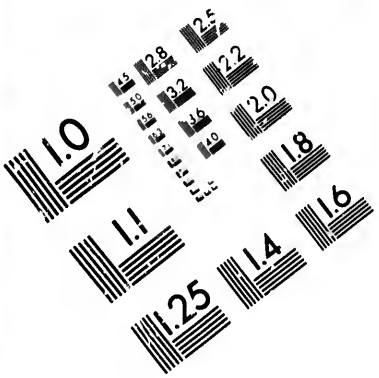

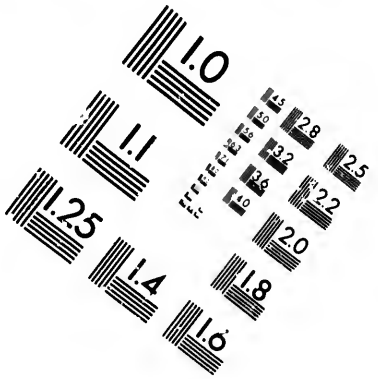

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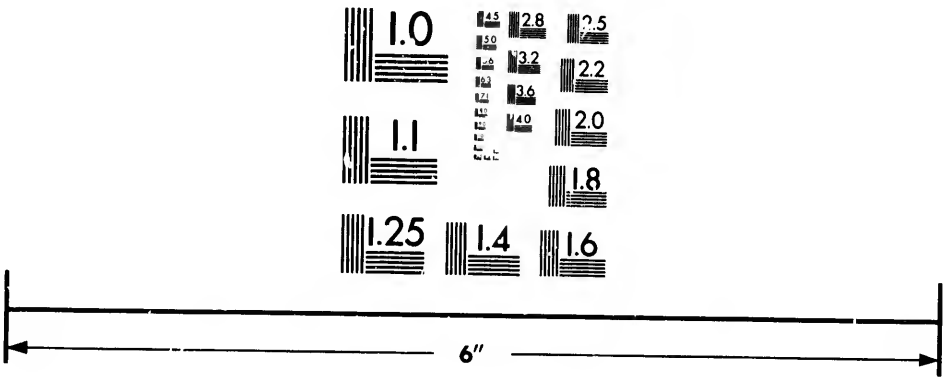

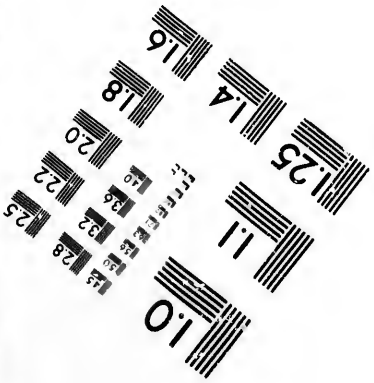

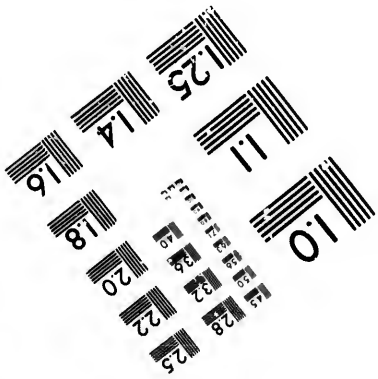

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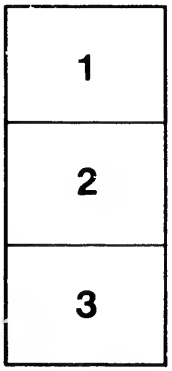
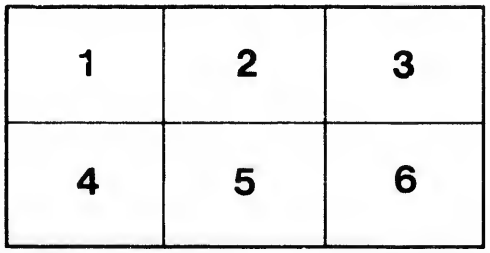


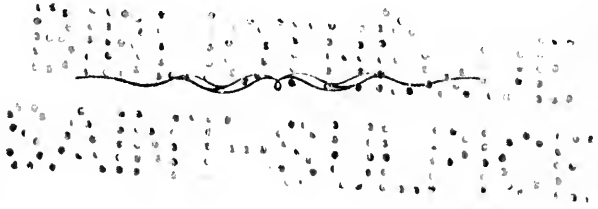


THE DOMINION

COMPOUNDER'S GUIDE

OR

THE SECRET OF THE LIQUOR TRADE.



MONTREAL
EUSÈBE SENÉCAL, PRINTER AND PUBLISHER
Nos. 6, 8 and 10, St. Vincent Street.

1870

THE COMPOUNDER'S GUIDE

In introducing this work before the public, my aim is not only that of personal interest, but also to benefit the purchaser a thousand times as much as the amount paid for it. Every receipt has been carefully written by myself, and I hope that my experience of thirty years, as compounder, will be advantageous to whoever becomes in possession of this valuable work.

Every one can compound or manufacture from this book providing a strict observation of its remarks, which are plane and comprehensible. I have served in England and in the United States, as compounder, and hope to win the confidence of all business men by my long experience, as practical compounder.

This book embraces the liquor trade in all its varieties and is useful to every body dealing in that branch. The Wholesale Merchant wants it to compound or mix liquors, to give strengh, age and flavour to Brandy, Wine, &c., &c., in a word to improve liquors in general. The Retailer or Grocer wants it also to compound, to mix and to improve

liquors and also to manufacture from it all kinds of essentials for Handkerchiefs, Pomatum, Hair Oils, &c. It is also useful to keep Cider sweet and to sweeten Sour Cider, to manufacture Vinegar, Waterproof for India Rubber, Boots and Shoes and for the best kind of Ciment in the world, generally called Chinese Ciment. It is useful to the Hotel Keeper as it gives the method of making all kinds of fancy drinks, Tom and Jerry, and all kinds of bitters.

The Baker and Confectioner wants it as it contains receipts of all descriptions, for making Bread, Cakes, &c., in all its varieties.

L. STIENEBERG.

THE

COMPOUNDER'S GUIDE

—

WINES.

The uses of wine as a beverage are too well known to require description.

As a medicine, Port Wine is most esteemed as an astringent and tonic; and Sherry and Madeira as stimulants and restoratives in deseases where the acidity of the former would be objectionable.

Champagne is diuretic, and excitant; and the Rhinish Wines are refrigerant diuretic and slightly aperient.

Claret, Rhinish and Moselle Wines are the most wholesome.

The most frequent species of fraud in the wine trade, is the mixing of wines of inferior quality, with those of superior grade. In many cases the inferior kinds of foreign wine are flavoured and substituted for the more expensive ones. This is commonly practised with Cape wine which after having a Slight "Nuttiness" communicated to it by Bitter Almonds, or Peach Keonels, a lusciousness or fulness by Honey, and additional strength by a little plain spirit or Pale Brandy is made to undergo the operation of "Fretting in" and is then sold for Sherry; The term, "Fretting in" is applied to the partial production of a secondary fermentation, for the purpose of "amalgamating" the flavor of foreign ingredients "chiefly Brandy" added to the wine. For this purpose 4 or 5 lbs. of sugar or honey are commonly

added to a hogshead, and when the wine is wanted in haste, a spoonful or two of yeast, or a little crude Tartar, or bruised vine leaves, are also mixed in, or the cask is placed in a moderately warm situation till the effect is nearly complete, when it is removed to the wine cellar and fined down.

FINING.—Wine is clarified in a similar manner to beer.

White wines are usually fined by Isinglass in the proportion of about 1½ oz. (dissolved in 1½ pints of water, and thinned with some of the wine) to the Hogshead.

Red wines are generally fined with the whites of eggs, in the proportion of 12 or 18 to the pipe; they must be well beaten to a froth with about a pint of water, and afterwards with a little of the wine, before adding them to the liquor. Sometimes hartshorn shavings, or pale sweet glue is substituded for Isinglass; Gypsum is frequently used to clear muddy white wines; as also milk of lime.

FLAVORING.—Various ingredients are added to inferior wines to give them the flavour of others more expensive, and to British wines to make them resemble those imported. Substances are also added in a similar manner to communicate the aroma of the highly flavored grape wines. Among the first are Bitter Almonds or the essential oil of Almonds, or preferably its alcoholic solution, which are used to impart a sherry or mutty flavor to weak flavored wines, as Sherry, White Cape, Malt, Raisin, Parsnip, and other similar British wines; Rhatany, Kino, Oak Sawdust, and Bark, Alum, &c., to convey astringency, and—Tincture of the seeds of Raisins to impart a Port wine flavour. Among the substances employed to communicate the *Bouquet* of the finer wines may be mentioned Orris-Root, *Eau de fleurs d'oranges*, *Neroli*, *Ambergris*, Vanilla, Violet petals, Cedrat, Sweetbrier, Clary, Elder Flowers, Quinces, Sherry laurel water, &c., &c. By the skilful though fraudulent use of the above flavoring substances and perfumes the expe-

rienced wine brewer manages to produce in the dark cellars of London from white Cape, Currant, Gooseberry, Raisin, Rhubarb, Parsnip, and Malt wine very excellent imitations of foreign wine, and which pass current among the majority of English wine drinkers, as the choicest productions of the grape "Genuine as imported."

A grain or two of Ambergris, well rubbed down with sugar and added to a Hogshead of Claret gives it a flavor and bouquet much esteemed by some connoisseurs.

Improving.—This is the cant term of the wine trade under which all the adulteration and "doctoring" of wine is carried on. A poor Sherry is improved by the addition of a little Almond Flavor, Honey and Spirit, a Port deficient in body and astringency, by the addition of some Red Tartar, dissolved in boiling water, some Kino, Rhatany, or Catechu and a little Honey and Brandy.

Mixing.—Few wines are sold without admixture. It is found that the intoxicating properties of wine are increased by mixing them with other wines of a different age and growth. In many cases the Flavor is at the same time improved. Thus a thin Port is improved by the addition of a similar wine having a full body or by a little Malaga, Teneriffe, or Rich Old Sherry; and an inferior Old Sherry, may be improved by admixture with a little full bodied wine of the last vintage. In this consists the great art of "Cellar management" and to such an extent is this carried both abroad and in England, that it may be confidently asserted that no wine ever reaches the consumer in an unmixed or natural state.

Coloring.—Wines are as commonly doctored in their color as their Flavor. A Faun Yellow, and Golden Sherry Yellow are given by means of a Tincture or an infusion of saffron, Turmeric, or Safflower, followed by a little spirit coloring to prevent the color being too

lively. All shades of Amber and Fawn to deep Brown and Brandy color may be given by Burnt sugar. Cochineal (either alone or with a little alum) gives a Pink color; Beet Root and Red Sanders gives a red color. The extracts of Rhatany and logwood, and the juice of Elderberries, Bilberries &c., a Port Wine color.

A Hogshead of inferior Pale Sherry or White Cape is commonly converted into a full Flavored Brown Sherry by the wine dealer by the addition of a ½ pint of spirit coloring, a gallon of Brandy and a few drops of the essential oil of Bitter Almonds dissolved in spirit; the whole being well mixed and fined down; Sherry is commonly colored in Spain by the addition of must boiled to one fifth of its original volume, and in England by burnt sugar or spirit coloring. Amontillado (a very nutty wine) is commonly added to Sherries deficient in flavor various other ingredients as the essential oil of Bitter Almonds, Bitter Almonds in substance sherry laurel leaves and water &c., are also employed for a like purpose. In Portugal, the juice of Elderberries, is frequently added to Port wine, to increase its color, and extract of Rathany for the double purpose of improving its colar and imparting an astringent taste. The use of the former was once carried to such an extent that the Wine Company of Portugal put themselves to the expense and trouble of rooting out all the Elder trees, and prohibiting their growth in the wine district.

In England Beet Root, Brazil Wood, the juice of Elderberries, and Bilberries, the pressed cake from making Elderwine, extract of Logwood, &c., are frequently added to Port to deepen its color; and Oak Sawdust, Kino, Alum, and extract of Rhatany. to increase its astringency.

A factitious *Bouquet*, is also commonly given to wine by the addition of Sweet Briar, Orris Root, Clary, Elder Flowers, &c. The latter can only be detected by a discriminating and sensitive palate.

Roughening.—A roughness or astringency is readily

communicated to wine by the cautious use of Kino, *Catechu*, or Rhatany.

BRANDYING.—Brandy is frequently added to weak or vapid wines, to increase their strength, or to promote their preservation. In Portugal one third of Brandy is commonly added to *Port* before shipping it for England, as without this addition it generally passes into the acetous fermentation during the voyage. A little good Brandy is also usually added to *Sherry* before it leaves Spain. The addition of Brandy to wine injures its proper Flavor, and hence is chiefly made to Port, Sherry, or other wines whose flavor is so strong as not to be easily injured. Even when Brandy is added to wines of the latter description, they require to be kept for some time to recover their natural Flavor. To promote this object, the Wine Doctors employ the process called "*Trilling in*," by which they effect the same change in *three or four weeks*, as would otherwise require some months, at the very least.

RACKING.—This should be performed in cool weather and preferably in the Spring.

To avoid disturbing the dregs a clean syphon well managed will be found better than a Cock or Faucet. The bottoms of full portion may be strained through a wine bay and added to some other inferior wine.

WINE, BRITISH—The various processes in British Wine making resemble those employed for foreign wine, and depend upon the same principles. The fruit should be preferably gathered in fine weather, and not till it has arrived at a proper state of maturity, as evinced by its Flavor when tasted; for if it be employed while unripe the wine will be harsh, disagreable, and unwholesome, and a larger quantity of sugar and spirit will be required to render it palatable. The common practice of employing unripe goose berries for the manufacture of British Champagne arises from a total ignorance of the scientific principles of wine making. On the other hand if ordinary British fruit be employed too

ripe, the wine is apt to be inferior and deficient in the flavor of the fruit.

The fruit being gathered it next undergoes the operation of picking for the purpose of removing the stalks and unripe or damaged portion. It is next placed in a tub, and is well bruised to facilitate the solvent action of the water.

Raisins are commonly permitted to soak about 24 hours previously to bruising them. The bruised fruit is then put into a vat or vessel with a guard placed over the tap hole, to keep back the husks and seeds of the fruit when the must or extract is drawn off. The water is now added, and the whole is macerated for 30 or 40 hours more or less, during which time the Magma is frequently roused up, with a suitable wooden stirrer.

The liquid portion is next drawn off and the residuary pulp is placed in hair bags and undergoes the operation of pressing to copel the fluid it contains.

The Sugar, Tartar &c., are now added to the mixed liquors and the whole is well stirred.

The temperature being suitable the vinous fermentation soon commences when the liquor is frequently skimmed (if necessary) and well roused up, and after 3 or 4 days of this treatment it is run into casks, which should be quite filled and left purging at the Bunghole. In about a week the flavoring ingredients in the state of course powder, are commonly added and well stirred in, and in about another week depending upon the state of the fermentation and the attenuation of the must. The Brandy or Spirit is added and the cask is filled up and bunged down close. In four or five weeks more the cask is again filled up and after some weeks it is " pegged " or " spiled " to ascertain if it be fine or transparent. If so it undergoes the operation of racking; but if on the contrary it still continues muddy it must previously pass through the process of fining. Its future treatment is similar to that already noticed under foreign wines. The must of many of the strong flavored fruits as black currants for instance is improved by being boiled before being made into wine.

GENERAL FORMULA
FOR THE PREPARATION OF BRITISH WINES

1st. From ripe saccharine fruits.

1st. Ripe fruit 4 lbs ; clear soft water 1 gallon ; Sugar 3 lbs ; Cream of Tartar dissolved in boiling water 1½ oz. ; Brandy 2 to 3 0/0. Flavoring as required. Makes a good family wine.

2. As the last, but using 1 lb more each of fruit and sugar. A superior wine.

3. As the first, but using 2 lbs each additional fruit and sugar. Very strong. Is good without Brandy, but better with it. 1½ lbs of raisins may be substituted for each pound of sugar above.

In the above way may be made the following British wines :— Gooseberry wine (British-Champagne ;) Currant wine (red, white, or black) ; Mixed fruit wine, (Currants and Gooseberries, or black, red, and white currants, ripe black heart cherries, and raspberries equal parts) this is a good family wine ; cherry wine ; Colepress's wine (from apples and mulberries equal parts) ; Elder wine ; Strawberry wine ; Raspberry wine ; Mulberry wine, (when flavored makes British Port) ; whortleberry wine, (Bilberry wine) ; makes a good factitious Port ; Blackberry wine ; Damson wine, (makes good factitious Port) ; Morella wine ; Apricot wine ; Apple wine ; Grape wine ; Turnip wine, &c.

2nd. From dry saccharine fruit (as raisins).

1st. Dry fruit 4½ lbs ; clear soft water 1 gallon ; cream of Tartar (dissolved) 1 oz ; Brandy 1½ to 2 0/0. weak.

2nd. As the last, but using dried fruit 5½ lbs. A superior family wine.

3rd. As the last, but using dried fruit 7½ lbs ; and Brandy 2 to 3 0/0. A strong wine.

Should the dried fruit employed be at all deficient in saccharine matter, 1 to 3 lbs may be omitted and half that quantity of sugar, or two thirds of raisins added.

*** In the above manner may be made the following wines :—Raisin wine, Fig wine &c.

3rd. From acidulous, astringent, or scarcely ripe fruits, or those deficient in saccharine matter.

1st. Fruit 2½ lbs ; Sugar 3½ lbs ; Cream of Tartar dissolved ½ oz; Water 1 gallon ; Brandy, 2 to 3 0/0. Weak refrigerant.

2nd. Fruit 3 lbs ; Sugar 4½ lbs ; Cream of Tartar ½ oz ; Water 1 gallon ; Brandy 2 to 3 0/0. A superior family wine.

3rd. As the last, but with 5½ lbs sugar. A strong wine.

*** On the above way may be made the following wines :—Gooseberry wine, (English Champagne), Bully's wine makes an excellent factitious Port ; Damson wine, &c.

4th. From footstalks, leaves, cuttings, &c.

1st. By infusing them in water, in the proportion of 3 to 5 lbs. to the gallon, or g. s. to give a proper flavor ; and adding sugar to the strained liquor, in the proportion of 3 or 4 lbs to every 6 or 7 lbs of the cuttings used.

2nd. As the last, but substitute raisins, 1½ lbs for each pound of sugar.

*** In the above way are made the following wines Cape wine (from the pressed cake of grapes).

English Grape wine ; Rhubarb wine (patent or bath Champage) from Garden Rhubarb, &c.

5th. From the Saccharine Roots, and Stems of plants.

1st. Bruised or sliced vegetable 4 or 5 lbs ; Boiling water 1 gallon ; infuse till cold, press out the liquor, and for each gallon use sugar 3 lbs ; cream of Tartar 1 oz ; Brandy about 2 0/0. For some Roots and Stems the water must not be very hot, as they are thus rendered troublesome to press.

2nd. As the last, but using 1 lb more sugar.

∴ In the above way may be made the following wines :—Parsnip wine, (Malmsey) ; Turnip do, &c.

6th. From flowers, spices, aromatics &c.

These are prepared by simply infusing a sufficient quantity of the bruised ingredients for a few days in any simple wine (as that from sugar, honey, raisin, &c.) previously to racking.

In the above way are made the following wines : Clary wine, (muscadell) from flowers 1 quart to the gallon ; Cowslip wine, flowers 2 quarts to the gallon ; Elder Flower wine, (Frontignac) ; Flowers of white berried ¾ pint, and lemon juice 2 oz to the gallon ; Ginger wine (1¼ oz of ginger to the gallon ;) Orange wine, (1 doz. sliced to the gallon) ; Lemon wine, (juice of 12 and kinds of 6 to the gallon) ; Spruce wine (¼ oz of essence of spruce to the gallon) ; Juniper wine (berries 1 pint to the gallon) ; Peach wine (4 or 5 sliced, and the stones broken to the gallon) ; Apricot wine (as peach wine, or with more fruit) ; Quince wine (12 to the gallon) ; Rose, Clove' Gilly flower, Carnation, Lavender, Violet, Primrose, and other flower wines, (distilled water 1 quart or flowers 1 pint to the gallon ; Balm wine, Balm tops 4 oz to the gallon, &c.

7th. From Saccharine juices, or infusion, or from other fermented liquors.

1st. Juice or liquor 1 gallon ; honey or sugar 2 lbs (or raisins 3 lbs) ; cream of Tartar 1¼ oz, Brandy 1½ to 2 0/0. Very good.

2nd. As the last, but using one half more sugar, raisins, and brandy. Very fine.

∴ In this way are made the following wines. English grape wine ; Mixed fruit wine ; Pine apple wine ; Cider wine ; Elder wine ; Birch wine, (from the sap at the end of February or beginning of March) ; Sycamore wine, (from the sap) ; Malt Wine, (English Madeira), from strong wort ; and the wines of any of the Saccharine juices of ripe Fruit.

8th. From Simple Saccharine Matter.

1st. Sugar, 2½lbs.; Cream of Tartar, ½ oz.; Water, 1 gallon; Honey, 1 lb.; Brandy, 2 to 3 0/0 weak.

2nd. As the last, but use Sugar, 3½ lbs. Good.

3rd. As the last, but use Sugar, 5 lbs. Strong. A handful of grape leaves or cutting bruised or a pint of good Malt wort, or Mild Ale, may be substituted for the Honey. The above are chiefly used as bases for other wines, as they have little flavor of their own.

Raisin wine may be used instead.

*** In all the preceding formula, lump Sugar is intended when the wines are wanted very Pale, and good Muscovado Sugar, when this is not the case. Some of the preceding wines are vastly improved by substituting *Good Cider*, Perry, or Pale Ale, or Malt wort for the whole or a portion of the water. Good Porter may also be advantageously used in this way for some of the Red wines.

When expense is no object, and very strong wines are wanted, the expressed juices of the ripe Fruits with the addition of 2 or 3 lbs. of Sugar per gallon may be substituted for the Fruit in substance, and the water.

EXAMPLES OF BRITISH IMPORTATION OF FOREIGN WINES.

BRITISH CAPE.

Prep. 1 (White) Raisin wine, either alone, or worked up with a little Cider and Pale Malt wort. 2 (Red) British White Cape, sound rough Cider, and Mulberry wine, equal parts: well mixed, and fined down with white of Egg, or Bullocks Blood.

BRITISH CHAMPAGNE.

