it.

FOR MUSTY WINE, OR SUCH AS HATH GOT A TWANG OF THE CASK.

To remedy this, rack it off upon lees of rich wine of the same sort; then put into a bag four ounces of the powder of leneral berries, and two ounces of the filings of steel; let it hang by a string to the middle of the wine, and so by degrees lower it, as you draw it off.

TO HINDER WINE FROM TURNING.

PUT a pound of melted lead in fair water into your cask, pretty warm, and stop it close.

TO TAKE AWAY THE ILL SCENT OF WINE.

BAKE a long roller of dough, when it is well stuck with cloves; let it thoroughly bake, and hang it in your cask, and it will remove the ill scent from the wine, by gathering it to itself.

TO REMEDY A BITTER OR SOUR SCENT.

TAKE half a peck of barley, and boil it in two quarts of water, till one half of the water be wasted; strain it, let it settle well, and pour it into the wine-cask, stirring it, without touching the lees.

TO SOFTEN GREEN WINE.

PUT in a little vinegar, wherein litharge has been well steeped, and boil some honey to draw out the wax; strain it through a cloth, and put a quart of it into a tierce; and this will mend it, in summer especially: some, when they perceive the wine turning, put in a stone of unslacked lime: this will make it very good.

TO KEEP WINE FROM SOURING.

BOIL a gallon of wine, with some beaten oyster-shells and crabs-claws calcined; strain out the liquid part, and when it

is cool put it into green wine, and it will give it a pleasant lively taste.

TO SWEETEN WINE.

FILL it upon the lees, put a handful of the flowers of clary, and infuse in it; add a pound of mustard-seed, dry-ground, which must be sunk in a bag to the bottom of the cask.

ARTIFICIAL MALMSEY.

TAKE English galingale cloves, each a dram; beat them to powder, and infuse them a day and a night in a pint of aquavitæ, in a wooden vessel kept close covered; then put it into good claret, and it will make twelve or fourteen gallons of good Malmsey in five or six days; the drugs may be hung in a bag in the cask.

TO MAKE WINE SETTLE WELL.

TAKE a pint of wheat, and boil it till it burst in a quart of water, and become very soft; then squeeze it through a new linen cloth, and put a pint of the liquid part into a hogshead of unsettled white wine, and it will fine it.

TO MAKE WORMWOOD WINE.

TAKE a good brisk Rhenish wine, or white wine, and hang a pound of Roman wormwood in a bag into it, clean stripped from the gross stalks, and well dried; and in ten or twelve days infusion it will give it a taste and curious colour beyond what it had before: this may be done as it is drawn, by dropping three or four drops of chemical spirit, or oil of wormwood, into a quart of wine.

TO MAKE ROUGH CLARET.

PUT a quart of claret to two quarts of sloes, bake them in a gentle oven till they have stewed out a great part of their moisture, then pour off what is liquid, and squeeze out the rest; and half a pint of this will rough ten gallons.

TO RECOVER THE LOST COLOUR OF WHITE WINE, OR RHENISH WINE.

To do this effectually, rack the wine from the lees, and if the colour of the wine be faint and tawney, put in coniac-lees, and pour the wine upon them, rolling and jumbling them together a considerable time in the cask; in ten or twelve days rack off the wine, and it will be of a proper colour, and drink brisk and fine.

TO PREVENT THE DECAY OF LOWERING WINE.

TAKE roach-alum, powdered, an ounce, draw out four gallons of the wine, and strew the powder in it; beat it well for the space of half an hour, then fill up the cask, and set it on broach, being careful to let it take vent; by this means, in three or four days, you will find it a curious brisk wine.

OF RACKING WINE.

THIS is done with such instruments as are useful, and appropriated to the manner of doing it, and cannot be so well described by words as by seeing it done; however, this observe in doing it: let it be when the wind sets full north, and the weather is temperate and clear, that the air may the better agree with the constitution of the wine, and make it take more kindly. It is, more-

over, most proper to be done in the increase of the moon, when she is under the earth, and not in full height, &c.