Prep. 1, (White) a Stoned Raisins 7 lbs.; Loaf Sugar 21 lbs.; Water 9 gallons; Crystallized Tartaric Acid 1 oz.; Narbonne Honey ½ lb.; Ferment with Sweat Yeast 1 lb. or less; Skim frequently, and when the fermentation is nearly over, add course powdered orris root 1 drachm, and *Eau de Fleurs d'Oranges* 3 oz.; Lemon juice, ¼ pint; Rack it bung close, and in 3 months fine it down with Isinglass ½ oz.; in one month more, if not sparkling, again fine it down, and in another fortnight bottle it, observing to put a piece of double refined Sugar, the size of a Pea into each bottle. The bottles should be wired, and covered with Tin foil after the manner of Champagne. To the last, when the fermentation is nearly over, add Perry (best Pale) 3 gals.

As the preceding, but substituting Muscovado Sugar for Raisins; or, what is still better, employ 28 lbs. of double refined Sugar.—d. Bruised Amber, hairy Champagne Gooseberries, and cold Spring water, equal parts; East India Sugar 3½ lbs. to each gallon of the strained liquor; Madeira Wine and Pale Old Rum, of each 1 quart to every 10 gallons: Fine down with Isinglass and bottle in 12 months. A sample of this wine obtained the prize of the Horticultural Society of Edinburg. It is better however when made with lump Sugar.—e. From English grapes and lump Sugar.—f. From the Stalks of Garden Rhubarb and lump Sugar. A little Sweetbrier, Orris, or Orange Flower Water being added to give it a slight Bouquet. This forms the Patent or Bath Champagne, of the Champagne Wine Co.

2nd. Pink to either of the preceding, add a little Red Currant juice to color, or 1 oz. of coursely powdered Cochineal to each 10 or 12 gallons at the time of racking.

*** The above formula, managed with judgement, produce very exact imitations of genuine Champagne. In fact, it is notorious that two bottles of wine out of every three sold under this denomination in England

is of British manufacture. I have myself seen sparkling Gooseberry, Rhubarb and White Sugar wines sold for imported Champagne at 7/6 per bottle, and the fraud has passed undetected even by habitual wine drinkers.

—

CIDER CHAMPAGNE.

Prep.—Good Pale Vinous Cider 1 Hogshead: Proof Spirit (Pale) 3 gallons; Honey or Sugar 14 lbs.; mix and let them remain together in a temperate situation for 1 month then add Orange Flour Water 1 quart; and fine it down with skimmed milk ½ gallon.

Remarks.—This will be very Pale, and a similar article, when bottled in Champagne bottles, silvered and labelled, has been after sold to the ignorant for Champagne. It opens brisk if managed properly.

—

BRITISH CLARET.

Prep. 1st. Good Cider and Port wine equal parts.

2nd. To each gallon of the East add Cream of Tartar (genuine) 3 drs., and the juice of one lemon.

3rd. To either of the preceding add French Brandy 2 oz.

4th. Instead of Port, use Red Cape or British Port.

*** If the first Three of the above are well mixed and fined down, and not bottled for a month or five weeks, they can scarcely be distinguished from good "Bordeaux," a mixture of 4 parts of Raisin wine with 1 part each of Raspberry, and Rasberry or Damson wine, also forms an excellent factitious Claret.

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BRITISH CYPRUS.

Prep. From the juice of white Elderberries, 1 quart, and Lisbon Sugar 4 lbs. to water 1 gallon, together with ½ dr. each of bruised Ginger and cloves when racked add raisins and Brandy of each 2 oz.

CIDER.

As the juice of Apples contains less Sugar in proportion to the amount of Acid and nitrogenized matter than that of grapes, the addition of some of this article would render it more suitable for the production of a vinous liquor. Good West India Sugar is the best for this purpose. I have tasted cider made in this way, and that had been in fresh emptied puncheons, that had all the pungency and vinosity of foreign wine.

CIDER MANAGEMENT OF.—Cider should be stored in a cool place, and should not be drunk before it becomes sufficiently mature. To improve the flavor of a Hogshead of Cider, 1½ gallon of good Brandy or rum are frequently added with 2 oz. of powdered Catechu (dissolved in water) 7 lbs of good moist Sugar or Honey, ½ oz. each of Bitter Almonds and cloves, and 4 oz. of Mustard seed. These must be well rummaged in, and occasionally stirred up for a fortnight, after which it must be allowed to repose for 3 or 4 months when it will usually be found as bright as wine. Should this not be the case, it must be fined with a pint of Isinglass finings, or a dozen Eggs, and in a fortnight more it will be fit for use. If the Cider preferred pale, omit the Catechu, and instead of isinglass fine with a quart of skimmed milk. If wanted of a light reddish or rose tint use ½ oz. of Cochineal and omit the Catechu.

PREPARATORY.—Previous to bottling Cider it should be examined, to see whether it be clear or sparkling. If not it should be clarified in a similar way to Beer, and left for a fortnight. The night before it is intended to be put into bottles, the bung should be taken out of the Cask, and left so until the next day, when it may be bottled, but not corked down until the day after, as, if this be done at once, many of the bottles will burst by keeping. The best corks, and Champagne bottles should be used, and it is usual to wire and cover the corks with tinfoil, after the manner of Champagne. A few bottles may be

kept in a warm place to ripen, or a small piece of lump Sugar may be put into each bottle before corking, if the Cider be wanted for immediate use, or for consumption during the cooler portion of the year, but for warm weather once for long keeping is inadmissible. The bottled Stock, should be stored in a cool cellar, when the quaiiiy will be greatly improved by age. Cider for botiling should be of good quality and at least 18 months old.

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BRITISH PORT.

Prep. 1st. Red Cape 2 gallons ; Damson or Elder wine 1 gallon ; mix.

2nd. To the last add Brandy ½ pint ; powdered kino 1 dr.

3rd. (Southampton Port) Cider 3 gallons ; Elder and Damson wine, of each 1 gallon ; Brandy 3½ pints.

4th. Cider 24 gallons ; juice of Elderberries 6 gals ; Port wine 4 gallons ; Brandy 1½ gallons ; Logwood 1 lb ; Isinglass 12 oz dissolved in a gallon of the Cider ; Bung it down in 2 months it will be fit to bottle, but should not be drunk untill the next year ; If a rough flavor is required alum 4 to 6 oz may be added.

5th. (London Port). Good rough Cider, Red Cape, Port, and Elder wine, of each 6 gallons ; Brandy 1 gallon ; as last.

*** To make the above wine form a crust on the inside of the bottle, ½ spoonful of powdered catechu, or ½ a spoonful of finely powdered cream of Tartar is added to each bottle before corking.

It is also a common practice to put the crust on the bottle before putting the wine into it by employing a hot saturated solution of Red Tartar thickened with gum and some powdered Tartar. By adding a little Lemon juice, and a "streak" of orris or orange flowe water to British Port, the ingenious wine brewer converts into "British Burgundy."

The latter is also made by mixing together equal parts of British Port and Claret.

BRITISH SHERRY.

Prep. 1st. Cape or raisin wine slightly flavored with a "very little" bitter almond cake, or, what is more convenient a little of the essential oil dissolved in alcohol (essence of bitter almonds.)

2nd. To the last add a minute quantity of sweetbrier, *Eau de fleurs d'oranges,* or orris to give it a very slight *Bouquet.*

3rd. To each gallon of strong raisin must, add, when racking, 1 Seville orange, and 2 bitter almonds, both sliced. By omitting the almonds, and adding 2 or 3 green citrons to each 10 gallons, this forms British Madeira.

4th. Loaf sugar 32 lbs ; sugar candy 10 lbs ; water 16 gallons ; boil add Pale ale wort (as for Madeira) 6 gallons ; yeast, 1 lb ; on the third day add raisins stoned 10 lbs ; and in another 2 or 3 days brandy 1 gallon ; bitter almonds grated 1 dr. ; bung it down for 4 months draw it off into another cask, add brandy 1 gal. and in 3 months bottle it.

5th. Teneriffe slightly flavored with cherry laurel or almonds, forms a most excellent British Sherry, either alone or diluted with an equal quantity of Cape or raisin wine.

*** The preceding formula, by skilful management, produces very good imitations of some of the imported wines; but many of the British fruit wines possess an equally agreeable flavor, and are frequently more wholesome.

GINGER WINE.

Ginger Wine, 1st. Put 1 oz. good Ginger Root Bruised in 1 quart of 95 per cent. Alcohol, let it stand 9 days

and strain, add 4 quarts water and 1 lb. white Sugar dissolved in hot water. One pint Port Wine to this quantity for what you retail at your own bar makes it far better. Color with tincture of Saunders to suit. Drink freely of this on going to bed when you have a bad cold, and in the morning you will bless Ginger wine.

Ginger Wine, 2nd. Take 1 quart of 95 per cent alcohol and put into it 1 oz. of best Ginger Root (*bruised* and not ground) 5 grains of Capsicum and 1 drachm of Tartaric Acid. Let stand 1 week, and filter. Now add 1 gallon of water, in which 1 lb. of crushed Sugar has been boiled. Mix when cold. To make the color, boil ½ oz. of Cochineal, ¾ oz. of Cream Tartar, ½ oz. Saleratus, and ½ oz. allum in a pint of water till you get a bright red color. I think the color is preferable to the saunders as mentioned in the other recipe. They may be used in combination. If desired you may use more Spirits or Ginger, as some want it very strong. 1½ oz. of Ginger to the gallon is better.

PURE WINE.

Take 3 pounds nice Raisins, free of stems, cut each one in two or three pieces, put them into a Stone Jug with one gallon pure soft water, let them stand two weeks uncorked, shaking occasionnally, (warm place in winter) strain through three or four thicknesses of woolen or filter, color with burnt Sugar, bottle and cork well for use. For saloon purposes add 1 pint good Brandy. The more Raisins the better the wine, not exceeding five pounds.

PURE WINE VINEGAR.

Is made by putting the same quantity of water on the above Raisins (after the wine is poured off) as at first and standing the same length of time in the same way.

PORT WINE.

Take 42 gallons of worked Cider, 12 gallons of good Port wine, 3 gallons good Brandy, 6 gallons Pure Spirits. Elderberries and Flocs, the fruit of the Black Hawes, make a fine purple color for wines, or use burnt sugar, or both, as you like. This is more particularly applicable to medecinal purposes.

CHAMPAGNE.

Take of, good cider, (crab apple cider is best) 7 gallons, best fourth proof brandy 1 quart, genuine champagne wine 5 quarts, milk 1 gill, bitarterate of potassa 2 ounces mix and let stand a short time. Bottle while fermenting. This makes an excellent imitation of Champagne with age.

Currant and other fruit wines.—For currant, cherry, raspberry, elderberry, whortleberry, blackberry, strawberry and wild grape wines, any one can be used alone, or a combination of several of the different kinds, to make a variety of flavors. To every gallon of expressed juice add 2 gallons of soft water, put in 6 to 8 pounds of Brown sugar and 1½ ounce of cream tartar, have them dissolved ; 1 quart of Brandy to every 6 gallons ; some prefer not to use Brandy. After fermentation, take 4 ounces isinglass dissolved in a pint of the wine and put to each barrel will fine and clear it, when it must be drawn off into clean casks, or bottled, which is far the best.

Give these wines age and you will be forced to hide them if you do not want them drank.

Dinner wine, or English Patent wine from Garden Rhubarb, will not lead to intemperance.—An agreeable and healthful wine is made from the expressed juice, very frequently of the Garden Rheubarb. To each gallon of juice add one gallon of soft water, in which 7 lbs of Brown sugar has been dissolved ; Till a keg or bar-

rel with this proportion, leaving the bung out, and keep it filled with sweetened water as it works off until clear. Any other vegetable extract may be added, if this flavor is not liked, then bung down and bottle as you desire. These stalks will furnish about ¾ their weight in juice. Fine and settle with isinglass as in the fruit wines.

This has been patented in England. (*Yankee Co.*)

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VARIOUS WINES.

Take 28 gallons of clarified cider, 1 gallon good brandy, 1 lb crude tartar this is what is deposited by grape wines, 5 gallons of any wine you wish to represent, 1 pint of sweet milk to settle it draw off in 24 to 36 hours after thoroughly mixing.

Blackberry and Strawberry wines are made by taking the above wine when made with Porth wine, and for every 10 gallons from 4 to 6 quarts of the fresh fruit *bruised* and strained, or added and let stand till the flavor is extracted. In bottling any of these wines 3 or 4 broken raisins put into each bottle will add to their richness and flavor.

All British wine requires to be kept at least a year to "Mellow." Much of the superiority of foreign wine arises from its age.

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BRITISH MADEIRA.

Prep. Pale Malt, ground, 4 bushels; boiling water 44 gallons; infuse strain off this while warm, take 24 gallons, and add sugar candy 14 lbs and cream of tartar 3 oz; when dissolved, add yeast 2 lbs; ferment keep skimming off, the yeast, and when the fermentation is nearly finished, add raisin wine 2½ gallons; Brandy and sherry wine of each 2 gallons; rum 1 quart; bung it down for 6 or 9 months. A second infusion of the Malt may be made for Beer.

HONEY WINE (American.)

Prep. Honey 20 lbs; Cider 12 gallons; ferment, then add Rum ½ gallon, Brandy ½ gallon, red or white tartar (dissolved) 6 oz, Bitter almonds and cloves of each ¼ oz. This is also called Mead wine.

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CITRONS.

The fruit of the Citron tree (*The Citrus Medica*) is acidulous, antiseptic, and antiscorbutic; it excites the appetite and stops vomiting. Mixed with cordials, it is used as an antidote to the mancheenal poison. The rind of the fruit is odorous, aromatic, and tonic, and yields the essence *de Cedral*, so much esteemed by the liquorist and perfumer. The fragrant essence of the rind may be easily obtained by the following simple process:— After cleaning off any speck in the outer rind of the fruit, break off a large piece of loaf sugar, and rub the Citron on it till the yellow rind is completely absorbed. Those parts of the sugar which are impregnated with the essence are, from time to time, to be cut away with a knife, and put into an earthen dish. The whole being thus taken off. The sugared essence is to be closely pressed, and put by in pots, where it is to be squeezed down hard; have a bladder over the paper by which it is covered, and tied tightly up. It is at any time fit for use, and will keep for many years. Exactly in the same manner may be obtained and preserved the essences of the Rinds of Seville Oranges, Lemons, Bergamots, &c.

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HOLLANDS, HOLLANDS GIN, GENEVA, SPIRIT OF JUNIPER.

Prep. 1st. The following description of the manufacture of Hollands comes on the authority of Robert More, Esq., formerly of Underwood, Distiller. "Who after Studying the art at Schiedam, tried to introduce that spirit into general consumption in this country (Eng-

land) but found the palates of our Gin Drinkers too much corrupted to relish so pure a beverage."

"The materials employed in the Distilleries of Schiedam are two parts of unmalted Rye weighing about 54 lbs per bushel, and one part of malted Bigg, weighing about 37 lbs. per bushel. The mash Tun, which serves also as the fermenting Tun, has a capacity of nearly 700 gallons being about 5 feet in diameter at the mouth, rather narrower at the bottom, and 4½ feet deep; the stirring apparatus is an oblong rectangular iron grid, made fast to the end of a wooden pole. About a barrel (36 gallons) of water at a temperature of from 162° to 168°, (the former being the best heat for the most highly dried rye,) is put into the mash Tun for every 1½ cwt of meal, after which the malt is introduced and stirred, and lastly the rye is added. Powerful agitation is given to the magma till it becomes quite uniform; a process which a vigorous workman piques himself upon executing in the course of a few minutes. The mouth of the Tun is immediately covered over with canvas, and further secured with a coarse wooden lid, to confine the heat; it is left in this state for two hours. The contents being then stirred up once more, the transparent spent wash of a preceding mashing is first added, and next as much cold water as will reduce the temperature of the whole to about 85° F. The best Flanders Yeast, which had been brought for the sake of carriage, to a doughy consistence by pressure, is now introduced to the amount of 1 lb. to every 100 gallons of the mashed materials. The gravity of the wort is usually from 33 to 38 lbs. per Dicas hydrometer; and the fermentation is carried on for from 48 to 60 hours, at the end of which time the attenuation is from 7 to 4 lbs.; that is the S. P. Gr. of the supernatant wash is from 1.007 to 1.0004. On the third day after the fermenting Tun is set, the wash containing the grains is transferred to the still and converted into low wines. To every 100 gallons of this liquor, 2 lbs. of Juniper Berries, from 3 to 5 years old being added, about with

¼ lb. Salt, the whole are put into the low-wine Still, and the fine Hollands Spirit is drawn off by a gentle and well regulated heat till the Magma becomes exhausted. The first and last products being mixed together, whereby a Spirit 2 to 3 per cent. above our hydrometer proof is obtained, possessing the peculiar fine Aroma of Gin.

The product varies from 13 to 21 gallons per quarter of Grain; this large quantity being partly due to the employment of the spent wash of preceding fermentation; an addition which contributes at the same time to improve the flavor.

To the preceding it may be added that the Yeast is skimmed off the fermenting tuns and sold to the bakers; which is said to lessen the production of the Spirit, but to improve its quality. The ingredients are also reduced to the state of coarse meal before mashing them.

Remarks.—It will be seen from the proceding statement. To the accuracy of which the writer of this article bears willing testimony, that the superior flavor of Hollands Spirit depends more on the peculiar mode of its manufacture than on the quantity of Juniper berries employed; 2 lbs of that substance, when new, being equivalent to less than 5 drachms of the essential oil, and when old, only to about 2 drs.; A quantity wholly insufficient to flavor 100 gallons of spirit. Besides as already noticed. The flavor of Hollands differs considerably from that of Juniper; the latter being merely employed as a modifying ingredient. Most of the Dutch distillers add a little pure Strasburg turpentine, and a handful or two of hops to the spirit, along with the Juniper berries, before rectification. The former substance has a pale yellowish brown color, and a very fragrant and agreable smell, and tends materially to impart that fine aroma for which the best Geneva is so much distinguished.

HOLLANDS GIN.

The principal part of the secret lies, however, in the careful management of the process. The numerous published receipts for Hollands Gin in which 2 or 3 oz of oil of Juniper, and as many pounds of Juniper berries, are ordered to only 20 or 25 gallons of proof spirit tend only to deceive those who adopt them.

At Rotterdam sweet fennel seeds, are occasionally added as a flavoring ; and at Weesoppe, Strasburg turpentine, fennel seeds, or the essential oil, are frequently wholly substituted for Juniper berries.

Schiedam Hollands is considered the best ; the best quality is that of Rotterdam ; and afterwards that of Weesoppe. Hollands spirit pays a duty of 22s. 6d. per proof gallon, which is the same as that of French Brandy.

2nd (Best Hollands, *Brandeuyn Von Koorn Voorloof drie* quart.) Hollands rectified to the strength of 24° *Baume* (sp. gr. 0-9125). The strength of this spirit alone is no proof of its superior quality.

3rd Digest 2 or 3 lbs of good old juniper berries in 1 or 2 gallons of rectified spirit of wine for a week or 10 days, then express the liquor, filter it through blotting paper add it to 90 or 100 gallons of good corn spirit at 2 or 3 0/0 over proof, and mix them by thorough agitation. Juniper berries 2 to 4 lbs ; sweet fennel:

4th. Seeds 4 or 5 oz ; Caraway seeds 3 or 4 oz ; spirit of wine 1 or 2 gallons ; corn spirit 40 or 100 gallons. As last.

5th. Juniper berries, fennel seeds, caraways, and spirit, as last ; Strasburg turpentine, a little. Proceed as in No. 3.

Remarks.—The last three forms produce very pleasant spirits if kept for some time to mellow ; age is one of the reasons of the creaminess of foreign Gin, which usually lies in bond for some time before being consu-

med. The product is however much superior if the ingredients are put into a still along with a moderate heat. In this case it will be an improvement to employ some good plain flavored English Gin, instead of plain corn spirit, if the expense is no object. I have mentioned certain quantities of the flavoring ingredients to be employed as a guide to the reader ; but the actual quantities required in practice depend on their quality, and the taste of the consumer. The same remark also applies to the following. The imitation of Hollands like that of Brandy, chiefly depends on the experience and discretion of the workman.

Pure spirits, 1 gal., best Holland gin Schnapps, or any kind desired, 1 quart, oil of Juniper, 2 scruples, oil of anise 1-40th of an oz.

6th. Oil of Juniper four oz ; oil of Turpentine five oz ; oil of caraways and sweet fennel of each 1 oz ; (all quite pure) rectified spirit of wine 1 gallon ; dissolve by occasionnally agitating them well together in a corked bottle for 2 or 3 days then add it gradually to clean corn spirit or plain gin untill the required flavor is produced, observing not to use too much.

Product good, if kept for some time.

Scotch or Irish Whiskey, flavored with Creosote.—A few drops in a saucer, or on a piece of spongy paper, if placed in a larder, will effectually drive away insects, and make the meat keep several days longer than otherwise. A small quantity added to brime or vinegar is commonly employed to impart a smoky flavor to meat and fish, and its solution *in acetic acid* is use to give the flaver of *whiskey to plain spirit*, called IRISH OR SCOTCH WHISKEY.

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GIN.

(From *Genièvre*, Juniper). Gin is flavored corn spirit. This liquor was originally wholly imported from Holland, and hence received the name of Hollands; or Hol-

lands Gin, and was a rich smooth spirit, chiefly flavored with Juniper berries : hence the term geneva, frequently applied to it, of which the English monosyllable gin appears to be a corruption or diminutive. The liquor at present known by this name, of British manufacture, is however a very different article to that imported, and consists of plain spirit, flavored with turpentine, and very small quantities of certain aromatics.

The thousand and one, receipts for this article, which have from time to time been printed in books, produce a flavored spirit, bearing *no ressemblance* to the most esteemed samples of English Gin, and if possible, even more unlike genuine Hollands. Any person may easily satisfy himself of the truth of this assertion by actual experiment. The cause of this incongruity has arisen, chiefly from the writers not being practically acquainted with the subject, and from the disinclination of well informed practical men to divulged, gratuitously, what they conceived to be valuable secrets. Hence the utter failure of any attempts to produce either Gin or Hollands from the receipts usually published. The authors appear to have all imbibed a Juniper berry mania probably from the imbibition of their favorite beverage. Oil of Juniper, in the hands of these gentlemen, appears to be a perfect *aqua mirabilis ;* it readily converts whiskey into gin, and imparts the rich creamy flavor of Hollands to corn or molasses spirit. But theory and experiment sometimes disagree. In practice it is found that the true flavor of foreign Geneva cannot be imparted to spirit by Juniper alone, and that English Gin depends for its flavor on no such a substance. The following formula may be regarded as good specimens, but it is proper to remark, that every distiller has his own receipt ; hence the slightly different flavor of the Gin of different distillers. This arises from the use of more or less flavoring, or the addition of a small quantity of some aromatic ; which exercices a modifying influence in the chief flavoring ingredient. One point must be particularly observed, and that is to avoid an excess of

any flavoring. The most esteemed samples of Gin are those that consist of very pure spirit slightly flavored.

A creaminess and smoothness is given to Gin by age, or the addition of a little sugar; and a small quantity of caustic potassa is sometimes added to it, to render it biting upon the palate.

Prep. 1st. Clean corn spirit, at proof, 80 gallons; nearly rectified oil of turpentine 1 pint; mix well by violent agitation, add culinary salt 7 or 8 lbs. dissolved in water, 30 or 40 gallons; again well agitate and distil over 100 gallons, or until the "Feints" begin to rise. Product 100 gallons 22 U. P., besides 2 gallons contained in the feints. If 100 gallons 17 U. P., be required 85 gallons sf proof spirit or its equivalent at any other strength should be employed.

2nd. Proof spirit, as above, 8 gallons; oil of turpentine 1 to 1½ oz; salt 1 lb, dissolved in water, 3 or 4 gallons; draw 10 gallons, as before. 22 U. P.

3rd. Clean corn spirit 80 gallons; oil of turpentine ¾ to 1 pint; pure oil of Juniper 1 oz to 3 oz salt 7 lbs; water 35 gallons; draw 100 gallons, as above. 22 U. P.

4th. To the last add oil of caraway ½ oz; oil of sweet fennel ¼ oz; distil as before.

5th. To No. 3. Add essential oil of almonds 1 drachm or less; essence of lemon 3 or 4 drachms; distill as before.

6th. No. 1. Add creosote 1 to 2 drachms before distillation..

7th. To No. 3. Add creosote 1 to 2 drachms before distillation.

8th. Proof spirit 80 gallons; oil of turpentine ½ pint; oil of Juniper 3 oz; creosote 2 drachms; oranges and lemons, sliced of each gin number; macerate for a week, and distill 100 gals. 22 U. P.

Remarks.—The oil of turpentine for this purpose should be of the best quality, and not that usually sold for painting, which contains resin and fixed oil.

Juniper berries, bitter almonds, and the aromatic seeds, may be used instead of the essential oils ; but the latter are most convenient. Turpentine conveys a plain gin flavor,—creosote imparts a certain degree of smokiness,—Lemon, and other aromatics, a creaminess, fulness, and richness. Gin may also be prepared by simple solution of the flavoring in the spirit, but is of course better for distillation. If made in the former way, no salt must be employed. The Gin produced by the above Formula is that denominated in the trade unsweetened Gin, Grog Gin, &c. ; but the Gin as usually sold in the Metropolis is a sweetened spirit, and hence is technically distinguished by the terms sweetened or made up. In fact, the generality of Gin drinkers prefer the latter article, even though it be weaker and inferior, which it usually is ; as the addition of sugar permits adulteration and watering with greater ease.

Sweetened spirit cannot be easily tested for its strength, and is taken by the excise at the strength which it is declared to possess by the dealer. To ascertain whether Gin be sweetened or not, a little may be evaporated in a spoon, over a hot coal or candle, if it be pure, it will fly off, and leave the spoon but little soiled ; but if, on the contrary, it has been sweetened, a small quantity of syrup liquid, or sugur will be obtained, the sweetness of which will be easily recognised by tasting it.

Gin Cordial.—This is Gin sweetened with sugar, and slightly aromatized.

Prep. Good Gin (22 U. P.) 90 gallons ; oil of almonds 1 drachm ; oils of cassia, nutmeg, and lemon of each 2 drachms ; oils of juniper, caraway, and coriander of each 3 drms ; essence of orris root 3 or 4 oz ; orange flower-water 3 pints ; lump sugar, 56 to 60 lbs dissolved in water 3 or 4 gallons. The essences must be dissolved in a quart of spirit of wine, and added gradually to the Gin, until the requisite flavor is produced, when the dissolved sugar must be mixed in, along with a sufficient quantity of soft water holding 4 oz of alum in

solution, to make up 100 gallons. When the whole is perfectly mixed, 2 oz of salt of tartar, dissolved in 2 or 3 quarts of water, must be added and the liquor again well rummaged up, after which it must be bunged down, and allowed to repose in a week or ten days, it will have become brilliant and may be racked if required. Product 100 gals. about 30 U. P. It is usually permitted in the trade as 22 or 24 U. P.

Gin sweetened.—Prep. Unsweetened Gin (22 U. P.) 95 gals; lump sugar 40 to 45 lbs, dissolved in clear water 3 gallons; mix well; add alum ¼ lb dissolved in water 3 or 4 quarts; rummage well for 15 minutes, then add salt of tartar, 2 oz, dissolved in water 1 or 2 quarts; again rummage well, and bung down close. In a day or two it will be fine, and ready for sale or racking, product 100 gallons, about 26 U. P. This is usually "permitted" at 22 or 24 U. P., and this is also commonly done when the Gin has been lowered with water to 30 or 35 U. P.

Casks.—The whole of the casks and utensils employed for Gin should be perfectly clean, and properly prepared, so as not to give color; as if this spirit merely acquires the palest colored tint, its value is lessened, and if much colored, it is rendered unsaleable. When Gin has once become much stained, the only remedy is to redistil it; when it is only slightly stained, the addition of a few lbs of acetic acid (P. L.) to a pipe, a spoon full or two to a gallon, or a few drops to a decanterful, and usually decolor it, either at once, or as soon as it is mixed with water to make grog.

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FORMULA FOR MAKING HOLLANDS GIN.

1st. Take oil of juniper 4 oz; oil of turpentine 5 oz; oils of caraways and sweet fennel of each 1 oz; (all quite pure) dissolve by occasionnally agitating them well together in a corked bottle for 2 or 3 days then add it gradually to clean corn spirit or plain Gin until the

required flavor is produced observing not to use too much. Product. Good if kept for some time.

2nd. Digest 2 or 3 lbs of good old juniper, berries in 1 or 2 gallons of rectified spirit of wine for a week or 10 days, then express the liquor, filter it through blotting paper add it to 90 or 100 gallons of good corn spirit at 2 or 3 0/0 over proof, and mix them by thorough agitation.

3rd. Take Juniper berries 2 to 4 lbs; sweet fennel seeds 4 or 5 oz; caraway seeds 3 or 4 oz; spirit of wine 1 or 2 gallons; corn spirit 90 or 100 gallons, as last.

4th. Juniper berries, fennel seeds, caraways, and spirit as last: Strasburg turpentine, a little proceed as in No. 2.

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BRANDY.

3rd. To pure or silent spirit reduced to 17 U. P. 100 gallons; finely powdered catechu 12 oz; tincture of vanilla 4 oz; burnt sugar coloring 1 quart good rum 3 gallons or more; acetic or nitric ether 2 quarts. Mix well.

4th. Perfectly pure spirit P. F. gallons; red tartar dissolved 7 lbs.; acetic ether 3 lbs; wine vinegar 3 gallons; bruised raisins or french plums 7 lbs; bitter almonds bruised 1 oz; water sufficient. Dissolve the tartar in the water, then add the other ingredients, macerate as before and draw over 120 gallons, lastly add a few lbs of oak shavings, 1 lb of powdered catechu made into a paste, with water and burnt sugar, coloring as before.

Remarks.—This yields 120 gallons of spirit fully 17. U. P.

5th. To pure or silent spirit reduced to 17. U. P. 89 gallons; high flavored Cognac 10 gallons; oil of cassia 1½ drachm; oil of better almonds essential ½ drachm powdered catechu 10 oz; cream of tartar dissolved 16 oz; Beaufoys concentrated acetic acid 3 lbs; su-

gar coloring 1 quart or more; good rum 1 gallon Put the whole into a fresh emptied brandy piece, and let them remain a week together with occasional agitation, then let them stand to settle. If this mixture be distilled. The French brandy, rum, coloring and catechu should not be added till afterwards.

FORMULA FOR MAKING BRANDY.

1st. To pure or silent spirit reduced to 17 U. P. add a little tincture of catechu and a sufficient quantity of oil of cognac to give it a proper flavor.

REMARKS.—When this process is well managed a very capital article results, but it requires considerable address to conduct it well.

The spirit produced by this plan is better for distillalation. The brandy from any part of the world may thus be imitated, by distilling the oil from the lees of the wines produced in the particular district. This is the only method of producing an exact imitation. The oil should be the very best that can be procured.

2nd. To pure ar silent spirit reduced to 17 U. P. 100 gallons; nitric ether 2 quarts; cassia buds ground 4 oz; bitter almond meal 2 oz; orris root sliced 6 oz; powdered cloves 1 oz; capsicum 1½ oz; good vinegar 2 gallons; brandy coloring 1 quart; powdered catechu 1 lb; full flavored Jamaica rum 2 gallons. Mix well in an empty Cognac cask and let them macerate for a fortnight, occasionally stirring.

REMARKS.—The proportion of the ingredients may be varied by the skilful brewer, as much depends upon their respective strengths.

Brandy. Syn. Eau de vie. Aqua vitœ. Spiritus gallicus. Brandy wine.

The spirituous liquor obtained by the distillation of wine. When first distilled it is colorless, and only acquires a yellowish tint from the wood of the casks, in which state it is known and sold as Pale or white brandy.

The deep color that it usually possesses, is imparted to it by adding a little spirit coloring, (burnt sugar or caramel,) and occasionally a little red sander wood as well, and is intended to imitate the appearance acquired by brandy from great age, when kept in wood.

The natural color, however, which the spirit receives from the Cask, no matter how long it may have been in it, never exceeds an amber tint, about the color of Pale Jamaica Rum; but the public taste has been gradually vitiated in this respect, until only a spirit of a lively and full "Brandy Color" (unless for a Pale Brandy) will sell.

The Brandies most esteemed in England are imported from France, and are those of Cognac and Armagnac. The preference being generally given to the former.

The Brandies of Rochelle and Bordeaux may be reckoned next in quality while those obtained from Portugal, Spain, and Italy are very inferior.

The constituents of Brandy are alcohol and water, and small quantities of volatile oil, acetic acid, acetic ether, ananthic ether, coloring matter, and Tannin. It is from the presence of the last six of these substances that the spirit derives its distinguishing smell and flavor. The quantity of alcohol present in Brandy varies from 48 to 55 per cent. When first imported it is generally 1 or 2 overproof; but by age its strength is lessened, and by the time it is usually taken from the Bond store for sale seldom exceeds 3 or 4 underproof. From considerable personal acquaintance with the Cognac trade. I feel confidence in asserting, that Brandies of the best quality seldom exceed proof, and are generally below it, and that it is a common practice in France to add spirit of wine and coloring to raise the strength to any given point desired by the English purchaser, and to charge it in the invoice; or where the purchaser is not *well acquainted with the subject*; and desires a strong spirit at a low rate, to sell him Brandy so mixed *as genuine*.

The finest Brandies average from 5 to 10 U. P. and

never exceed about 2 U. P.; they then contain more than half their weight of water; and from their boiling point being higher they come over more highly charged with essential oil, and other volatile and fragrant principles of the grape, and thus possess in a greater degree that peculiar aroma and flavor for which they are so much esteemed. French Brandy or Wine, distilled at a low temperature in a water bath yields a very pure and scarcely flavored spirit.

The quality of the Brandy imported from France varies considerably from that which is drunk on the continent, principally from its being prepared or, as it is technically termed, "made up," for the London market, which means lowering it by the addition of spirit, coloring, &c., above described. The common strength at which foreign brandy is sold in England is about 11 or 12 U. P. and below 17 U. P. it becomes seizable by the excise. The strength at which it is sold and permitted in trade, is generally 10 U. P. to which it is reduced by adding water, and never less than 12 U. P. unless it be especially agreed upon. In large quantities and from bond, of course the strength depends much upon the age and quality of the spirit. A fine old brandy being perhaps 8 or 10 U. P., while one of the last years vintage of a commoner quality may be as strong as 2 or 1 U. P. But these distinctions are familiar to every experienced brandy dealer.

In France there are several varieties of this spirit distilled which are known by names descriptive both of their quality and source.

The "*Eau de vie supérieure,*" or *Cognac Brandy*, is generally obtained from pale white wines, by careful distillation, and is remarkable for its superior flavor. When kept in glass or stone bottles, it is called white Cognac Brandy, and the same term is also generally applied when it has been kept in casks, but has not been artificially colored; in the latter case, however, it generally acquires a pale amber tint.

The "*Eau de vie ordinaire,*" or common brandy is

distilled from high colored white or red wines, and has generally a sp. gr. of 0.948, and varies from 22 to 27 U. P.

The "*Eau de vie de marc*," is obtained from lees of vinegar and other wines, the marc or cake of grapes from which the juice has been pressed, and the commonest red wines, fermented and distilled together by a quick fire, to drive over as much essential oil and flavoring as possible.

The "*Eau de vie seconde*" is the weak spirit that passes over after the stronger spirit has been drawn off, and the receiver changed. It is used for common drinking, or mixed with other brandy.

The "*Eau de vie à preuve d'Hollande*," is brandy about 19° baume, or sp. gr. 9420, the common strength at which it is retailed in France, and will stand the "proof" or "bead."

The "*Eau de vie à preuve d'huile*," is the strongest brandy usually drunk; it is about 23° baume or sp. gr. .918; pure olive oil will just sink it; hence the above term.

The "*Eau de vie fort*," is usually prepared by the redistillation of common brandy keeping the ffrst portion seperate. It answers to our spirit of wine. It is made of 12 different strengths distinguished by names, exhibiting the quantity of water required to reduce the sample to the "preuve d'Hollande." The weakest is called cinq-six or 5/6, and the strongest trois-neuf or 3/9, the difference between the numerator and the denominator being the quantity of water the 3 parts of the former will take to reduce it to the "preuve," when it would make 9 parts. Its sp. gr. is about .839.

The *esprit de vin*, is brandy or spirit rectified to 0.890 and upwards.

The general method of distilling brandy in France differs in no important particular from that practised in England, for grain or molasses spirit. Neither are the french workmen more skilful nor more cleanly in their operations than the English. It is the materials alone

that in this case, conduce to the superiority of the product. The quality of the brandy varies with that of the wine from which it has been distilled. Every soil, every climate, every kind of grape, produces a wine possessing some peculiarity confined to itself, and this wine on distillation produces a spirit possessing like distinctions.

A large quantity of brandy is prepared in France soon after the vintage, as the juice of the poorer grapes that is unfit for wine is fermented and at once distilled.

It is a general rule, in France, to distil only such wines as are unsaleable, as the profits on the wine, sold as such, are much greater then when it is converted into brandy.

The strength of brandy may be ascertained in the same way as alcohol for which purpose, Sike's hydrometer is used in England. In France, from the value of spirit being less it is frequently tested by simpler methods, though great accuracy obtains in this particular where necessary.

Brandy reduced. 1st To 20 gallons of Cognac brandy add 5 gallons of the best British brandy.

2nd. To 72 gallons of full flavored French brandy, add 10 gallons of spirit of wine (530. P.) 8 gallons of water, and 1 pint of good coloring. Rummage well up and let it stand untill the next day.

Remarks.—The above reduction is generally adopted in trade, and is known by the name of "Improving." But such is the properiy of the palate of the English brandy drinker, that the adulteration is often not suspected, even when it is carried to double the extent of the above, which is generally exceeded in the hands of the retailer. So long, however, as the foreign spirit constitutes about half of the mixture, and was at first of decent quality and age. The infatuated Englishman smacks his lips, and cunningly holding up his glass between the light and his eye, exclaims "*Ah! this is a drop of the real.*"

Brandy (British) Syn. British Cognac.

Imitation Cognac, &c. From the heavy duty levied

on French Brandy imported into England for home consumption, it has become a desideratum with the distiller (rectifier) to produce an English spirit of a similar description. For some time the attempt proved quite unsuccessful, but of late years much capital and talent have been embarked in the pursuit, and the result has proved very satisfactory. An article of British manufacture may now be purchased, at a very reasonable rate, of really respectable quality, and possessing much of the flavor and aroma of foreign brandy, white as a beverage, it is equally wholesome. Much of the British brandy, however, that is commonly met with, is of such a wretched quality as to be quite undeserving of the name, which is evidence of the fact, that much skill and experience is required to ensure success in its manufacture. For a long time this liquor was distilled from spoilt wine and drugs of wine, both British and foreign mixed with beer bottoms and similar articles; and when instead of these, corn, malt, and molasses spirit were employed, it was considered as an unpardonable and wicked misuse of those articles. Modern experience has proved, however, that perfectly pure and tasteless malt spirit is the best article to form into an imitation brandy.

The following formula by skilful management will produce very good brandy, but it must be recollected that much depends on the quality of the materials employed, as well as on the operator. As the strength and quality of the ingredients, and the methods of manipulation vary, so will the result; much must therefore be left to the judgement and discretion of the artist. It offers a profitable pursuit to the ingenious and industrious chemist and rectifier.

Prep. 1st. Take 12 gallons of the finest flavorless malt spirit at proof, (or if of a different strength a proportionate quantity;) add thereto 5 gallons of water, ¾ lb. of the best crude red tartar or wine stone, previously dissolved in 1 gallon of boiling water; ¼ pint of acetic ether; 2 quarts of good French wine vinegar; 7 lbs

bruised French plumbs, and 1 or 2 gallons of wine bottoms or flavor stuff from Cognac, mix them in a fresh emptied sherry cask, and let them stand together for 14 days, frequenily rummaging up the liquor with a stick; next draw over 15 gallons of the mixture from a still furnished with an agitator. Put the rectified spirit into a clean, fresh emptied Cegnac brandy cask, and add thereto ¾ pint of tincture of catechu, 1 lb of fresh and clean oak shavings, and about a pint of good spirit coloring. Bung close, and agitate occasionally for a few days.

Remarks.—Age improves the above article, and renders it (provided the process be well managed) of a very superior quality. The above receipt yields 15 gallons of brandy 17 U. P. The following forms may also be recommended:—

2nd. Perfectly pure spirit, pf. 99 gallons red tartar, dissolved, 7 lbs; acetic ether 3 lbs; wine vinegar 3 gallons; bruised raisins or French plums 7 lbs; bitter almonds, bruised, 1 oz; water sufficient. Dissolved the tartar in the water, then add the other ingredients, macerate as before. and draw over 120 gallons, lastly add a few lbs of oak shavings, 1 lb of powdered catechu made into a paste with water and burnt sugar coloring as before.

Remarks.—This yields 120 gallons of spirit fully 17 U. P..

3rd. Clean spirit 17 U. P. 100 gallons; nitric ether 2 quarts; cassia buds, ground, 4 oz; bitter almond meal 2 oz; orris root, sliced, 6 oz; powder cloves 1 oz; capsicum 1½ oz; good vinegar 2 gallons; brandy coloring 1 quart; powdered catechu 1 lb; full flavored Jamaica rum 2 gallons. Mix well in an empty Cognac cask, and let them macerate for a fortnight; occasionally stirring.

Remarks.—The proportion of the ingredients may be varied by the skilful brewer, as much depends on their respective strengths.

4th. Good plain malt spirit 17 U. P. 100 gallons,

finely powdered catechu 12 oz ; tincture of vanilla 4 oz ; burnt sugar coloring 1 quart ; good rum 3 gallons, or more ; acetic or nitric ether 2 quarts, mix well.

5th. Clean spirit, 17 U. P., 89 gallons ; high flavored cognac 10 gallons ; oil of cassia 1½ drachms ; oil of bitter almonds, essential, ½ a drachm ; powdered catechu 10 oz ; cream of tartar, dissolved 16 oz ; Beaufoy's concentrated acetic acid 3 lbs ; sugar coloring 1 quart or more ; good rum 1 gallon. Put the whole into a fresh emptied brandy peice, and let shem remain a week together, with occasional agitation, then let them stand to settle. If this mixture be distilled, the french brandy rum, coloring, and catechu, should not be added till afterwards.

To colored plain spirit at 17 U. P. add a little tincture of catechu, and a sufficient quantity of essential oil, distilled from wine lees, to give it a proper flavor. This oil is obtained by distillation from the wine lees either dried and made up into cakes, or in their wet state mixed with about 7 times their weight or water. It should be dissolved in alcohol, and kept in this state as it is apt to loose its flavor.

Remarks.—When this process is well managed a very capital article results, but it requires considerable address to conduct it well.

The spirit produced by this plan is better for distillation. The brandy from any part of the world may thus be imitated, by distilling the oil from the lees of the wines produced in the particular distr[illegible] This is the only method of producing an exact imitation. A pound each of finely powdered charcoal and ground rice has been recommended to be digested in a gallon of spirit for a fortnight. When black tea is cheap, as in America it is commonly employed to impast the roughness and flavor of brandy to colored spirits.

Cherry Brandy.—Prep. 1st. To every gallon of brandy put an equal measure of cherries, bruised between the fingers ; steep for 3 days, then express the liquor ; add 2 lbs of lump sugar and strain for use.

2nd. To the above add 1 quart of raspberries, and ½ a pint of orange flower water.

∴ Quality very fine.

3rd. Treacle 1 dant ; (spirit 45 U. P.) 41 gallons ; bruised bitter almonds (more or less, to taste) 5 oz ; cloves 1 oz ; cassia 2 oz. Put the ingredients into a large cask, well mixed and let them lie a month ; occasionally stirring.

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BRANDY RECEIPT.

To 100 gallon reduced highwine add 1 oz of Cognac, 6 oz acetic æther, 1½ gals. syrup, ¾ gal. best vinegar, 8 oz tincture of catechu, ¼ oz sulph æther, 10 drops oil of almonds, ½ oz tincture of orris, 1 oz tincture of vanilla, all cut in 1 gall. hot highwine 95 O. P.

Brandy from Oil Cognac.—Take 10 gallons pure spirits, put in 2 quarts of New England Rum or 1 qrt. of Jamaica Rum, and from 30 to 40 drops of Oil of Cognac cut in a half pint of Alcohol, and color with tincture of Rino, or burned sugar.

Much Brandy is made by using the Oil of Cognac. To flavor with, using 1 oz. to each 120 drops to 148 gallons of pure spirits, yarying in strength from hydrometer proof, to 50 per cent above, according to the quality you desire to make Some use a fell tamarinds, and loaf Sugar, each varying from 1 to 4 oz. to the gallon, if desired. Common spirit of hydrometer proof will do for liquors ranging in price under $3 dollars per gallon; but if a better article is desired you will do well to get the best pure or silent spirit, and for making the best liquors, you must keep the proof up from 30 to 50 above proof, and in all that can be said in regard to making good liquors, must depends upon the ingenuity and judgment of the manufacturer.

Cherry Brandy.—To every 10 gallons of Brandy add 3 quarts wild black cherries, *stones and all bruised*; crushed sugar 2 lbs. ; let it stand until the strength and flaver is obtained, and rack off, or draw from it as desired to use.

No imitation of Cherry Brandy by the use of Oil of *Bitter Almond* can ever equal this natural flavor.