TO MAKE WINES SCENT WELL, AND GIVE THEM A CURIOUS FLAVOUR.

TAKE powder of sulphur, two ounces, half an ounce of calamus, incorporate them well together, and put them into a pint and a half of orange-water; let them steep in it a considerable time, and then, drawing off the water, melt the sulphur and calamus in an iron pan, and dip in it as many rags as will soak it up, which put into the cask; then rack your wine, and put in a pint of rose-water, and stopping the hogshead, roll it up and down half an hour, after which let it continue still two days, and by so ordering any Gascoigne, or red wine, it will have a pleasant scent and gust.

TO MEND WINES THAT ROPE.

When you have set your cask abroach, place a coarse linen cloth before the bore, then put in the linen, and rack it in a dry cask; add five or six ounces of the powder of alum, roll and jumble them sufficiently together, and upon settling it will be fined down, and prove a very fluid pleasant wine, both in taste and scent.

TO MEND WHITE OR RHENISH WINES.

If these wines have an unpleasant taste, the best way is speedily to draw either of them half off, and to either of the halves put two gallons of new milk, a handful of bay-salt, and as much rice; mix and beat them well together for half an hour, with a staff, or paddler, then fill up the cask, and when you have well rolled it, turn it over in the lees, and, two or three days after, you may broach it, and it will drink very fine and brisk.

ANOTHER WAY TO MEND THE COLOUR OF WHITE WINES.

TAKE a gallon or more of morning's milk, put it into the cask, and mix it well with rolling; then, when you perceive it is well settled, put in three or four ounces of isinglass, and about a quarter of a pound of loaf sugar, fine scraped, and then fill up the hogshead, or other cask, and roll it four or five times over; and this will bring it to a colour and fineness.

TO MELIORATE, OR BETTER VICIOUS WINE.

LET your wine, in this case, be what it will, your business is to take a pint of clarified honey, a pint of water wherein raisins of the sun have been well steeped, three quarters of a pint of good white wine or claret, according as the colour of your wine is; let them simmer and

boil a little over a gentle fire, to the consumption of a third part, taking off the scum as fast as it rises; put it very hot into the vitiated wine, and let it stand, the bung-hole being open; then, in a linen bag, put a little bruised mace, nutmeg, and cloves, and hang the bag in the wine, by a string, for three or four days; and so either new or old wine will not only be fined, but much bettered; for by this means they are restored from their foulness and decay, and yield a good scent and taste: you may, to perfect this work the more, when you take out the spice, hang in a small bag of white mustard-seed, a little bruised, and the work is done.

TO MAKE ICE IN SUMMER, AND COOLING WINES, &c.

To make ice, take a stone bottle that will hold about three quarts of water; put into it three ounces of refined salt-

petre, half an ounce of Florence orise, and fill it with water boiling hot; stop it close, and immediately let it down into a well, where it must remain three or four hours; and, when you break the bottle, you will find it full of hard ice: or, for want of this opportunity, dissolve a pound of nitre in a bucket of water, and it will cool your bottles exceedingly.

GENERAL OBSERVATIONS.

TAKE salt of tartar, and pour distilled vinegar on it till it is assatiated, every time you draw off the phlegm, and then distil it in a coated retort by degrees; and rectify the oil through the spirit of vitriol, which will render it lucid, fragrant, and very pleasant. A small quantity of the powder, put into wine, hung in a fine linen rag in the cask, will refresh and meliorate, if not recover, foul, pricked, or faded wine, in a short time.

Wines may be also enriched by the essential and fragrant oils, made in such a manner as to incorporate with water or spirits of wine, or other wine. After being diluted by proper fermentation, they are easily united, and the body of the wine much enriched.

Having gone through this part of my undertaking, it is necessary to observe, that although I have been very exact in specifying the particular quantity of each ingredient used in the making as well as mending the wines treated of, yet every man's palate should be consulted by those who are employed to do the business; and your own judgment will direct you how to lessen or increase any part, in proportion, according to the taste of the employer.

THE END.

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