Cherry Bounce or Brandy.—Take 10 gallons of good Whiskey, 4 to 6 quarts of wild black cherries bruised so as to break the stones, common almonds, shelled 1 lb. white sugar 1½ lb., cinnamon ½ oz., cloves ½ oz., nutmeg ½ oz, all bruised. Let stand 12 to 13 days, and draw off. This with the addition of 2 gallons of Brandy, makes very nice Cherry Brandy.

Blackberry Brandy.—Take 10 gallons of Brandy, and use from 4 to 6 quarts of nice pick blackberries mashed, more or less, according to desire. A little sugar should be added to overcome the acidity of the berries and according to their ripeness will the amount vary from 1 to 4 oz's to each gallon

Strawberry Brandy.—Will be made as the above, using very nice ripe strawberries, and only about half the quantity of sugar.

Usquebaugh or Irish Whiskey.—Brandy 1 gallon; stoned raisins 1 pound; cinnamon, cloves, nutmeg and cardamons, each 1 oz., crushed in a mortar, saffron ½ ounce, kind of a Sevile orange and sugar candy, shake these well; fourteen days afterwards fine for use.

Shrub.—Lemon Juice, 1 pint, 2 pints of white sugar, 3 pints Rum, 4 pints of Water. Mix and color ready for use

To improve the flavor of New Whiskey.—Take 1 gallon Whiskey, add Tea 4 oz., Alspice, four ounces, Carawayseed, 4 oz., Cinnamon, 2 oz. Shake occasionnally for a week, and use 1 pint to a barrel. Let stand in a Jug.

Monongahale Whiskey.—Take 36 gallons of good common Whiskey; 2 quarts of dried Peaches. 1 quart of Rye burnt and ground Coffee, 1 oz. each of Cinnamon, Cloves and Alspice, *bruised;* Loaf Sugar, 5 lbs; Sweet Spirits of Nitre, 2 oz.; put all these articles into 4 gallons pure spirits, and shake every day for a week; then draw off through a woolen cloth, and add the whole to the 36 gallons of Whiskey.

Rye Whiskey.—Take ½ a peck of dried Peaches, put them into a pan, and bake in a stove; roast well scorching a little not to burn, however, bruise them and place in a woolen (pointed) bag, and leach good common Whiskey over them *twice*, having the barrel up so as to hang the bag under the Faucet and drawn slowly over them, this for a barrel, and you will add 10 to 12 drops of Aqua Amonia to each barrel after leaching through the peaches; with age this is nearly if not quite equal to whiskey made from Rye.

Delicate Old Bourbon Whiskey.—Good common whiskey flavored with "Oil of Bourbon Whiskey" and very slightly colored.

Irish or Scotch Whiskey.—Silent or pure Spirits Reduced to a proper strength and flavored with a solution of Creosote in Acetic Acid. A little loaf sugar improves it, and should be very slightly colored.

CIDER WITHOUT APPLES.

To each gallon of cold water, put 1 lb common sugar, ½ oz. Tartaric Acid, 1 table spoonfull of yeast, shake well, make in the evening, and it will be fit for use next day.

I make in a keg a few gallons at a time, leaving a few quarts to make into next time; not using yeast again until the keg needs rinsing. If it gets a little sour make a little more into it, "or put as much water with it as there is Cider, and put it with the vinegar." if it is desired to bottle, this Cider by manufacturers of small drinks, you will proceed as follows: *Put in a Barrel* 5 gallons hot water, 30 lbs. brown sugar, 3¼ lb. tartaric acid, 25 gallons cold water, 3 pints of hop or brewers yeast, worked into paste with 3¼ lb. of flour, and 1 pint water will be required in making this paste, put all together in a barrel, which it will fill, and let it work 24 hours.—The yeast running out at the Bung all the time, by putting in a little occasionnally to *keep it full.* Then bottle putting in 2 or 3 broken raisins to each bottle, and it will nearly equal Champagne.

Remarks.—Equal parts of fully ripe morello and black cherries produce the richest cordial.

Brandy Caraway.—Prep. 1st. Steep 4 oz of bruised caraway seeds and 2 lbs of sugar in 1 gallon of British brandy: for a fortnight.

2nd. Sugar 1 lb; caraway 1 oz; 3 bitter almonds; spirit of wine, and water, of each 1 quart; (or spirit 22 U. P. ½ a gallon) macerate as above.

Brandy Lemon—Prep. 1st. Steep ½ lb of fresh Lemon peel and ½ a dozen lemons, cut in slices, in 1 gallon of brandy, for a week, then add 1 lb of lump sugar.

2nd. Proof spirit 7 gallons; essence of lemon 3 drachms; sugar 5 lbs; tartaric acid 1 oz, dissolved in water 2 gallons; coloring q. s. (as much as sufficient) mix and rummage repeatedly for 14 days. Remarks. Some times milk is added to the above, in the proportion of 1 quart (boiling hot) to every gallon.

Brandy Orange.—This may be made in a similar way to Lemon Brandy.

Brandy Peach.—Prep. 1st. From peaches by fermentation and distillation. Much used in the United States where peaches are very cheap.

2nd. Bruise the peaches, then steep them in twice their weight of British brandy, or malt spirit; lastly express the liquor.

3rd. Bitter almonds (bruised) 2 oz.; proof spirit (light) 10 gallons; water 3 gallons; sugar 5 or 6 lbs: orange-flower water ½ a pint. Mix and macerate for 14 days.

*** Color with brandy coloring, if required darker.

Brandy Raspberry.—Prep. 1st. Pour as much brandy over raspberries as will just cover them; let it stand for 24 hours, then drain it off, and replace it with a like quantity of fresh spirit; after 24 hours more, drain this off and replace it with water; lastly drain well, and press the raspberries quite dry. Next add sugar to the mixed liquors, in the proportion of 2 lbs to every gallon, along with a ¼ of a pint of orange-flower water.

2nd. Mix equal parts of mashed raspberries and brandy together, let them stand for 24 hours, then press

out the liquor. Sweeten as above, and add a little cinnamon and cloves, if agreable; lastly, strain.

Rum.—Pure spirits 1 gal.; 1 quart of the kind of rum you wish to imitate, ⅛ of oil of caraway is enough for 6 gallons. These liquors are pure and far better than most liquors sold. which are made of whisky nine times out of ten.

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GENERAL RECEIPTS FOR MIXING AND COLORING LIQUORS.

COGNAC BRANDY.

Rectified Whiskey, 40 gallons; Water. 6 gallons; Tincture Grains of Paradise, 3 quarts; Decoction of Strong Tea, 2 quarts; Color with Brandy coloring then add Nitric Ether, 5 ounces; Oil of Wintergreen, 15 drops. Dissolved in the Ether.

RYE WHISKEY.

Good rectified Whiskey, 100 gallons; Water, 20 gallons; Honey, 5 gallons; Mix Wintergreen, 25 drops. Dissolved in 10 ounces Alcohol; Acetic Ether, 5 ounces. Color with very little Brandy Coloring.

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HOLLAND GIN.

Whiskey, 35 gallons; Nitric Ether, 4 ounces; Oil of Juniper, 1 drachm. Dissolve the oil of Juniper in the Ether, and mix.

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SCOTCH WHISREY.

Good rectified Whiskey, 4 gallons; Creosote, 5 drops; dissolved in Alcohol, ½ ounce; refined sugar, 2 lbs. dissolved in 2 *quarts* of *water add* to above for giving age to new barrels.

Keep them in a damp dard cellar and dash water on them occasionally.

CIDER.

Water, 35 gallons; Acid sufficient to render the water pleasantly sour to the taste, clear brown sugar, 50 lbs. Alum, 4 ounces; ginger, 5 ounces; cloves, 5 ounces; bitter almonds, 6 ounces.

Boil the four (4) last ingredients in two gallons of the above fluid for two hours. Strain and add to the whole. If desired deeper color add a few pounds of burnt sugar. From 3 to 4 gallons of good whiskey will give it a good body. Some add 2 gallons of strong decoction of boiled dried peaches to the barrel before sending it off. The above cider will answer very well for manufacturing wines.

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PORT WINE.

Cider, 20 gallons; Carbonate of Soda, 12 ounces; Honey, 2 gallons; strong Tincture guined Pepper, 1 ½ gallon; Powdered Catechu, 5 ounces. Color with a strong tincture of Logwood, and a small portion of burnt sugar. This wine is made without spirits, but a small portion would greatly improve it.

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CLARET WINE.

Boiled Cider, 5 gallons; Whiskey, 2 gallons; Clear Water, 5 gallons; Powder of Catechu, 2 ounces.

Color with red beets and tincture of Logwood to suit if not sufficiently acid add 1 or 2 droys Sulphuric Acid to the gallon.

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SWEET MALAGA.

Cider, 10 gallons; Inferior Raisins, 25 lbs.; Honey, 2 gallons; Clear soft Water, 12 gallons.

Boil briskly for half an hour, strain and barrel add Rum, 1 gallon; Whiskey, 2 gallons.

How to convert seventy gallons Whiskey into one hundred gallons or to increase the volume without loss of strength.

For increasing Liquors as above, take from the barrel the amount desired and add a corresponding amount of clear clean water, charged with a tincture of Guinea Pepper, then put on a good Bead the quantity of Guinea Pepper can be varied, and if the Operator desires that the spirit in question, should have greater strength to the taste than it had previous to the Adulteration, it can be obtained by increasing the quantity of Pepper, as the Pepper is liable to vary in strength from age and unripe seed. The Operator will have to depend more on the judgment of his palate, as to quantity necessary for any given amount of spirit as well as to the quantity forming the tincture.

Guinea Pepper is sometimes called Grains of Paradise.

HOW TO PREPARE IT.

It is prepared by grinding or pulverizing to a powder. One to one and a half pound of powder to a gallon of proof spirit. Use from one to two quarts to 40 gallons of Liquor, but to increase 70 gallons to one hundred, it will take more, put in until you find strong enough, add tincture of the pepper to the water, and then add the water to the Whiskey.

The Bead is obtained by mixing drop by drop; 20 drops of Sulphuric Acid with 30 drops of Sweet Oil. This amount is used to give a bead to 10 gallons of Liquor, if not enough, add until the Bead can be seen by agitation. The Beading mixture should only be prepared when required, as it does not improve by age. Use the best Sweet Oil.

The decoction of Tea is formed by boiling 2 ounces of best Green Tea in one gallon of water for one hour.

HOW TO MAKE RECTIFIED WHISKEY.

Take of raw Whiskey, 20 gallons; Water, 20 gallons; Tincture Guinea Pepper, 1 and half gallon; Strong decoction of Tea, 3 quarts.

Put on a bead of the Beading Mixture, color with 1½ pints of Brandy Coloring.

HOW TO DETECT FUSIL OIL OR POISON IN LIQUORS.

Take Nitrate of Silver, 10 grains and dissolve in it 1 ounce of pure water to half a glass of Liquor supposed to contain Fusil Oil, &c., add 25 drops of the above. If there be any Fusil or Grain Oil will be converted into a black Powder and be seen floating on the surface of the Liquor. It may be an hour or two before it can be seen.

TO MAKE OLD BARRELS LOOK NEW.

Use a very strong solution of Sulphuric Acid. The Barrels should be well rubbed with an old broom during the application of the Acid.

TO MAKE THE FINEST COLORING FOR LIQUORS.

Take any quantity of Brown Sugar and place it over a brick fire an hour, or an hour and a half; when sufficiently burned may be known by the effervescence ceasing. Then dash in the same quantity of water there was of sugar; remove from the fire and let it cool. Put in a bottle or demijohn. One pint will color a barrel of Liquor.

SODA WATER.

Take a small keg well hooped, must be air tight. Fill the keg two thirds full of clean soft water. To every gallon add of supercarbonate of Soda aud Tartaric Acid from 1 to 3 ounces of each. The Soda and Acid should be in separate parcels, and be coated with Sugar. This is easily done by stirring them into hot melted sugar and allowing it to cool. This concluded, close the keg immed ately with a good spiggot. For use put 2 tablespoonfuls of syrup in a glass and fill up with the Soda Water.

ALE FOR BOTTLING.

4 lbs. Brown Sugar, 1 pound Hops, 2 ounces Quassia, 12 gallons water; boil three quarters of an hour, then add one gallon of Molasses, 1 pint of Yeast and continue the fermentation until the froth ceases to rise to the surface, then add Tincture of Quinea Pepper half a gallon, strain through flannel, then add 3 ounces. Butyric Ether

Bottle immediately.

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IMITATION BRANDY.

Is made by adding to each 10 gallons of Malt Spirits a pint of Tincture of bitter Almonds, and a sufficient quantity of coloring, and one fourth of good french Brandy.

To purify and improve the Flavour of Malt Spirits Previous to their being converted into Brandy.

Take ¾ of a lb of finely pulverised and sifted Charcoal and one pound of finely ground rice, put these into a gallon of Malt Spirits. Let them infuse during fifteen days frequently stirring it up; then strain off the Liquor and it will be found nearly the same flavour as Brandy.

The same proportion must be observed for a greater or less quantity, and the spirits so purified, may be converted into Brandy, Rum or Gin.

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TO OBTAIN RUM FROM MOLASSES.

Mix 2 or 3 gallons of water with one gallon of Molasses and to every two hundred gallons of this mixture; add a gallon of Yeast; once or twice a day the head as it rises is stirred in, and in 3 or 4 days, 2 gallons more of water is added to each gallon of Molasses originally used, and the same quantity of Yeast as at first; five or six days after this a portion of Yeast is added as before and about an ounce of jalap root powdered (or in winter about one ounce and a half) on which fermentation proceeds with great violence, and in 3 or 4

days the wash is fit for the still 100 gallons of this wash is computed to yield twenty two gallons of spirit, from one to ten over proof.

TO MAKE LEMON SYRUP.

Put a pint of fresh Lemon juice, to a pound and three quarters of Lump sugar; dissolve it by gentle Heat: scum it until the surface is quite clear; add an ounce of thin, cut Lemon peel; let them simmer very gently together for a few minutes, and run it through a flannel. When cold, bottle and cork it closely, and keep it in a cool place.

BRANDY BITTERS.

Gentian Root, 2 ounces; Virginian snake root, ½ ounce; Cochineal, ½ drachm; Brandy, 1 quart.

Let these steep for three days; then strain them through some cap pap and bottle it up for use.

THE BEST ENGLISH GENEVA

Is made as follows:

Juniper Berries, 3 pounds; Proof Spirit, 10 galls.; Water, 4 galls.

Draw off by gentle fire, till the feints begin to rise and make up the goods to the required strength with clear water.

GENEVA BITTERS.

Yolks of fresh eggs, ½ ounce, carefully separated from the white; Gentian Root, ½ ounce; Orange Peel, 1½ drachm; and Good Geneva, 1 pint.

Pour the Geneva upon the above ingredients and let them steep in it for two hours; then strain it through some cap paper and bottle it for use.

TO CURE OILY CIDER.

Salt of Tartar 1 ounce, Spirits of Nitre 2½ oz, Milk 1 gallon.

Mix the whole well together and add to a hogshead of cider, stirring it well together and set it in a cool place in the cellar.

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TO PREVENT THE FERMENTATION OF CIDER.

Let the cask be first strongly fumigated with burnt sulphur; then put in some of the cider burn more sulphur in the cask, stop it tight, and shake the whole up together, fill the cask, bung it tight and put it in a cool cellar.

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TO COLOR CIDER.

Take a quarter of a pound of sugar, put it in a frying pan over a slow fire and burn it black. Then dissolve it in half a pint of hot water to which add a quarter of an ounce of alum to set the color, when this is dissolved and the whole combined together, add it to a hogshead of cider, stir the whole well together and set the cask in a cool place.

—

WHITE MEAD WINE.

Take of cold soft water 17 gallons, White Currants six quarts, Ferment. Mix honey thirty pounds, white tartar in fine powder three ounces. Add balm and sweet briar, each two handfulls, White Brandy 1 gallon. This will make 18 gallons.

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RED MEAD WINE.

Take of cold water 17 gallons, Red Currants, 6 quarts, Black Currants 2 quarts.

Ferment. Mix honey 25 pounds, beet root sliced one pound, red tartar in fine powder 4 ounces, Cinnamon Powder 2 ounces, Brandy 1 gallon. This will make 18 gallons.

GINGER WINE.

Take water 4 gallons, Sugar 7 pounds.

Boil them half an hour skimming it all the time. When the Liquor is cold squeeze in the juice of two Lemons, then boil the peels with two ounces of white ginger in three pints of water, one hour ; when cold, put it all together into the cask with one gill of finings and three pounds of Malaga Raisins ; then close it up, let it stand two months and then bottle it off.

—

ENGLISH CLARET.

Take six gallons of water, two gallons of cider, eight pounds of Malaga Raisins bruised, put them all together, let them stand close covered in a warm place for a fortnight, stirring it well every other day. Then strain out the Liquor into a clean cask, and put to it a quart of barberries, a pint of the juice of raspberries and a pint of the juice of blackberries. Work it up with a little mustard seed and cover it with a piece of dough three or four days by the fire side ; then let it stand a week and bottle it off. When it becomes fine and ripe it will be like common claret.

—

TO MAKE CHEAP AND WHOLESOME CLARET.

Take one gallon of the best cider and one gallon of good Port Wine ; mix and shake them, bottle them and let them stand for a month. The best judges will not be able to distinguish them from good Bordeaux.

—

IMITATION PORT WINE.

Take six gallons of good cider, one and a half gallon of good Port Wine, one and a half gallon of the juice of elder berries, three quarts of Brandy, and one and a half ounce of Cochineal. This will produce nine and a half gallons. Bruise the Cochineal very fine, and put it with the Brandy into a stone bottle, let it remain at least a fortnight, shaking it well once or twice every

day, at the end of that time procure the cider and put five gallons into a nine gallons cask, add to it the Elder juice and Port Wine ; then the Brandy and Cochineal, take the remaining gallon of Cider to rince out the bottle that contained the Brandy and lastly pour it into the cask and bung it down very close, in six weeks it will be ready for bottling. It is however sometimes not quite so fine as could be wished, in that case add two ounces of isinglass, let it remain a fortnight or three weeks longer when it will be perfectly bright, il would not be amiss ; perhaps, if the isinglass mentioned was added to the wine before it was bunged down, it will tend very considerably to improve the body of the Wine. If it should not appear sufficiently rough flavoured, add an ounce or an ounce and a half of alum, which will in most cases impart a sufficient astringency. After it is bottled it must be packed in as cool a place as possible. It will be fit for using in a few months, but if kept longer, it will be greatly improved.

—

TO MAKE IMITATION SHERRY.

Procure some raisins of the sun, let them be well washed and picked from tha stalks ; to every pound thus prepared and chapped, add one quart of water which has been boiled and has stood until cold. Let the whole stand in the vessel for a month being frequently stirred. Now let the raisins be taken from the cask and let the Liquor be closely stopped in the cask. In the course of a month let it be racked into another vessel, leaving all the sentiment behind which must be repeated until it becomes fine, when add to every ten gallons, six pounds of fine sugar and one dozen of Seville Oranges, the rinds being paired very thin and infused in two quarts of Brandy, which should be added to the Liquor at its last racking. Let the whole stand in a cask three months when it will be fit for bottling.

ANOTHER.

Take white Havana Sugar thirty pounds, water ten quarts, white tartar six ounces, boil the whole half an hour, skim it well and let it stand till cool; then add eight gallons of strong kive or strong beer wort from the vat while working stir it well together, and let it stand till next day, then put it in a strong and sweet cask, and add to it six pounds of chopped raisins, one quart of French Brandy, one and a half pounds of brown sugar, candy, and two ounces of isinglass.

N. B. After the wine is put in the cask, paste a piece of thin muslin over the bung hole, to keep out the dirt and flies. When it has done working, which will be in about six weeks, bung it up close. This is most excellent wine, and the best judges will not be able to distinguish it from real Sherry; but it should be kept at least six months in the cask; before it is fit for use, and the older it gets the better.

—

IMITATION MADEIRA.

To make the above wine, proceed as in imitation Sherry. And to give it the flavour of Madeira when it is in the cask put in a couple of green citrons, and let them remain till the wine is bottled.

—

RECEIPTS FOR MIXING DRINKS FOR HOTELS, &c.

ELEPHANTS MILK.

Put 4 ounces of Benjamin and 1 ounce of Balsam of Tolu in two gallons of Alcohol let dissolve for several hours, then put 20 pounds of white sugar in 3 gallons of water, let dissolve; then mix all together and shake well, strain through filtering bag, serve to customers in small stem wine glasses.

—

TOM AND JERRY.

Sometimes called Copenhagen. Use a bowl for the mixture. The mixture is composed of five pounds of white sugar, 12 eggs, half a small glass of Jamaica

Rum, one and a half teaspoonful of ground cinnamon, half a teaspoonfull of ground Cloves and half a teaspoonfull of ground allspice, beat the white of the eggs to a stiff froth and the yolks untill as thin as water, then mix together and add spices and Rum thicken with sugar until you have a light batter. To deal out *Tom and Jerry* to customers take a small bar glass and to one table-spoonfull of the above batter, add one wine glass of Brandy and fill the glass with boiling water and grate a little nutmeg on top.

—

PEACH AND HONEY.

Use small bar glass, one table spoonfull of honey, one wine glass of Peach Brandy stir with a spoon.

—

BLACK STRIPE.

Use small bar glass, one wine glass of Santa Cruz Rum, one table-spoonfull of Molasses, fill up tumbler with boiling water, grate nutmegs on top. If made in summer time, fill with ice instead of hot water.

—

HOT SPICED RUM.

Use small bar glass, one table-spoonful sugar, one wine glass Jamaica Rum, one table-spoonfull mixed spices (allspices and Cloves), one piece butter, size of a hali chesnutt, fill with hot water.

—

THE SLEEPER.

To a gill of old Rum add one ounce sugar, two yolks of eggs and the juice of half a Lemon; boil half pint of water with six cloves, six coriander seeds and a bit of cinnamon, whisk all together, and strain them into a tumbler.

—

BRANDY FLIP.

Use small bar glass, one teaspoonfull of Sugar, one wine glass of Brandy, fill tumbler one third full of hot

water, mix, place a toasted craker on top and grate nutmeg on top.

—

JERSEY COCKTAIL.

Use small bar glass. one tea-spoonful of sugar, two dashes of Bitters, fill tumbler with Cider, mix well with Lemon, peel on top.

—

BURNT BRANDY-PEACH.

Use small bar glass, one wine glass of strong Brandy, half a table-spoonfull of white sugar, set fire to Brandy and sugar in a saucer or plate, put two or three slices of dried peaches in a glass and pour the Liquid over them.

—

BRANDY STRAIGHT.

Use small bar glass. In serving this drink you simply put a piece of ice in a tumbler. and hand to your customer with the bottle containing the Brandy. If you have no ice, serve without ; this is very safe for a steady drink, but though a straight beverage it is often used on a bender.

—

DECANTER BITTERS.

½ pound of Raisins, two ounces of Cinnamon, one ounce of snake root, one Lemon and one Orange cut in slices, one ounce of cloves, fill decanter with Rum as fast as bitters are used fill up again with Rum ; serve in pony glasses.

—

GUM SYRUP.

20 lbs. best clear gum arabic. white, dissolve with four gallon of water nearly boiling hot, 60 lbs. of white sugar, melt and clarify it with one gallon of cold water, add the gum solution and boil all together for two minutes.

CURACOA.

Common Whiskey, 5 galls.; Fresh Orange Peel, 4 lbs. Oil of Bitter almonds one drachm, oil of Cassia one drachm, oil of Lemon, 2 drachms, oil of Cinnamon 50 drops, 16 lbs. refined sugar dissolved in five quarts of water, Tincture of Cochineal half a pint, burnt sugar 3 ounces, the whole of the oil should be dissolved in a glass of alcohol; then put all together and mix well; should all digest for five days before using.

—

CLARET PUNCH.

Use large bar glass, one and a half table-spoonfull of sugar, one slice of Lemon and one slice of Orange, fill the tumbler with shaved ice, then pour in your claret wine, shake well and ornament with berries and season place a straw in the glass.

—

MILK PUNCH.

Use large bar glass, one table-spoonful of fine white sugar, two table-spoonfulls of water, one wine glass of Cognac Brandy, one half wine glass Rum, one third tumbler full of shaved ice, fill with milk, shake the ingredients well and grate a little nutmeg on top.

—

BRANDY, GIN AND WHISKEY SMASH.

The smash is merely a Julep on a small plan, use small bar glass, one half a table-spoonfull of white sugar, one table-spoonfull of water, one wine glass of Brandy, fill two third full shaved ice. Use two sprigs of mint same as mint Julep. Gin Smash and Whiskey Smash is made by using Gin and Whiskey instead of Brandy.

—

SHERRY COBBLER.

Use large bar glass, two wine glass of sherry wine, one table-spoonful of sugar, two slices of Orange, fill a tumbler with shaved ice, shake well and ornament with berries and season and place a straw in the glass.

Whiskey Cobbler same as above substitute Whiskey for Sherry Wine.

—

GIN COCKTAIL.

Use small bar glass, three or four dashes of gum syrup, 2 or 3 glasses of Bitters, one wine glass of Gin, two dashes of Curacoa, one small piece of lemon, fill one third full of fine ice ; shake well and strain in a glass. Brandy and Whiskey Cocktail same as above substitude Brandy or Whiskey for Gin, use tin strainer sold at tinsmiths. A Cocktail can be made without the Curacoa and Gum Syrup.

—

SODA COCKTAIL.

Use small bar glass, one teaspoonfull of sugsr and two dashes of Bitters, fill tumbler with soda water, mix well with Lemon, peel on top.

—

BRANDY SOUR, SOMETIMES CALLED BRANDY FIX.

One table-spoonfull of Sugar, one half a wine glass of water one quarter of a Lemon and a wine glass of Brandy, fill the tumbler two thirds full of shaved ice and stir with a spoon.

—

SCOTCH WHISKEY SKIN.

Use small glass, one wine glass of scotch Whiskey, 1 piece Lemon peel ; fill up near full with boiling water.

—

Shrub.—A species of concentrated cold punch. Prep. 1st. (Brandy Shrub,) Brandy 1 gallon, orange and Lemon juice, of each 1 pint ; peels of 2 oranges ; do of 1 Lemon ; digest for 24 hours, Strain, and add white sugar 4 lbs. dissolved in water 5 pints. Brandy at proof 3¼ gallons ; Essential Oils of oranges and Lemons, of each 1 oz ; dissolved in rectified spirit 1 quart; good lump sugar 300 lbs ; dissolved in water 20 gallons ; mix well by rummaging, and gradually and cautiously

add of a solution of tartaric acid in water, or of Seville orange juice Q T. (as much as sufficient) to produce a pleasant but scarcely perceptible acidity; next "rummage" well for 15 minutes, add water to make the whole measure exactly 100 gallons, and again "rummage" well for half an hour; lastly, bung down loosely; in 10 or 12 days it will usually be sufficiently brilliant to be racked. This is 66 U. P.

2nd *Rum Shrub.*—As the last, but substituting Rum for Brandy.

3rd *Punch Shrub.*—Concentrated punch, made with equal parts of spirit and water. Used to make punch.

4th *Lemonade Shrub.*—Concentrated Lemonade, used to make lemonade or lemon sherbet.

Remarks.—Rum Shrub is the kind in the greatest demand, and that having a slight preponderance of the orange flavor is the most esteemed. If wholly flavored with lemon, it is apt to acquire a kind of "dead" or "musty," flavor by long keeping. The substitution of a few gallons of Brandy for a portion of the Rum, or the addition, after racking, of about 1 1 oz. each of bruised bitter almonds, cloves, and cassia, the peels of a dozen or 15 oranges, and a "thread" of the essences of ambergris and vanilla, renders it delicious. I have employed the above formula for the manufacture of some score Hogsheads of Shrub, which have been highly admired in the wholesale trade

Flash.—Preparation burnt sugar coloring 1 gallon; fluid extract of Capsicum, or essence of cayenne ½ a Pint; or enough to give a strong fiery taste.

Use.—It is employed to color spirits, and to give them a false strength. It is made by the brewers, Druggists, and vended under the name of "Isinglass and burnt sugar."

Spirit or Brandy Coloring.—Melt brown sugar in an iron vessel over the fire, until it grows black and bitter stirring it well all the time, then make it into a sirup with water.

CORDIAL.

(In the art of the Rectifier) aromatized and sweetened spirit, employed as a beverage.

Cordials are prepared by either infusing the aromatics in the spirit, and drawing off the essence by distillation, which is then sweetened, or without distillation, by flavoring the spirit with essential oils, or simple digestion on the ingredients, adding sugar or sirup, as before. Malt or molasses spirit is the kind usually employed, and for this purpose should be perfectly flavorless; as if this be not the case, the quality of the Cordial will be inferior. Rectified spirit of wine is generally the most free from flavor, and when reduced to a proper strength with water, forms the best and purest spirit for Cordial liquors.

Spirit which has been freed from its own essential oil, by careful rectification is commonly called 'pure' 'flavorless' 'plain' or 'silent spirit.' The solid ingredients should be coarsely pounded or bruised, before digestion in the spirit, and this should be done immediately before putting them into the cask or vat; as after they are bruised, they rapidly lose their aromatic properties by exposure to the air. The practice of drying the ingredients before pounding them adopted by some workmen for the mere sake of lessening the labor, cannot be too much avoided, as the least exposure to heat tends to lessen their aromatic properties, which are very volatile. The length of time the ingredients should be digested in the spirit, should never be less then 3 or 4 days, but a longer period is preferable when distillation is not employed. In either case the the time allowed for digestion may be advantageously extended to 10 days or a fortnight, and frequent agitation should be had recourse to. When essential oils are employed to give the flavor, they should be first dissolved in a little strong alcohol or rectified spirit of wine, so as to make a perfectly transparent solution; and when added to the spirit, they should be mixed up with the whole mass as rapidly and as perfectly as possible, by laborious and long conti-

nued agitation. In managery the still, the fire should be proportioned to the ponderosity of the oil or flavoring, and the receiver should be changed before the faints come over, as the latter are unfit to be mixed with the Cordial. The stronger spirit may be reduced to the desired strength by means of clear soft water or the clarified sirup used for sweetening. The sugar employed should be of the finest quality and is preferably made into capillaire or sirup before adding it to the aromatized spirit: and this should not be added until the latter has been rendered perfectly fine by filtering or fining. Some spirits, as aniseed &c., frequently required this treatment, which is best performed by running them a fine and clean wine bag, having previously mixed them with a spoonful or two of magnesia. By good management, cordials thus made will be perfectly "*clear*" and transparent; but should this not be the case, they may be fined with the whites of about 12 or 20 eggs to the hogshead, or by adding a little alum, either alone, or followed by a little carbonate of soda or potassa both dissolved in water. In a week or a fortnight the liquor will be clear.

A most convenient and easy way of manufacturing Cordials especially where it is wished to avoid keeping a large stock is always to keep two casks of sweetened Spirit ready prepared, at the strength of 60 or 64 U. P. The one should contain 1 lb. of sugar to the gallon, the other 3 lbs. per gallon. From these may be made spirit of any intermediate sweetness, which may be flavored with any essential oil dissolved in Alcohol or any aromatic spirit prepared either by digestion or distillation.

As a general rule, the concentrated essences may be made by dissolving 1 oz. of the essential oil in 1 pint of the strongest rectified spirit of wine. This solution should be kept in well corked bottles, and used by dropping it caustiously into the sweetened spirit, until the desired flavor is produced. During this operation, the cordial should be frequently and violently shaken,

to produce a perfect admixture. Should sufficient essence to foul the liquor be added by accident, the transparency may be restored by the addition of a little more spirit, or by clarification.

The most frequent cause of failure in the manufacture of Cordials, is the addition of too much flavoring. Persons unaccustomed to the use of strong aromatics and essentials oils seldom sufficiently estimate their power, and consequently, generally add too much of them, and thus not only is the liquor rendered disagreably high flavored, but the quantity of oil present turns it 'milky' or 'foul' on the addition of the water. This again is another source of annoyance, as from the consistance or viscidity of the fluid it is less readily '*Fined down*' than unsweetened liquor, and often gives much trouble to clumsy and inexperienced operators.

The most certain way to prevent this, is to use *too little*, rather than *too much* flavoring; for if the quantity prove insufficient it may readily be 'brought up' even after the Cordial is made.

A careful attention to the previous remarks will render this branch of the rectifier's art far more perfect and easy of performance than it is at present, and will, in most cases, produce at once a satisfactory article, 'fine, sweet, and pleasant.'

It may be observed, before concluding this short notice, that the majority of Cordials may be made with the pure essential oils, of nearly equal flavor to those prepared by distillation; and for such as are colored simple digestion of the ingredients is almost universally employed. Inferior lump or even good brown sugar is used for some dark and strong flavored articles.

Ingredients that are not volatile, are of course, always added after distillation.

Though I have said that very excellent Cordials may be made without distillation, yet the Still should be always employed to impart the flavor and aroma of volatile aromatics to spirits, when the expense, labor, and time are of no importance compared to the pro-

duction of a superior article. The strength at which Cordials ase usually sent out by permits is 60 or 64 U. P.

Cordial, Caraway.—Prep. Bruised Caraway Seeds, 3 lbs. or Essential Oil of Caraway 1½ oz.; Sugar 56 lbs.; clean Spirit, at proof, 40 gallons; water, Q. S. or '*as much as sufficient.*'

Remarks.—The addition of 30 drops of oil of Cassia, and 20 drops each of Essence of Lemon and Orange Peel, to the above quantity, improves the flavor; also a larger quantity of Sugar must be used, if the Cordial is to be much lowered.

2nd. Seeds ¼ lb. or Oil, 1 drachm; Proof Spirit, 1 gallon; Sugar, 3 lbs; Water, Q. S. as last.

Cordial Cedral.—Prep. 1st, Essence of Cedrat, ¼ oz.; dissolve in pure Proof Spirit, 1 gallon; add water 3 pints, agitate well; draw off 3 quarts, and add an equal measure of clarified Sirup.

Remarks.—This a most delicious cordial.

2nd. Cut 12 Lemons in pieces, and digest in Spirit of Wine, 1 gallon; add water, 1 quart; draw off 1 gallon, and add an equal weight of Capillaire. Inferior to the last.

Cordial Citron.—Prep. Yellow Rind of Citrons 3 lbs.; Orange Peel 1 lb.; Nutmegs bruised 2 oz.; Proof Spirit 13 gallons; distil or macerate, add water sufficient, and 2 lbs. of fine lump Sugar for every gallon of the Cordial.

Pepperment Cordial of clear soft water without injuring its transparence and the cask should be a fresh emptied Gin pipe or one properly prepared for Gin, as if it gives color it will spoil the Cordial. If these particulars be attended to, the product will be a clear transparent liquor as saon as made, and will not require fining; but should then be the slightest opacity, some alum may be added as above which will clear it down. Some persons add more oil of peppermint, others less than the quantity. I have ordered, but this, as well as the weight of sugar, must depend upon the taste of the purchasers and the price the liquor is to be sold at. The

product is 100 gallons of Cordial at 64 U. P. which is the strongest usually sent out. A similar plan, may be followed for the manufacture of any other cordial liquor the same principles and operations being common to all

Common Peppermint, as sold in Canada by Grocers, &c.—2½ oz oil of peppermint "of the ordinary quality sold at the druggist" will cut in a quart or ¼ gal. of alcohol, shake well and let it stand 12 hours then pour it into 25 gals. of common whiskey and rummage well up, then add 25 lbs of good bright mascarado sugar previously dissolved in boiling water, rummage well, and further add sufficient clear rain water to make up 50 gallons, and again rummage well up, and color as required.

Cordial Cinnamon.—This is seldom made with Cinnamon, but with either the essential oil or bane of cassia. It is preferred colored, and therefore may be very well prepared by simple digestion. If the oil used, 1 dr. will be found to be enough for 2 or 3 gallons of spirit. The addition of 2 or 3 drops each of essence of Lemon and cardamoms to each gallon, will improve it. Some persons add to the above quantity 1 drachm of Cardamom seeds and 1 oz each of dried Orange and Lemon peel, 1 oz of oil of cassia in considered to be equal to 8 lbs of the buds, or bane. If wanted dark it may be colored with burnt sugar. The quantity of sugar is 1½ lb to the gallon.

Cordial Lemon.—Prep. Digest 2 oz each of fresh and dried Lemon peel, and 1 oz of fresh Orange peel in 1 gallon of proof spirit for a week; strain wtth expression, add clear soft water to reduce it to the desired strength, and lump sugar, in the proportion of 2½ to 3 lbs to the gallon. The addition of a little orange-flower or rose water improves it.

Cordial Orange.—Like Lemon Cordial ½ lb fresh orange peel to the gallon.

Liqueurs.—(French.) Dilute alcohol, aromatized and sweetened. The french liqueuristes are proverbial for

the superior quality, creamlike smoothness, and delicate flavor of their Cordials. This chiefly arises from the employment of very pure spirit and sugar, and the judicious application of the flavoring ingredients. The french liqueuristes distinguish their Cordials into two classes, viz. waters, or liqueurs which though sweetened, are perfectly devoid of viscidity—and creams, oils, and balms, which contain sufficient sugar to impart to them a considerable degree of consistance. The first part of the process is the preparation of the aromatized or flavoring essences. These are usually prepared by infusion or maceration in very pure spirit, at about 2 to 4 U. P. (Sp. Gr. 0.922 to 0.925,) place in well corked glass carboys, or stoneware bottles. The maceration is continued with occasional agitation, for 4 or 5 weeks, when the aromatized spirit is drawn off, and either distilled or filtered ; usually the former. These spirits are called by ths French " Infusions." The outer peel of cedrats, lemons, oranges, limettes, bergamottes &c., is alone used, and is obtained either by carefully peeling the fruit with a knife, or by rubbing it off with a lump of hard white sugar (see citrons page 22.) Aromatic seeds and woods are bruised by pounding before being submitted to infusion. The substances employed by the French to color their liqueurs are,—for *blue*, sulphate of indigo nearly neutralized with chalk, or the juice of blue flowers or berries ;—*Fawn* and *Brandy color*, burnt sugar ;—*green*, spinage or parsley leaves digested in spirit ; also by mixing blue and yellow ;—*red*, powdered cochineal, either alone or mixed with a little alum ;—*violet*, blue violet petals, or litmus ;—*yellow*, an aqueous infusion of safflowers or French berries, or a spirituous tincture of turmeric. See Cordials from page 60 to 63.

Clove Cordial.—Preparation : bruised cloves 1 oz. or essential oil, 1 do to every 4 gallons of proof spirit. If distilled, it should be drawn over with a pretty quick fire. It is preferred of a very deep color, and is therefore strongly colored with poppy flowers or cochineal, or more commonly with Brandy coloring or Red San-

den wood. It should have 3 lbs. of sugar to the gallon, and this need not be very fine. The addition of 1 drachm of bruised piments, or 5 drops of the oil for every ounce of cloves, improves the Cordial.

Nectar.—Prep. 1st chopped raisons 2 lbs; loaf sugar 4 lbs; boiling water 2 gallons; mix; when cold add 2 lemons sliced; proof spirit (Brandy or Rum) 3 pints; macerate in a covered vessel for 4 or 5 days, occasionally shaking, strain, let it stand in a cold place for a week to clear, and then bottle. In ten days, or less, if kept in a very cold place, it will be excellent.

2nd Red ratifia 3 gallons; oils of cassia and Caraway, of each, 25 drops; previously dissolved in Brandy ½ pint; orange wine 1 gallon; sliced oranges 6 in number; lump sugar 2 lbs. macerate for a week, decant and bottle. Both are used as pleasant cordials.

Noyeau.—Syn. Crême de Noyeau, (French).

Prep. 1st. Blanched Bitter Almonds, 1 oz.; Proof Spirit, 1 quart; Lump Sugar, 1 lb.; dissolved in water, ½ pint; digest and filter.

2nd. Bitter Almonds, blanched, 3 oz.; Coriander seed, ¼ oz.; Cinnamon, Ginger, and Mace, of each, 1 dr.; Proof Spirit or plain Gin, 2 quarts; white sugar, 2 lbs; dissolved in water, 1½ pints; macerate for a week, and fine down with alum (dissolved) ¼ oz.

3rd. *Crême de Noyeau de Martinique.*—Loaf sugar, 24 lbs; water, 2½ gallons; dissolve, add proof spirit, 3 gallons; or orange flower water, 3 pints; bitter almonds, 1 lb; essence of Lemons, 2 dr.; as above. A pleasant nutty tasted liqueur, but should not be taken in large quantities. (See Cordials).

Usquebaugh.—A strong compound liquor, much drunk in Ireland, and made in the greatest perfection at Drogheda.

Prep. 1st.(Yellow) *a.* Brandy or proof spirit, 3 gallons; hay saffron and juniper berries, of each 1 oz; dates, without their kernels, and raisins, of each, *bruised* ¼ lb; mace, cloves, coriander, and aniseed, of each ¾ oz; cin-

namon ¼ oz; digest till sufficiently flavored and colored; filter and add capillaire, or simple syrup, 1 gallon.—*b.*

Proof spirit 1 gallon; stoned raisins 1 lb; cinnamon, cloves, and nutmegs, of each ½ oz; aniseed 1 oz; hay saffron ½ oz; brown sugar 2 lbs; rind of 1 orange; digest 14 days, then filter or clarify.—*c.*

Pimento and Caraways, of each 3 oz; mace, cloves, and nutmegs, of each 2 oz; aniseed, coriander, and angelica root, of each 8 oz; hay saffron 3 oz; raisins stoned, and *bruised* 14 lbs; proof spirit 9 gallons; digest 14 days, with frequent agitation, then press, filter or clarify, and add simple sirup, Q. S., as much as sufficient. Should it turn milky, add a little strong spirit, or clarify it with alum, or filter through magnesia

2nd. (Grun) as the above, but using Sap grun to color, instead of Saffron.

Oils.—Syn. Huiles, (French), Oele, (German) Olea, (Latin, from Olea the Olive.) Oils are compounds of Carbon, Hydrogen and Oxygen, (Oxyhydrocarbons) derived from the animal and vegetable kingdoms, and chiefly distinguished by a certain degree of consistance, (unctuosity) insolubility in water, and power of supporting combustion with flame. Oils are divided into two great classes; viz: Fixed or fat oils, and volatile or essential oils. Olive, rape, almond and castor oils, are examples of the former, and the oils of lavender, lemons, bergamotte, and turpentine, of the latter. The term oil is also applied to various empyreumatic products, of the distillation of organic bodies, and to several unctuous mixtures in perfumery and pharmacy, as well as by liqueuristes to their richer cordials.

Oils Cordial.—(In the art of the Liqueuriste.) Dilute aromatic alcohol, holding in solution a sufficient quantity of sugar to impart are oily consistence. The following is an example of this class of liqueurs:—

Oil of Cedral.—(Crême de Cedrat.) Spirit of Cetrat 1 quart; spirit of citron 1 pint; proof spirit 3 pints; lump

sugar 5 lbs; dissolved in water 6 pints; mix, allow it to stand together for a week then filter if required.

See cordials, cremes, Liqueurs, &c.

Oil Macassar.—Olive oil 1 lb; oils of origanum and Rosemary, of each, 1 drachm; mix. Used to make the Hair grow and curl.

Oils, Mixed.—Essences of bergamotte and lemon, of each 1 ounce; oils of lavender and piments, of each ½ ounce; used to scent, sal volatise drops, smelling bottles, &c.

Oil of Roses.—1st. Olive oil 1 pint; otto of roses ½ to 1 drachm mix.—2nd To the last add oil of Rosemary, ½ drachm. Either may be colored red by steeping a little alkanet root in the oil (with heat) before scenting it. Used for the hair.

Oil of Roses, by infusion.—Rose petals, beat to a pulp, 4 or 5 oz.; olive oil 1 pint; macerate in the sun or a warm place, in a covered vessel for a week, and press out the oil, repeat the process with fresh roses till the oil smells sufficiently strong, then filter. For the hair.

New York Barber's Hair Oil.—Castor oil 6 ½ pints, alcohol 1 0 pints, citronella and Lavender oil ½ ounce each mixed and well shaken macassar, or rose hair oil. Take 1 quart olive oil 1½ ounces. After this you can tie 1 ounce of chipped alkanet root in 3 or 4 little muslin bags, and let them lie in the oil until a pretty red is manifested then change them to other oil. Do not press them.

Sweetened Spirit.—A most convenient and easy way of manufacturing Cordials especially where it is wished to avoid keeping a large stock is always to keep on hand two casks of sweetened spirit ready prepared. The one should contain 1 lb sugar to the gallon. The other 3 lbs sugar to the gallon at the strength of 60 or 64 under proof. From these may be made spirit of any intermediate sweetness, which may be flavored with any essential oil dissolved in alcohol or any aromatic spirit prepared either by digestion or distillation.

Vinegar Aromatic.—Acetic acid 20 ounces; camphor

2 oz; 1st Oil of cloves half drachm; oil of cinnamon and lavender, of each 9 drops; mix.

2nd. Rosemary and origanum, dried, of each 2 oz; dried lavender 2½ oz; bruised cloves half drach; acetic acid 1½ pints; digest a week, press and filter. This wants the addition of about 2½ oz of camphor.

3rd. (Henry's) Glacial acetic acid strongly scented with the oils of cloves, lavender, Rosemary, and calamus aromaticus, to which camphor is added. This is the formula adopted at Apothecaries' Hall.

4th. Glacial acetic acid 1 lb; oil of cloves 1 drachm; oil of rosemary 2 scruple; oil of Bergamotte and cinnamon, of each half drachm; oil of pimento 24 grs.; oil of lavender 1 scruple; neroli 10 drops; camphor 1 oz; alcohol 2 oz; mix —Very fine.

5th. (Estemporaneous.) Acetate of potash (dry) 1 dr.; oil of vitriol 20 drops; oil of lemons and cloves, of each 3 drops. Aromatic vinegar is used as a pungent and refreshing perfume in faintness &c. For this purpose it is usually dropped on a small piece of spunge placed in a sloppered bottle, or a vinaigrette. It is corrosive and should be therefore kept from contact with the skin and clothes.

Currie Powder No. 3.—Coriander seeds 1¼ lb; black pepper 3 oz; Cayenne do 1 oz; turmeric and cumin seeds, of each ¼ lb; Fenugreek seed ½ oz; mix.

Vinegar Raspberry.— Bruised ripe raspberries and white wine vinegar, of each 3 pints; macerate 24 hours, press, strain, and to each pint add white sugar 1 lb; boil, skim, cool, and to each pint add brandy 2 oz.

*** In a similar way may be made strawberry vinegar, and cherry do.

COOKERY VINEGAR.

Vinegar Cucumber.—Capsicum vinegar, Garlic vinegar, Sgalote vinegar, Onion vinegar, Caper vinegar, Cress-seed vinegar, Celery seed vinegar, Truffle vinegar, Seville orange-peel vinegar, Ginger vinegar, black pepper vinegar, white pepper vinegar, Chili vinegar,

Horseradish vinegar, &c., are all made by steeping about an oz. of the articles in each pint of vinegar for 14 days and straining. Farragon vinegar, Basil vinegar, Green mint vinegar, Elder flower vinegar, Celery vinegar, Cherville vinegar, Burnet vinegar &c. Leaves 2 or 3 oz; vinegar 1 pint; steep for 14 days, then strain, and keep in half pint bottles. The whole are used in cookery.

Vinegar Currie.—Prep. Currie powder ½ lb; vinegar 1 gallon; infuse for 1 week. Used as a flavoring.

Currie Powder.—Syn. Indian Currie Powder. Prep. 1st Coriander seeds and black pepper, of each 8 lbs; turmeric and cumin seeds, of each 4 lbs; (all in powder), mix. This receipt is employed by a wholesale house that does very largely in currie powder.

No. 2. To No. 1, add Cayenne ¼ lb, use as a sauce and condiment.

Acetic Acid.—Syn. Acetous acid, acetylic acid, glacial acetic acid, radical vinegar, concentrated vinegar, pure pyroligneous acid, acidum aceticum, P. L. 1836, acidum aceticum fortius, P. L. 1824, acidum acetosum, P. L. 1788, acid acétique (French) essigsaure (German), acido acetico (Italian) azynzuur (Dutch). The pure sour principal contained in vinegar, where it exists in a dilute state, and usually in combination with mucilage, sugar, coloring matter, and extractive.

History.—Acetic acid, in the shape of vinegar, appears to have been known even to remote antiquity. It is mentioned by Moses, nearly 1500 years before the birth of Christ, (Numb. VI. 3,) and was extensively used by the Israelites, as well as by the Greeks and Romans. Hippocrates employed it medicinally, and according to Livy, Hannibal the Carthaginian general is fabled to have softened the rocks of the Alps by fire and vinegar, Geber purified common vinegar by distillation, and Stahl, at the commencement of the eighteenth century, obtained concentrated *Acetic Acid* by decomposing the acitates by oil of vitriol. At the present day acetic acid or vinegar is employed either as an antiseptic, a condi-

ment or a medicine, in every portion of the civilized world.

Sources.—It is found ready formed in several products of t..e vegetable kingdom, and is generated by the fermentation of saccharine fluids, and the destructive distillation of wood and other vegetable matter. (*See Pyroligneous Acid*) Vauquelon found the acetates of potash and lime in Elm Sap, and Morin detected acetate of ammonia in the juice of the areca catechu. Gamelin says acetic acid has been found in some mineral waters, and Geiger states the same respecting the acetate of potassa. The Sambucus Nigra, the Rhus typhinus, and the phœnix dactalifera contained a large quantity of vinegar.

Varieties.—The acetic Acid of Commerce is obtained from vinegar of which there exist four varieties, usually named after the materials from which they are procured viz: 1st malt vinegar; 2nd wine vinegar; 3rd sugar vinegar; 4th wood vinegar. (See vinegar.)

The first three are formed by the acetous fermentation, which converts the alcohol of the wine, Beer, or fermented sugar into acetic acid, by the absorption of Oxygen; the latter by the destructive distillation of wood in iron retorts. By a proper process of purification each of them may be made to yield an equally pure and concentrated acid.

In the present article, I shall confine myself to the pure acetic acid of the chemist, reserving the consideration of vinegar and pyroligneous acid for separate articles.

There are three different processes employed for the manufacture of pure concentrated acetic acid viz: 1st. The decomposition of a dry acetate by oil of vitriol; 2nd. The decomposition of the acetate of copper or lead by dry distillation; and 3rd. The decomposition of the acetate of lead by sulphate of Iron or soda in the dry way. I shall describe each, as well as some others less frequently adopted.

1st. By decomposing the acetates by sulphuric acid.

A. By decomposing the acetate of soda.

1. (Acedum aceticum P. L.) Ing. Acetate of soda 2 lbs ; sulphuric acid 9 oz ; water 9 oz fluid. Proc.

Mix the acid with the water and pour it on the acetate, previously put into a glass retort, then distil in a sand bath, taking care not augment the heat towards the end of the process.

Remarks.—The proportions in this process are nearly equal to one equivalent of each of the ingredients, and the result is 51 parts of real acetic acid, and 114.5 parts of water, or 165.5 parts of acetic acid of 30.8 0/0 or sp. g. r. 1.048 per every equivalent, or 137 parts of crystallized acetate of soda employed, being within $1\frac{1}{2}0$ of the estimated product, 100 gr. of this acid exactly saturate 87 gr. of crystalized carbonate of soda. 15 parts added to 85 parts of distilled water is equal in strength to the distilled vinegar of the London Pharmacopœia, or under common circumstances. 1 part of acid to 7 parts of water is sufficiently accurate.

Prop. The acetic acid P. L. crystallizes at 28° F., and even at 45° if a crystal of acid be dropped into it ; melts again under 60° ; crystallizes beautifully under a pressure of 1100 atmospheres. (Phil. Trans. 1826.) Is not strong enough to dissolve camphor, resin, or essential oils, in any quantity.

2. (Pure glacial acid. Liebig's Process) Ing. Three parts of acetate of Soda, thoroughly dried and finely powdered ; 9.7 parts of pure sulphuric acid. Proc. Pour the acid on the powder, previously put into a capacious retort. A sufficient heat will be developed by the reaction of the ingredients to cause $\frac{1}{3}$ of the acetic acid to pass over without a fire ; heat must be then applied, until the mass in the retort becomes quite liquid. Rectify the product, when two parts of pure acid will be obtained, containing only 20 per cent. of water. The latter portion which comes over, exposed in a close vessel to a temperature below 40° F., deposites crystals of hydrated acetic acid. The weaker, or liquid portion, being poured off, the crystals may be again melted and crystallized by cooling.

The crystals of the last operation, separated from the liquid, are perfectly pure.

b. By decomposing the acetate of potassa by sulphuric acid.

1st. (Process of the Dub. Ph.) Ing. 52. Parts of *Sulphuric acid*; 100 parts of acetate of potassa.

Proc. Similar to that of the London College; carefully distil to dryness. Prod. 50 to 51 parts of liquid acid of 1.074. (P. D.)

2nd Ing. 2 parts of fused and powdered acetate of potassa; 1 part of strongest oil of vitriol. Proc.

Similar to the above. To remove a slight contamination of sulphurous acid, it may be redrawn, putting a little dried acetate of lead into the retort.

c. By decomposing acetate of lead by sulphuric acid.

1st. (Process of the Ed. Ph.) Ing. Acetate of lead, fused, and in fine powder, 6 oz, pure strong sulphuric acid 9½ drachm fluid Proc. Heat the dried and powdered acetate of lead to 320°, in a porcelain basin, placed in a bottle of oil or fusible metal, and continue stirring until the powder ceases to concrete; it must then be weighed, mixed with the acid, and distilled to dryness at a heat of 320°. Agitate the product with 1 or 2 gr. of oxid of lead, decant the clear portion, and redistil.

Prop. The sp. gr. of this acid is 1.065 (P. E.) containing by Mohr's table, 98.5 p. C. of glacial acid.

2 Ing. 4 parts of thoroughly dried acetate of lead, in powder; 1 part of the strongest oil of vitriol. Proc. Distil to dryness.

Remarks.—The above yields a very strong acid, nearly equal to that prepared by the Ed. formula. The quality and quantity of the product are improved if a little peroxide of manganese be put into the retort before distilling. (Baup.) Liebig recommends the proportions to be 3 parts of the acetate to 8 parts of the acid. Dolfuss' concentrated acetic acid was prepared by a similar process, by drawing over 7 oz of acid from a

mixture of 12 oz of sugar of lead with 6 oz of oil of vitriol.

2nd. By submitting the acetate of copper, or lead to dry distillation. Acetic acid, thus prepared, has been called spirit of verdigris ; esprit de Venus; spirit veneris, &c.

a. (From binacetate of copper, or distilled verdigris).

Proc. Carefully dry the binacetate by a very gentle heat, then introduce it into a stoneware retort, the bottom of which has been previously coated with a mixture of fire clay and horse dung, to render it more capable of standing the heat. It must then be placed in a suitable furnace, and connected by an adopter tube, with 3 or 4 double tubulated globes, the last of which must be furnished with a vertical tubulature, to which a double Welters safety tube should be connected, the other end being immersed in a basin half filled with distilled vinegar, while the funnel portion communicates with the atmosphere. Each globe is placed in a basin of water, which is kept cool by a stream continually passing through it; the upper portion is also covered with cloths, which are kept wetted with cold water. The distillation is not commenced until 15 or 20 hours after the apparatus is luted together, to allow the luting time to dry and harden. Fire must then be applied, and so regulated that the drops follow each other with considerable rapidity from the end of the adopter tube at the same time that the bubbles of air succeed each other, in no inconvenient quantity, from the other end of the apparatus. Should the process proceed too rapidly, the fire should be damped. The operation is continued and the fire gradually increased until vapor ceases to come over, which is known by the globes cooling, notwithstanding the greater heat of the furnace. The operation is now concluded, and the fire may be allowed to expire. When the whole has cooled, the acid must be collected and rectified in glass vessels before it is fit for sale. The rectifying apparatus may be similarly arranged to the above, with the exception

of the whole being formed of glass. The operation must now be very carefully conducted and discontinued before barely the whole of the acid has distilled over, as the last portion is apt to injure the flavor and color. The foregoing diagram represents the form of the apparatus usually employed in this manufacture.

Remarks.—This process is similar to that of P. L. of 1787. The acid obtained is nearly equal to half the weight of the verdigris employed. The strongest acid is found in the third receiver, and the weakest in the first, that of the second being intermediate between the two. It is always accompanied by a slight odor of fragrant pyroacetic spirit, for which reason it has generally received the preference for making aromatic vinegar and perfumery. I am informed by a friend that good binacetate of copper will yield by careful management full half its weight of an acid of the Sp. Gr. 1-050.

It dissolves camphor, resins, and essential oils with facility. This is one of the oldest methods of procuring glacial acetic acid, and still continues to be preferred for many purposes.

Caution.—The cupreous residuum of the distillation is pyrophoric, and frequently inflames as soon as it is exposed to the air. It consists of metallic copper in a state of minute division along with a little charcoal.

b. (From acetate of lead.) Instead of acetate of copper use dried acetate of lead, and proceed as in the last process, taking especial care to avoid overfiring, as the quantity obtained is thereby lessened while the quality is also inferior.

3rd. By acting as a mixture of an acetate and sulphate by heat.

a. Ing. 2 parts of gently calcined sulphate of Iron; 5 parts of dried acetate of lead. Proc. mix together in fine powder, and cautiously distil into a large and well cooled receiver.

Remarks.—This is a good and economical process. Badollier's strong acetous acid was made in this way from 1 lb. of green vitriol and 10 oz. of sugar of lead.

b. Ing. sulphate of potassa 12 oz; acetate of soda 9 oz; (dried;) oxide of manganese ½ oz. Proc. Dissolve the sulphate in the acid and water, evaporate to dryness, then mix it with the acetate of Soda and manganese, and distil from a glass retort in a sand bath. The product has been called Lowitz's acetic acid.

Other methods of making acetic acid, either not generally adopted, or but partially known.

1st. Elegant method of making pure acetic acid. (From the German.) Proc. Take a long glass case and arange shelves in it, a few inches apart, one above another on which place small flat dishes of earthenware or wood; then fill these dishes with alcohol, and suspend over each a portion of the black powder of platina, (see platinum:) hang strips of porous paper in the case with their bottom edges immersed in the spirit to promote evaporation. Set the apparatus in a light place at a temperature of frow to 86° E., for which purpose the sunshine will be found convenient. In a short time the formation of vinegar will commence and the condensed acid vapors will be seen trickling down the sides of the glass, and collecting at the bottom. We shall find that during this process produced by the mutual action of the platina and the vapor of alcohol, there will be an increase of temperature, which will continue till all the oxigen contained in the air enclosed in the case is consumed, when the acetification will stop; the case must be then opened for a short time to admit of a fresh supply of air, when the operation will recommence.

Prod. A case of 12 cubic feet contents, with 7 or 8 oz. of platina powder, will produce 1 1/9 lb. of absolute acetic acid from 1 lb. of absolute alcohol; and if we reckon the product at the commercial strength of vinegar, the increase will of course be very great. From 25 lbs. of platina powder and 300 lbs. of Alcohol may be produced daily nearly 350 lbs. of pure acid. It is proper to state that the platina powder does not waste, and that the most inferior spirit may be employed.

Remarks.—The revenue laws of this country (England)

unfortunately forbid the adoption of this beautiful process, but there is no Statute that prevents any individual employing it on the small scale for private consumption. In Germany, vinegar is manufactured on this plan, and from the price of crude alcohol it must prove very profitable. In the United States of America, where alcohol may be purchased for less than a dollar a gallon, as well as in other parts where spirit is equally cheap, this process will no doubt ultimately prove to be the cheapest source of pure acetic acid.

2nd An excellent acetic acid of considerable strength may be made by soaking perfectly dry charcoal in common vinegar, and then subjecting it to distillation. The water comes over first, and on increasing the heat, the acid follows. Vinegar bottoms will answer for this purpose.

3rd If Vinegar or dilute acetic acid be exposed to the air in very cold weather, or to freezing mixtures, the water will separate in the form of ice and the strong acetic acid may be obtained by draining it into suitable glass vessels, observing to do so at a temperature sufficiently low to keep the water solid.

4th An acetic acid sufficiently strong for all ordinary purposes may be obtained without distillation, by pouring 60 parts of strong sulphuric acid, diluted with 5 parts of water on 100 parts of well dried acetate of lime, digesting with occasional agitation in a close vessel, decanting the clear liquid and straining the remainder.

General Commentary.—The preceding pages present a brief synopsis of the manufacture of pure acetic acid. On the large scale it is principally manufactured from acetate of soda, which yields a sufficinetly strong and pure acid for commercial purposes, without the trouble of rectification. In this process, shallow copper vessels formed without rivets or solder in those parts expose to the action of the acid, are employed for the purpose of the distillation. Acid of drawn copper pipe, heated by steam, having a pressure of 30 to 35 lbs. to the inch, traverses the bottom of the apparatus. The refrigerato-

ry consists of well cooled earthenware vessels, and the adopter or pipe connecting the still with the receivers, is also of the same materials. Stills of earthenware are also frequently employed, and even worms and condensers of silver an sometimes used. The principal supply crude acetate of soda at the present time is obtained from America, Norway and Sweden. This is purified by the chemist and sent to the distiller, who, after extracting the acetic acid, returns the resulting sulphate of soda to the chemist, who employs it in the decomposition of acetate of lime.

This ingenious method of mutual assistance and application of chemical science offers some explanation of the low price at which this article may now be purchased.

I have seen a very pure acetic acid of Sp. Gr. 1-050 lately bought in quantity at the extraordinary low price of 5½ c. per pound. In preparing the acid on the small scale, glass retorts are usually directed to be used, but glass alembics are much more convenient and safe, as the product is less likely to be contaminated by the spirting of the ingredients, or the liquor boiling over the brim of the vessel. In preparing the pure acid, care should be taken that the acetate of soda does not contain common salt, as the carbonate of soda, prepared by calcination, and frequently used to form the acetate, is generally contaminated with it, and yields up its muriatic acid during the process of distillation, thus vitiating the product. The formula of the London College produces a beautiful acid of 1·048; that of the Dublin College another acid of 1·074; and that of the Edinburgh a still stronger acid; but the process of the latter is so unnecessarily minute and complicated, that it is never employed except for experiments. In all these methods, the product becomes more concentrated in proportion to the dryness of the materials and the strength of the oil of vitriol used. The process of Liebig is unexceptionable, and yields a very strong and pure acid by the first distillation, which may be afterwards

further concentrated if required, as is directed in that formula. Acid containing 20 0/0 of water, yields a good deal of its superfluous water to dry sulphate of soda, by standing over it. (Liebig).

In all these processes the acetic acid exists ready formed in the acetate, and is set free by the superior affinity of the sulphuric acid for the base; and from its volatility, passes over into the receiver on the application of heat; when being again cooled, it is condensed. In the distillation of verdigris, heat may be said to perform a similar part to that of the acid.

Prop. Pure acetic acid (glacial) is liquid above 62°, but below that temperature forms brilliant, colorless, transparent scales and tabular crystals. In the liquid state its Sp. G. is 1·063. It possesses a powerful odor, and acid taste, dissolves camphor and resins, and mixes with alcohol, ether, essential oils, and water.

In it spure state it is a corrosive and an acrid poison, It unites with the basis, forming salts called acetates. It should be kept in stappered glass bottles.

Uses.—In the arts. (Dilute under the form of vinegar). As an antiseptic in pickling and preserving animal and vegetable food, and anatomical preparations; in dyeing and calico printing the manufacture of tinctures and other pharmaceutical preparations. As a medicine. A little added to water forms a useful febrile drink, employed also for scurvy, and as a palliative in phthisis. Added to clysters, it has been used in obstinate constipation; mixed with honey it forms a common gargle in ulcerated sore-throat; a few drops mixed with water make an excellent collyrium for chronic ophthalmia, and for removing lime dust from the eye; in sprains and bruises, it forms a useful fomentation. Strong acetic acid (P. L.) applied by means of a piece of rag tied to the end of a small stick, is a certain cure for ring worm or scald head—one or two applications generally effect a cure; as a caustic, it is used to remove warts and corns; a piece of lint or blotting paper wetted with it and applied to the skin, and evaporation prevented by

a piece of strapping, forms a common extemporaneous blister; it was once employed as a disinfectant, but is now only used as a fumigation, to remove the unpleasant smell of the sick room, or crowded assemblies. As a condiment, it promotes the appetite and digestion, but its habitual use is said to produce emaciation. It also forms a popular refreshing scent in faintings, asphysia, and nervous headache; and is also frequently used as a rubefacient, astringent and local stimulant. The strong acid taken internally acts, however, as a violent poison, dissolving the animal tissus, and by destroying the organisation, causing death. Orfila has recorded a fatal case arising even from its application to the surface of the body. Dose, &c. As a refringerant, water soured with acetic acid or vinegar may be taken *ad libitum*. In enemas 1 to 2 oz. of distilled vinegar is the proper quantity; for a lotion, 3 oz. of the latter to 5 or 6 oz. of water; and for a collyrium, 1 oz. of ditto to 1 pint of distilled water.

Acetification.—The oxidation of alcohol in the process of making vinegar. To be capable of acetification or conversion into vinegar it is necessary that the liquid should contain alcohol in some state or other, or some substance, as sugar which, by the process of fermentation, is capable of producing it. The presence of a ferment or vegetable matter, and a temperature between 70° and 100° F., facilitates the operation. In the conversion of wines, beer, wort, &c., into vinegar, the sugar is first transformed by fermentation into alcohol, and in this state becomes oxidized or acidified by the absorption of atmospheric oxygen. Manufacturers should always remember that such is the true nature of this process.

German, or quick method of making vinegar.—We have seen that acetification consists in the mere oxidation of alcohol in contact with organic matter. This fact has led to the adoption of an improved method of making vinegar, which consists in the direct employment of dilute alcohol, and in vastly enlarging the surface of

the liquid exposed to the air. "This is effected by causing a mixture of 1 part of alcohol at 80 per cent, 4 to 6 parts water, $\frac{1}{100}$ of ferment, honey, or extract of malt, to trickle down through a mass of beech shavings steeped in vinegar, and contained in a vessel called a vinegar generator (essigbilder) or graduation vessel. It is an oaken tub, narrower at the bottom than at the top, furnished wich a loose lid or cover, below which is a perforated shelf, (colander or false bottom), having a number of small holes loosely filled with packthread about two inches long, and prevented from falling through by a knot at the upper end. The shelf is also perforated with four open glass tubes, as air vents, each having its ends projecting above and below the shelf. The tub at its lower part is pierced with a horizontal row of eight equidistant round holes, to admit atmospheric air. One inch above the bottom is a syphon formed discharge pipe, whose upper curvature stands one inch below the level of the air holes in the side of the tub. The body of the tub being filled with beech chips, the alcoholic liquor (first heated to between 75° and 83° F.) is placed on the shelf. It trickles slowly down through the holes by means of the packthreads, diffuses itself over the chips, slowly collects at the bottom of the tub, and then runs off by the syphon pipe. The air enters by the circumferential holes, circulates freely through the tub, and escapes by the glass tubes. As the oxygen is absorbed, the temperature of the liquid rises to 100° or 104° F, and remains stationary at that point while the action goes in favorably. The liquid requires to be passed three or four times through the casks before acetification is complete, which is in general effected in from 24 to 36 hours."

(Pereira, Mat. Med. 1.391.2.) A mixture of about 80 gallons of water, 9. Gallons of spirit of from 44 to 45 0/0 Tralles, and 3 gallons of vinegar, containing 3.5 0/0 of real acid, forming together 92 gallons, yields on an average an almost equal quantity of vinegar, from 90 to 91 gallons, of the above stated strength. (Knapp.).

Eau de Lavande. Syn. *Lavender water. Double distilled,* do.

Prep. 1st. Picked flowers 7 lbs ; rectified spirit 2 gallons ; macerate for a week, then distil.

2nd. Flowers 7 lbs ; rectified spirit 1½ gallons ; water ½ gallon ; as before.

3rd. Mitcham oil of Lavender 8 oz ; essence of Bergamot 1½ oz ; essence of musk 4 oz ; rectified spirit 2 gallons ; mix well. *Very fine,*

4th. *To the last.* Add 3 quarts of distilled water, and after well mixing, filter through blotting paper, with a few grains of magnesia.

Remarks.—Both this and the preceding are better for distillation, and in that case, the musk should be added to the distilled spirit. The oils should be of the best quality, and newly distilled, and the spirit should be perfectly scentless.

Eau de Lavande, is a most agreeable perfume. The article produced by the third form has been used by her Majesty and many of the nobility.

Smith's Lavender water.—Prep. English oil of Lavender 2 oz : essence of ambergris 1 oz ; Eau de Cologne 1 pint ; rectified spirit ; mix. *Very fragrant.*

Pommade.—(Fr. Pomatum.) Pommades are divided by the *French* perfumers into those classes viz :—Pommades by infusion, pommades by contact and Pommades by addition. The first are made by gently melting in a clean pan, 2 parts of hog's lard, and 1 part of beef suet, both of the finest quality and carefully "rendered" and adding 1 part of flowers, carefully picked, or if a solid substance, coarsely bruised, and macerating for 24 hours, occasionally stirring, and observing to keep the vessel covered as much as possible. The next day the mixture is remelted, and again well stirred for a short time, after which it is poured into canvass bags, and these being next securely tied, are submitted to powerful pressure, gradually increased, in a barrel press. This operation is repeated with the same fat several times, until the pommade is sufficiently perfum-

ed. A good pommade aux fleurs, requires twice to six times its weight of flowers to be thus consumed, and pommades of the aromatic barks and seeds a corresponding proportion.

*** In the same way are made the pommades of cassia, orange flowers, and several others kept by the french perfumers.

Pommades by Contact.—Are made by spreading with a palette knife simple pommade (mode with lard and such as above) on panes of glass or pewter plates to the thickness of a finger; and sticking the surface all over with sweet scented flowers, which must be renewed daily for two or three months, or till the pommade has acquired sufficient perfume. On the large scale, the panes are placed in small shallow frames made of 4 pieces of wood one upon another. On the small scale pewter plates are mostly used, and one is invested over the other. In some of the perfumeries of France many thousands of frames are employed at once.

*** In this way are made the pommades jasmin, jonquil, orange flowers, narcissus, tuberose; violet, etc.

Pommades by addition.—Are made by merely adding the fragrant essences or oils in sufficient quantity to the simple pommade of lard and suet to produce the proper odor; or by mixing together other Pommades.

*** In this way are made the pommades of bergamotte, cedrat, cinnamon, lemons, lemon thyme, lavender, limettes, marjoram, Portugal, white rose, Rosemary, thyme, verbena, and about 30 others distinguished by the parisian perfumers.

Mixed Pommades.—Of these a great number are prepared by the french, by the judicious combination of the most esteemed perfumes or pommades of which the following are a few examples:—

Pommade à la Vanilla, or Roman Pommade.—Pommade à la rose 12 lbs, powdered vanilla 1 lb. Melt in a water bath, stir constantly for 1 hour, let it settle for another hour, decant the clear, and add oil à la rose 2½ lbs; bergamotte 4 oz.

Pommade de Casse.—Simp e pommade 1 lb; Palm oil ½ oz; melt, pour off the clear, and add oil of cassia and huile au jasmin, of each 1 dr.; neroli 20 drops; oil of verbena, or lemon grass, 15 drops; otto of roses, 5 drops; stir till nearly cold.

Pommade Divine.—Plain pommade 1 lb; essences of lemon and Bergamotte, of each 1 dr.; oils of lavender and Origanum, of each 1 dr.; oils of verbena, cassia, cloves and neroli, ef each 12 drops; huile au jasmin, 3 dr. essence of violets, ½ oz.

*** Pommades are colored—Yellow, by palm oil or annotto—red, by alkanet root—and green by guaiacum, or the green leaves of spinage or parsley. White pommades are made with mutton instead of beef suet.

Pomatum.—(From pomum an apple.) A fragrant unguent used in dressing the hair; so named because it was formerly made with lard and apples. (See pommades.) Simple pomatum, 1st. Lard 2 lbs; beef suet 1 lb.—1nd. Lard 3 lbs; mutton suet 1 ¼ lb.—*Common Pomatum.*—Simple pomatum 1 lb; essence of lemon 1 dr.

East India Pomatum.—Suet 2 lbs; lard 2 lbs; beeswax (bright) ½ lb; palm oil 2 oz; powdered gum Benzoin 3 oz; musk 20 grs; melt and digest two hours, decant add essence of lemon 1 oz; oil of lavender ¼ oz; oils of cloves, cassia and verbena of each 1 dr.

Rose Pomatum.—Lard or simple pomatum washed with rose water, or scented with Otto. It may be reddened with alkanet.

Soft Pomatum.—Hard lard scented like East India Pomatum, scented so that no one perfume shall predominate.—*Roll Pomatum.*—Hard do mutton suet 6 lbs; white wax ¾ lb; spermaceti ¼ lb. powdered benzoin 1 oz; melt and add scent at pleasure.—Marshal pomatum (hard.) To the last add marshal powder 6 to 8 oz.

Lavender Water.—(See eau de lavende.) It may be useful to observe here, that the common lavender water, double distilled do, or spirits of lavender of the druggists, is made with spirit at proof, or under; hence its inferior quality to that of the more celebrated perfumers.

One ounce of true english oil of lavender is all that will properly combine with one gallon of proof spirit, without injuring the color by rendering it muddy.

GINGER BEER.

Prep. 1st. Lump sugar 1 lb ; bruised ginger (from which the dush has been sifted) ¾ to 1 oz ; cream of tartar ¼ oz 1 lemon sliced ; pour on them boiling water 1 gallon ; cover up, and macerate until hardly lukewarm, them strain, add yeast 2 oz ; work for 2 or 4 days according to the weather ; skin strain through clean flannel bottle, and wire down the corks. Excellent will keep well.

2nd. As last ; but use moist instead of lump sugar.

3rd. For the following excellent formula for ginger beer I am indebted to Mr. Pollock of Fenchurch street : —white sugar 20 lbs, lemon or lime juice 18 oz fluid ; honey 1 lb ; bruise ginger 17 oz ; water 18 gallons. Boil the ginger in 3 gallons of the water for half an hour ; then add the sugar, the juice and the honey with the remainder of the water, and strain through a cloth. When cold, add the white of 1 egg, and half fluid oz of essence of lemon ; after standing 4 days bottle. This yields a very superior beverage, and one which will keep for many months. (Periera's Elem. Mat. Med. 2nd ed., 2 1018.) Used as a refreshing drink in warm weather.

Powders, Seidlitz.—Prep. 1st. Tartrate of soda, 2 scrupules ; carbonate of soda, 2 drachmes ; mix and put it in a blue paper ; Tartaric acid, 35 gr., to be put in white paper. For ½ pint of water, as ginger beer powders. Laxative.

2nd. (In one bottle). Tartrate of soda, 12 oz. ; carbonate of soda, 4 oz. ; Tartaric Acid, 3½ oz ; white sugar, 1 lb ; all in fine power ; dry each separately by a gentle heat, add essence of lemon, 20 drops ; mix well, pass it through a sieve, and put it at once into clean dry bottles. Dose, a desert spoonful to a glass of water.

Powders, Ginger Beer.—Prep. Powdered white sugar, 2 dr; powdered ginger, 5 grs; carbonate of soda 26 grs; mix, and wrap in blue paper: Tartaric acid, 30 grs; wrap in white paper. For use dissolve each separately in half a glass of water, mix and drink while effervescing.

Powders, Soda.—Prep. Carbonate of soda, 30 grs. in each blue paper; Tartaric Acid, 25 grs. in each white paper; dissolve each separately in ½ of a glass of water, mix, and drink immediately. A cooling wholesome summer beverage.

*** Midgeley's soda powders, are made by adding ⅛ of a grain of Tartarized antimony to each paper of acid. Refrigerant and diaphoretic.

Powders, Spruce Beer.—As ginger beer powders, substituting essence of spruce, 3 or 4 drops, for the powdered ginger.

Eau de Cologne.—Syn. Cologne water.

Aqua Coloniensis. Spiritus do. Prep. 1st. Oils of Bergamotte, Lemons, and Cedrat, of each 3 oz; Oils of Rosemary, Lavender, and Neroli of each 1½ oz; Oil of Cinnamon, 7 dr; rectified spirit 3 gallons; Spirits of Rosemary 1 quart; Compound Spirit of Balm (eau de melisse des carmes) 3 pints; digest for 8 days, then distil 3 gallons.

2nd. (Cadet Gassincourt) Neroli essences (oils) of Cedrat, Orange, Lemon, Bergamotte, and Rosemary, of each 24 drops; lesser cardamom seeds ¼ oz.; spirit at 32° B. (0·869) 2 quarts; digest, then distil 1½ pint.

3rd. (Farina). Rectified Spirit, 5 gallons; Calamus Aromaticus, sage, and thyme, of each ½ dr; balm mint and spear mint, of each 1 oz; Angelica Root 10 grs; Camphor 15 grains; Petals of Roses and Violets, of each 3 drs; Lavender Flowers 1½ dr; Orange flowers 1 dr; Wormwood, Nutmeg, Cloves, Cassia Lignea, and Mace, of each 20 grains; Oranges and Lemons, sliced, of each 2 in number; bruise or slice the solids, macerate with agitation for 48 hours, then distil ⅘, and add to the product, Essences of Lemons, Cedrat, balm mint, and Lavender, of each 1 dr; pure Neroli and essence of the

seeds of Anthos, of each 20 drops ; essences of Jasmine and Bergamotte of each 1 oz ; mix well, and filter if necessary.

4th (Trommsdorff) Oils of Neroli, citron, Bergamotte, Orange, and rosemary of each 12 drops ; Malabar cardamoms, bruised, 1 dr. ; rectified spirit of wine 1 quart ; mix, and after standing 2 or 3 days distil.

5th. Essence of bergamotte 40 drops ; essence of lemons 45 drops ; oil of rosemary 6 drops ; oil of orange 22 drops ; finest neroli 12 drops ; essence of musk 1 drop ; rectified spirit of wine 6 oz, (fluid) ; mix. Excellent without distillation if the oils be good.

6th. Rectified spirit of wine 1 pint ; oils of bergamotte, orange, and rosemary, of each 1 dr. ; cardamom seeds 1 dr. ; orange flowor water 1 pint ; mix, digest for a day, then distil.

7th. Neroli, essences of cedrat, orange, citron, bergamotte, and rosemary, of each ½ dr. ; oil of verbena 20 drops ; lesser cardamoms 1 dr. ; rectified spirit of wine, at 32° B. ½ gallon ; orange flower water ½ pint ; digest and distil 3 pints.

8th. To the last add, before distillation essences of musk and ambergris, of each 10 drops ; powdered benzoin 15 grs ; otto of roses 8 drops.

9th. Essence of bergamotte 3 oz ; essence of lemon 3 drs. ; essence of cedrat 2 drs. ; neroli 1½ dr. ; oil of rosemary 1 dr ; spirit of wine 1½ gallon ; rosemary tops 4 oz ; balm ½ dr ; distil.

Remarks.—In the preparation of Eau de Cologne, it is essential that the spirit be of the description, both *tasteless* and *scentless* and that the oils be not only *genuine*, but *recently distilled*, as old oils are less odorous and contain a considerable quantity of resin and camphor, which would prove injurious. To produce an article of the *finest* quality, distillation should be had recourse to, as directed above ; but a very excellent eau de Cologne may be produced by simple solution or maceration of the ingredients in the spirit, provided all the essences be new, pale colored, and pure. When prepared in the

latter way, any article that would impart a color should be both transparent and colorless. The mass of the Eau de Cologne prepared in England, some of which possesses the most delicate fragrance, and is nearly equal to the best imported, is made *without* distillation. In the shops two kinds of this article are generally kept, viz: French and German. That prepared by Farina of Cologne is esteemed the best, and is preferred in the fashionable world.

Eau de Cologne is principally used as a perfumed but a very large quantity is consumed by fashionable ladies, as a cordial and stimulant to drive away the vapors. For this purpose it is dulcified with sugar. A piece of linen dipped in Cologne water, and laid across the forehead is a fashionable remedy for headache.

Eau de Bouquet.—Prep. Rectified spirit of wine 1 quart; spirits of rosemary and essence of violets, of each 1 oz; essences of bergamotte and jasmine of each 1 dr; oils of verbena and lavender ½ dr.; eau de rose ½ pint; orange flower water 1 oz; mix well and filter. An agreeable perfume.

Eau de Mareschale.—Prep. 1. Musk (grain) and ambergris, of each 20 grs; oils of bergamotte, lavender, and cloves, of each 1 oz; oil of sassafras 10 drops, oil of origanum 20 drops; rectified spirit 2 quarts; macerate.

2nd Rectified spirit 1 pint; essences of violets 1 oz; essences of bergamotte and œillets, of each ¼ oz; orange flower water ½ pint. As last.

Eau de Millefleurs.—Prep. 1. Musk 10 grs; essence of lemon 1½ oz; essence of ambergris 2 oz; oils of cloves, and Lavender, (English) of each 1 oz; neroli and oil of verbena of each 15 drops; rectified spirit 2 quarts. Macerate in a close vessel in a warm situation for a fortnight.

2nd. Rectified spirit 1 pint; essence of bergamotte ¼ oz; Eau Lavande and essence of jasmine of each 1 oz; orange flower water 8 oz; mix.

3rd. Grain musk 15 grain; essence of ambergris 1 drachm, eau d'auge 1 quart. As before.

Millefleur water.—Prep. Very pure rectified spirit 9 pints; balsam of Peru (genuine) and essence of cloves of each 1 oz; essences of bergamotte and musk of each 2 oz; essences of neroli and thyne, of each ¼ oz; eau de fleurs d'oranges 1 quart; mix well. Very fine.

Eau de Mousseline.—Prep. Eau de fleurs d'oranges and spirit of clovegilly flower, of each 1 quart; spirit of roses, (No. 3), Spirit of jasmin (No. 4), Spirit of orange flowers, (No. 4) of each 2 quarts; essence of vanilla and musk, of each (No. 3), 2 oz; Sanders wood ½ oz; mix. Very fine.

Scent Powders.—Prep 1. Corianders, orris root, rose leaves, and calamus aromaticus of each 4 oz; Lavender flowers 8 oz; rhodium wood 1 dr.; musk 20 grs.; mix and reduce to coarse powder.

2nd. Corianders, orris, calamus aromaticus, and red roses, of each 1 oz; lavender flowers 2 oz; mace and cloves, of each 1 dr.; essential oil of almonds 10 drops; mix as last.

3rd. As last, but substitute musk 3 grs. for oil of almonds. Used to fill scent bags, and for boxes &c.

Huile antique.—Prep. 1st (Plain) *a.* Olive oil, 1 pint; Oil of Vitriol, ¼ oz; mix, agitate well in a corked bottle for 1 hour, then allow it to repose in the sun, or a moderately warm situation, for 12 or 14 days after which time decant the clear portion from the sediment. *b.* Oil of bennuts filtered; this never gets rank. *c.* Olive oil filtered. All the above keep the hair moist, and may be scented at pleasure.

2nd. (Huile antique à la rose). *a.* Either of the above scented with otto of roses. *b.* Rose leaves and blanched sweet almonds, equal parts; grind them together, then express the oil, and either filter it through blotting paper, or allow it to deposite in a closely corked bottle.

3rd. (Huile antique à la tuberose). As the last.

4th. (Huile antique à la fleur d'orange). Plain Huile antique scented with Neroli, or orange flowers and almonds pressed together. As in No. 2.

5th. (Huile antique au jasmin). From oil of jasmin, or jasmin flowers, as the last.

6th. (Huile antique à la violette). Plain Huile antique, scented with powdered orris root, by keeping them together at a gentle heat in a covered vessel for 24 hours, and filtering when cold.

7th. (Huile antique aux mille fleurs). Plain Huile antique, scented with several perfumes, so that none may predominate.

8th. (Huile antique verte). Plain Huile antique 1 pint; gum guaiacum, bruised ¼ oz; dissolve by placing the bottle in a water bath, when cold, filter through paper, and scent to your pleasure.

9th. (Huile antique rouge à la rose). Plain Huile antique, 1 pint; alkanet root, 1 dr; digest in a gentle heat until sufficiently colored, then strain, and add otto of roses, 20 drops; oil of Rosemary and oil of Neroli, of each 5 drops.

Huile Liqueureuse, De la Rose.—Prep. Rose water and simple sirup, equal parts. A pleasant and fragrant sweeting for grog, liqueurs, &c.

(Huile liquereuse des fleurs d'oranges).—Prep. Orange flower water and simple sirup, equal parts. More fragrant and agreeable than the last. Gives a delicious flavor to grog, liqueur, &c., and to perfume the breath.

(Huile de Vanille).—Spirit of wine and simple sirup, of each 1 quart; essence of tincture of vanilla, a sufficient quantity to flavor; mix. This should be kept in a decanter. Used to flavor liqueurs, &c.

(Huile de Venus).—Prep. Flowers of the wild carrot 5 oz; spirit of wine, 1 gallon; water, 1 pint; macerate 24 hours, then distill, 1 gallon, and add an equal measure of capillaire or simple sirup.

2nd. Wild carrot flowers 4 oz; spirit of wine 1 gallon; macerate for 1 week, strain, and add capillaire 1 gallon If preferred colored, steep ½ oz of cochineal in it. A pleasant cordial.

WEIGHTS AND MEASURES USED IN THE FOLLOWING RECEIPTS.

C. An Imperial gallon.
Cong. do do
Gall. do do
Qt. An imperial quart.
O. An imperial pint.
Pt. do do
Cwt. A hundred weight of 112 lbs. Avoir du pois.
Qr. A quarter of a hundred weight of 28 lbs do
lb. When preceded by arabic figures, a pound.
—Avoir du pois, of 7000 grains.
lb When followed by roman numerals, a pound.
—Troy, of 6,500.
oz. An avoir du pois ounce, of 437½ grains.
dr. A drachm, or the 1-8th of an ounce.
dwt. A penny weight, or 24 grains.
m. A minim, or drop, or 60 to the fluid drachm.
Drop. Wherever this word occurs, a minim to is intended.
gr. grs. A grain or grains, Troy.
Q. P. As much as upon please.
Q. S. As much as sufficient.
ss. One half.
P. A. Equal Parts.
S. V. Spirit of wine. S. V. R. Rectified spirit of wine.

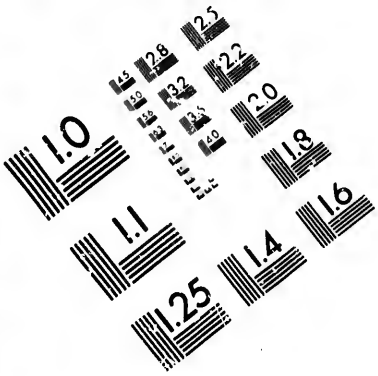
Stains for Cakes.—Prep. 1st. (Red) *a.* Boil ¼ oz. of cochineal in powder, ½ oz. of cream of tartar, and a piece of alum as large as a pea in ½ a pint of water, for half an hour.

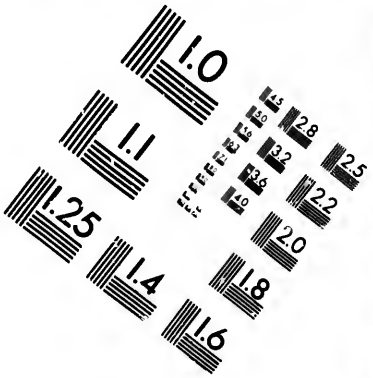
B. Shred Beet root into a little water, let them stand a short time, then express the juice.

7. Dissolve a few grains of carmine in spirits of hartshorn. This gives a fine color, and also tends to make the cake light.

2nd. (White). Use almonds, blanched and beaten very fine ; or use cream.

3rd. (yellow). *a.* Use yelk of egg.
B. " A little saffron, steeped in hot water.





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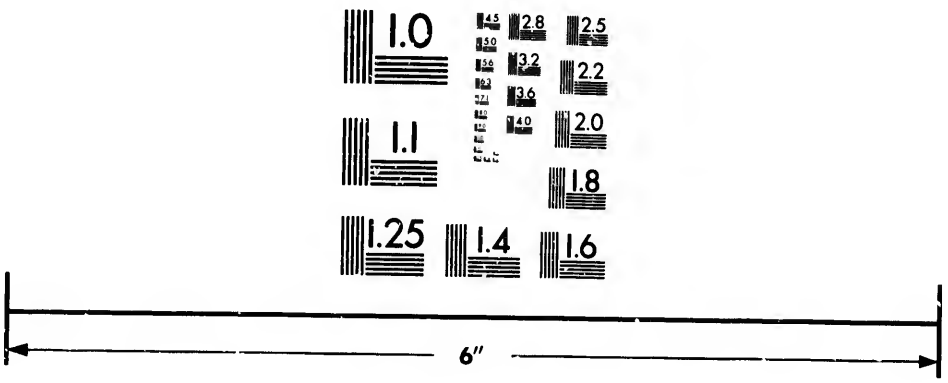

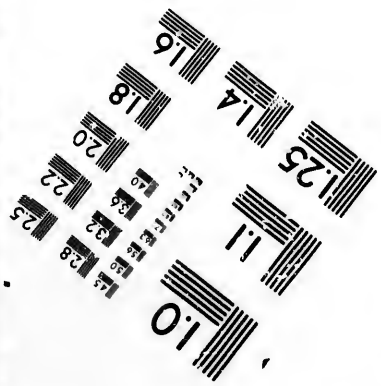

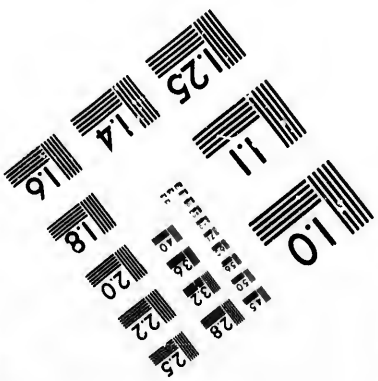

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7. (yellow.) A little turmeric, steeped in a little gin or hot water.

D. Infuse Marygold or stertian flowers in hot water.

4th. (Green). The juice of spinach or beet leaves obtained by pounding and expression.

5th. (Blue). *a.* A little finely pounded indigo diffused in water.

B. A few drops of liquid blue, added to water.

7. The juice of mulberries, Elderberries, privet berries, &c., to which a litile salt of tartar has been added.

D. An infusion of logwood, mixed with a little salt of tartar.

E. The juice of any of the blue flowers.

BREAD.

The different varities of bread made in England vary chiefly in their quality, according to the flour of which they are formed. The best white bread is made from the purest wheat flour; ordinary wheaten bread, of flour to which a little of the finest bran has been added; seconds from flour containing a still larger portion of bran; and common household bread, from flour produced by grinding the whole substance of the grain without any separation of the bran. Symnel bread, manchet or roll bread, and French bread are varities made of the purest flour, from the finest wheat, a little milk being usually added for rolls, and butter and eggs for choicer purposes. Several other minor kinds of bread are also made, varied by the addition of sundry trifles as sugar; currants and other palatable ingredients.

The Scotch "Short Bread" is made from a very thick dough to which butter, sugar, orange peel, and spices are added.

Bread from American flour. This flour requires nearly twice as much water to make it into bread, as that made from English wheat, and is therefore much more economical. 14 lbs of American flour will make 21½ lbs. of bread. But the best sort of English flour produces but 18½ lbs. (Mrs. Rundell).

Bran bread.—Prep 1st. Mix with half a peck of flour, containing the whole of the bran, a ¼ of a pint of small beer yeast, and a quart of lukewarm water; stir it well with a wooden spoon until it becomes a thick batter, then put a napkin over the dough, and set it about three feet from the fire until it rises well. Add if required a little more warm water, strew over it a table spoonful of salt, and make the whole into a stiff paste. Put it to the fire, and when it rises, again knead it into the dough. If baked in tins, the loaves will be improved.

2nd. To every pound of flour add ¼ lb of bran and proceed as before.

Household bread.—(Economical bread.) Prep. 1st. Remove the flake bran from the flour, and boil 5 lbs of it in 4 gallons of water until it is reduced to 3½ gallons: strain. With this liquor knead 56 lbs of the flour, adding salt and yeast as for other bread. Bake the loaves for 2½ hours. (*Revd. Mr. Haggett.*)

½ the quantity would be 28 lbs flour, 2½ lbs of bran put in 8 quarts of water and boiled down to 7 quarts with the requisite quantity of salt and yeast, bake as above.

¼ the quantity would be 14 lbs flour, 1¼ lbs bran put in 4 quarts of water and boiled down to 3½ quarts.

⅛ the quantity would be 7 lbs flour 10 oz, bran put in 2 quarts of water and boiled down to 3½ pints as above. Might use 1 lb bran with 5 pints of water boiled down to 4 pints, as above.

2nd *Household bread.*—Mix 7 lbs flour with 3 lbs of meal potatoes, previously well mashed, add 2 or 3 spoonfuls of salt, and make a dough with water: then well work it with 3 or 4 spoonfuls of yeast, and after 4 hours bake it.

Potato bread.—Prep. 1st. To mealy potatoes, well mashed, add an equal quantity of dough, made with flour; then add a proper quantity of yeast, and mix in as much potato farina, or wheat flower, as will suffied to bring it to a proper consistance. Ferment and bake as usual.

2nd. Mix equal parts of potato starch an finely pulped potatoes, and work them into a dough ver night, adding the proper quantity of yeast; the next morning work in the same quantity of potato starch, mashed potatoes, and wheat flour, adding as much hot water as may be required; let it stand to rise, then work it well, cut it into loaves, and in 2 hours put them into the oven.

Improvement of bread.—A ¼ oz of carbonate of magnesia added to the flour, for a 4 lbs loaf materially improves the quality of the bread, even when made from the wort new seconds flour.—(Professor E. Davy.) This addition is perfectly innocent.

Wigg cakes.—Prep. Put ½ pint of warm milk to ¾ lb of fine flour, and mix in 2 or 3 spoonfuls of light yeast. Cover it up, and set it before the fire 1 hour, in order to make it rise, work into it 4 oz each of sugar and butter make it into cakes or wiggs, with as little flour as possible, and a few caraway seeds, and bake them quickly.

Crumpets.—Prep. Make 2 lbs. of flour into a dough with some warm milk and water, adding a little salt, 3 eggs, well beaten, and 3 spoonfuls of yeast; mix well and reduce it with warm milk and water to the consistence of thick batter; place it before the fire to rise, then pour it into buttered tins, and bake it slowly to a fine yellow.

Muffins.—Prep. Flour, 1 quartern; warm milk and water, 1½ pint; yeast, ¼ pint; salt, 2 oz; mix for 15 minutes, then further add flour ¼ peck, make a dough, let it rise 1 hour, roll it up, pull it into pieces, make them into balls, put them in a warm place, and when the whole dough is make into balls, shape them into muffins, and bake them on tins; turn them when half done, dip them into warm milk, and bake to a pale brown.

Buns.—1st. (Cross buns). To flour 2½ lbs. add sifted sugar, ½ lb, and a little coriander seed, cassia, and mace, powdered fine, then make a paste with butter ½ lb., dissolved in hot milk ½ pint; work in 3 table spoonfuls of yeast and a little salt; set it before the

fire for an hour to rise, then make it into buns, and again set them before the fire on a tin for half an hour; lastly brush them over with warm milk, and bake them to a nice brown in a moderate oven.

Buns, No. 2.—(Madeira). Butter 8 oz; 2 eggs; flour 1 lb; powdered sugar 6 oz; half a nutmeg, grated; powdered ginger and caraway seeds, each 1 tea spoonful; work well together, then add sherry wine 1 glassfull, and as much milk as required. Bake in tins in a quick oven.

a. 3rd. (Plain). Flour, 2 lbs; butter, ¼ lb; sugar, 6 oz; a little salt, powdered caraway and ginger; make a paste with yeast 4 spoonfuls and warm milk a sufficient quantity, then proceed as in No. 1.

b. To the last add currants well washed, ¼ lb.

Breakfast Powder.—Rye Coffee. Hunts economical breakfast powder. Rye roasted along with a little fat or butter. Use As a substitute for foreign coffee, of which it is one of the cheapest and best. (Ground to a powder).

(Rice coffee). From Rice, as above. A good substitute.

(Raspings). The raspings of the crust of loaves, procured at the Baker's, equal to Rye coffee.

(Beach nuts). Roasted along with a little fat or butter as above. Very wholesome.

(Acorn coffee). From acorns, deprived of their shells, husked dried and roasted, as above. A good substitute.

Cakes.—(In the art of the pastry cook baker,&c.) A spedies of fancy bread or trifle, too well known to require description.

GENERAL OBSERVATIONS ON CAKE MAKING.

Before proceeding to the operation of cake making the various materials employed therein should undergo a certain amount of preparation. For this purpose every article should be got ready one hour previously to their being wanted, and should be placed before the fire, or upon the stove, that they may become gently heated, without which it will be impossible to produce good cakes.

The flour should be thoroughly dried and well warmed. The currants should be nicely washed in a hair sieve, wiped dry in a cloth, and then set before the fire, before use they must be dusted over with a little flour. The sugar should be rubbed to a fine powder, and passed through a sieve. The eggs should be well beaten in a basin, and strained. The butter should be melted, by being placed in a basin, set in hot water, and afterwards well beaten up with a little warm milk. The lemon peel should be cut very thin, and beaten in a mortar to a paste or powder, with lump sugar. The caraways ginger, and other similar flavoring ingredients are best used in the form of a fine powder, or under that of an essence, made by digesting them in spirits of wine; the former are however frequenily used whole. The milk and water, should be each of a good warmth. After all these things are ready, they should be put into a pan, one after another, in proper order, and well beaten up, as the lightness of the cakes will be thereby increased. In plum cakes, if a little yeast be added after the butter, and the mass be allowed to rise a little, and then again well kneaded, not only less butter and eggs may be used, but the product will be much lighter. It is therefore a great improvement in various kinds of cakes, to introduce a little yeast even where it is not customary to do so. Good state bread, well soaked in hot milk or water, and then beaten to a paste, and passed through a fine sieve, forms an excellent thing to mix up the ingredients with, and produces a light and very nutritious cake. Cakes wetted up with milk are richer, but do not keep so well as those without it; they get stale sooner.

Pres. Cakes keep best in tin canisters; wooden boxes unless well seasoned, are apt to give them a disagreable taste. Brown paper should be avoided for the same reason.

Banbury Cakes—Prep. Work butter, 1 lb. into the same weight of dough, made for white bread, as in making puff paste, then roll it out very thin, and cut it

into oval pieces, or as the cakes are wanted. Mix some good moist sugar with an equal weight of currants, and wet them with brandy, then put a little upon each piece of paste; close them up, and place them on a tin with the closed side downwards, and bake them. Flavor some powdered sugar with candied peel, grated, or essence of lemon, and sift a little over the cakes as soon as they come out of the oven.

Bath Cakes.—Prep. Mix well together ½ lb. of butter, 1 lb. of flour, 5 eggs, and a cupful of yeast. Set the whole before the fire to rise, which effected, add 4 oz. of finely powdered sugar, and 1 oz. of caraways. Roll the paste out into little cakes. Bake them on tins.

Benton Tea Cakes.—Prep. Make a paste with flour, 1 lb; butter, 4 oz., and milk sufficient, roll it out very thin, cut it into shapes, and bake on a hot hearth or slow oven plate.

2nd. To the last add 4 tablespoonfuls of yeast, and prick the cakes all over with a fork.

Cheese Cakes.— Prep. Curdle some new milk previously warmed, with rennet, drain the curd in a linen bag, then beat it as fine as butter, and add one fourth of its weight, each, of sugar and butter, six eggs, some grated nutmeg, and a little orange flower or rose water; work the whole well together.

2nd. (Almond). To the above add as much blanched almonds, beaten to a smooth paste, as there is butter along with an equal weight of macaroni, beat well together.

3rd. (Lemon). To the first form add lemon peel grated fine or a little essence of lemon.

Diet Cakes.—Prep. Dissolve sugar, 1 lb; in milk 0 pint, add 6 eggs, and whisk to a full froth, then cautiously stir in flour 1 lb, beat it for 1 hour, and immediately bake it in a quick oven. It may be baked whole or divided into small forms.

Diet Bread Cakes.—Prep. Make a paste with equal parts of fine flour and powdered sugar, 6 eggs, and the juice and kind (grated) of 1 lemon. Bake in a slow oven.

Ginger Cakes.—Prep. Make a paste with sugar 1 lb; powdered ginger 4 oz; flour 2 lbs; water 1 pint; butter ½ lb; and 8 caps of candied orange peel, grated; form them into cakes, and prick them with a fork before baking them.

Plain Cakes.—Prep. 1st. Flour 4 lbs; currants 2 lbs; butter ½ lb; caraway seeds ¼ oz; candied lemon peel, grated, 1 oz; wet it with milk, and ½ pint of yeast. Let it rise well before baking.

2nd. Baker's dough 2 lbs; currants 1 lb; butter ¼ lb; 3 eggs, milk (hot) ¼ pint, as above.

3rd. "The following is a receipt for making a good plain cake, fit to be given to children at breakfast, instead of buttered bread.

"Take as much dough as will make a quartern loaf, (either made at home or procured at the baker), work into this a ¼ lb of butter, a ¼ lb of moist sugar, and a handful of caraway seeds, when well worked together, pull into pieces the size of a golden pippin, and work it together again. This must be done THREE times, or it will be in lumps, and heavy when baked."

4th. (Rich). Equal weights of flour, butter, sultana raisins, eggs, currants, and brown sugar, mixed up with milk, and seasoned with candied peel, nutmeg, &c. Bake in a quick oven.

Portugal Cakes.—Prep. Flour, powdered sugar, and fresh butter, of each 1 lb; work it well up untill it crumbles, then add 10 eggs, currants ½ lb, and a little white wine. Bake it in small tin only half filled.

Plum Cakes.—Prep. 1st. (good) Mix, ½ lb of butter in 3 lbs of dry flour and 8 oz of fine Lisbon sugar; add plums and currants, of each ¾ lb., washed and dried, and some pimento, finely powdered. Put 3 spoonfuls of yeast into a pint of new milk warmed, and mix it into a light dough with the above. Make it into a cake, and bake on a flowered tin half an hour.

REMARKS.—The measures, an imperial measure, consequently something more than a pint of new milk should be allowed.

Plum Cake.—2nd. (Excellent). Beat 1 lb of fresh butter with a strong wooden fork until it resembles cream; add 1 lb of sifted sugar, and mix them very completely; have ready the whites of 10 eggs beaten, and pour them into the butter and sugar; then add the yelk of 18 eggs, also well beaten, and beat them all up for 10 minutes. Take 1 lb of flour, 2 oz. of pounded and sifted spices, viz, cloves, mace, cinnamon, nutmeg, and all spice, and mix them by degrees with the other ingredients, then beat the cake 10 minutes longer; and when the oven is ready, add 1 lb of currants, 4 oz or sliced almonds, ½ lb of raisins stoned and chopped, and a large glass of brandy. Bake the cake in a hot oven. When sufficiently baked let the oven cool, and afterwards put in the cake and allow it to remain for several hours to dry. (Rundell).

Plum Cake No. 3. (Rich) Take fresh butter and sugar, of each 1 lb; of flour 1½; of currants 2 lbs; a glass of brandy, 1 lb of sweet meats, 2 oz of sweet almonds, 10 eggs, ½ oz each of allspice and cinnamon, melt the butter to a cream, and put in the sugar; stir it till quite light, adding the allspice and pounded cinnamon: in a quarter of an hour, take the yelks of the eggs, and work them in 2 or 3 at a time; and the whites of the same must by this time be beaten into a strong snow quite ready to work in, as the paste must not stand to chill the butter, or it will be heavy; work in the whites gradually; then add the orange peel, lemon, and citron, cut in fine stripes, and the currants, which must be mixed in well, with the sweet almonds; then add the sifted flour and glass of brandy. Bake this cake in a tin hoop in a hot oven for 3 hours, and put 12 sheets of paper under it to keep it from burning. (Mackenzie.)

Pound Cake. Prep. 1. As the above; but use 1 lb each of all the ingredients, except the spices.

2nd. Use equal parts of sugar, flour, currants, and sultana raisins, and half that quantity each of butter, brandy, and candied peel, with spices as required.

Seed Cake.—Prep. 1. (Plain.) Mix ¼ peck of flour with

½ lb of sugar, ¼ oz of allspice and a little ginger; melt ½ lb of butter with ½ pint of milk; when just warm, put to it ¼ pint of yeast, and work up to a good dough. Let it stand before the fire a few minutes before it goes to the oven; add seeds or currants; bake an hour and a half.

2nd (Good.) To the preceding add butter and sugar of each ½ lb, and wet it up with milk previously mixed with 6 eggs.

3rd (Rich.) Take of flour 1½ lbs well dried, butter and sugar of each 1 lb, 8 eggs and 2 oz of caraway seeds, 1 grated nutmeg, and its weight in cinnamon. Beat the butter into a cream, put in the sugar, beat the whites of the eggs and the yelks separately, then mix them with the butter and sugar. Beat in the flour, spices and seed, a little before sending it away. Bake 2 hours in a quick oven.

4th (Scotch.) Eggs 9 in number; sugar and butter of each ½ lb; mix well together, then add a little cinnamon, grated nutmeg, and cloves, ¼ oz of caraway seeds, 1 lb of candied citron, ¾ lb of candied orange peel, and ½ lb of blanched almonds pounded fine. Mix well then add flour 3 lbs and brandy ¼ pint. Work well and bake it.

Sponge Cake.—Prep. 8 eggs, ¾ lb of lump sugar; ½ lb. of flour; ¼ pint of water; the peel of a lemon; mix as follows:—over night pare a good sized lemon thin, and put the peel into the water; when about to make the cake, put the sugar into the saucepan, pour the water and lemon peel to it, and let it stand by the fire to get hot. Break the eggs into a deep earthen vessel that has been made quite hot; whisk the eggs for a few minutes with a whisk that has been well soaked in water; make the sugar and water boil up, and pour it, boiling hot over the eggs, continue to whisk them briskly for about a quarter of an hour, or till they become quite thick and white, which is a proof of their lightness. Have the flour well dried, and quite warm from the fire, just stir it lightly in, put the cake into tins, lined with white

paper, and bake them immediately in a moderately hot oven. (Mr. Kundell).

Soda Cakes.—Prep. Flour 1 lb; bicarbonate of soda ½ oz; sugar and butter, of each ½ lb; currants ¾ lb; make a paste with milk, and add candied orange, lemon, or citron peel, or the fresh peels grated, according to fancy. Remarks: A ¼ oz. of carbonate of magnesia, used instead of the soda, also makes good cakes, very suitable to delicate stomachs, especially if the candied peels be omitted.

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PRESERVATION OF ANIMAL SUBSTANCES USED AS FOOD.

Animal substances are preserved in various ways, among which may be mentioned:—

1. Exposure to the sun, or in a stove, to as high a heat as possible without scorching them.

2. Exposure to the frost until they become frozen, and then keeping them in this state. Meat, fish, poultry, &c, are generally preserved in this way in the colder parts of North America, in Russia, and in many other parts of the world. In Lower Canada the meat killed early in the winter is frequently kept in a frozen state for summer use, to prevent the necessity of killing during the hotter portions of the year. It remains perfectly fresh, tender, and good flavored.

3. *Salting in Brine.*—This method is both easy and effectual. The best plan to dissolve about 4 lbs of good salt in a gallon of water, for brine, and to immerse the meat therein, at the same time adding a few handfuls of undissolved large grained rock salt, more than it will dissolve, for the purpose of keeping up its strength. Three to ten days, depending on the size, is sufficiently long to keep the meat in the brine; when it is taken out it should be hung up to dry, packed in barrels with coarse grained salt, or smoked, whichever may be desired. When the brine has been used for some time, it should be boiled with some more salt and 2 or 3 eggs, then skimmed and strained. Saltpetre added to brine

gives the meat a red color, and brown sugar improves the flavor.

4. *Dry salting.*— In many parts, as in Hampshire, Yorkshire, &c., the process of dry salting is adopted, which consists of merely well rubbing the salt, mixed with a little saltpetre, into the meat, and afterwards sprinkling some over it, and placing it on a board or trough in such a manner that the brine may drain off. Sometimes fresh meat is packed at once in casks, with the best coarse grained salt.

5. *Pickling.*—This plan is to steep the substance in vinegar, or a mixture of vinegar and beer. Fish is often served in this way.

6. Pyroligneous acid brushed over animal substances will keep them for any length of time. This acid imparts a smoky flavor; but *pure acetic acid* may be used instead. Before use, the substance should be washed or soaked in water.

7. *Immersion in Olive oil.*—Salmon and other fish are often preserved in jars of salad oil, well corked up, and cemented over.

8. *Potting.*—Small birds, fish, cooked meat, &c., are frequently pounded to a paste, with spices and butter, and pressed into pots until nearly full, when melted clarified butter is poured over to about ¼ or ⅜ of an inch in depth. This plan is called "potting."

Meat Pickle.—Prep. Moist sugar 2 lbs; bay or common salt 4 lbs; saltpetre ½ lb; fresh ground allspice 2 oz; water 6 to 8 quarts; dissolve. Used to pickle meat, to which it imparts a fine red color and a superior flavor.

Preservation of fish.—Fish may be preserved in several ways:—1st By either wet or dry salting.

2nd By simply drying after cleaning them.

3rd By salting them and then drying them.

4th By placing them in jars, pouring salad oil over them, and tying them over air tight.

5th By dipping them into, or brushing them over pyroligneous acid, and then drying them, this gives a smoky flavor, but if pure acetic acid (P. L.) be used, no

taste will be imparted. It may be applied by means of a clean painter's brush, or even a stiff feather. A table spoonful is sufficient to brush over a large surface. Fish and flesh so prepared will bear a voyage to the East Indies and back uninjured.

6th Fish may be preserved in a living state for days or longer without water, by stopping their mouths with crumb of bread steeped in brandy, pouring a little brandy into them, and then placing them *in straw* in a moderately cool situation.

7th Immersion of the cleaned fish in water holding in solution $\frac{1}{300}$ or $\frac{1}{400}$ part of creosote, and then drying them.

8th Fish may be preserved in a dry state, and perfectly fresh, by means of sugar alone. Fresh fish may be thus kept for some days, so as to be as good when boiled as if just caught. If dried and kept free from mouldiness, then seems no limit to their preservation; and they are much better in this way than when salted. The sugar gives no disagreable taste. This process is particularly valuable in making what is called *kipered salmon*; and the fish preserved in this manner are far superior in quality and flavor to those which are salted or smoked. A few table spoonfuls of brown sugar are sufficient for a salmon of five or six pounds weight; and if salt be desired, a tea spoonful may be added. Saltpetre may be used instead, in the same proportion, if it be wished to make the kipper hard. (See animal substances used as food.)

Meat immersed for 1 hour in water holding $\frac{1}{400}$th part of creosote in solution, may be preserved unchanged even during summer. *In Messrs Donkin and Gamble's patent process*, the substances, previous by parboiled, are placed in small tin cylinders, which are then filled up with rich soup; the lids are next soldered on quite air tight, and a small hole afterwards made in the centre; the cylinders are then placed in a bath of brine, and heated to the boiling point, to complete the cooking process, when the hole in the lid is hermeti-

cally sealed, by soldering while the vessel still remains boiling hot. The ends of the tins on cooling assume a concave form from the pressure of the atmosphere, without which they cannot be air tight.

The patentees expose the canisters prepared as above for at least a month to a heat 100 to 110°, when if the process has failed, putrefaction commences and the ends instead of remaining, concave bulge and become convex. This is called the "test." This process was invented by Mr. Appert in France. Fish, flesh, and poultry may be thus preserved for years in any climate.

Cement, Chinese.—Prep. Dissolve shellac in enough rectified spirit to make a liquid of the consistence of treacle.

2nd. Instead of spirit, use wood naphtha, (pyroxilix) spirit.

3. Boil borax, 1 oz, and shellac 4 oz in water until dissolved.

Use.—To mend glass, china, fancy ornaments, &c. The first form produces a cement so strong that pieces of wood may be joined together, cut slopingly across the grain, and will afterwards resist every attempt to break them at the same place.

In many of the Islands of the Indian ocean, in Japan, China, and the East Indies, a similar cement is used to join pieces of wood for bows, lances, &c. The fluid is thinly smeared over each face of the joint, a piece of very thin gauze interposed, and the whole pressed tightly together and maintained so until the next day. Joints so made will even bear the continued flexure of a bow without separating.

Cement, Extemporeneous.—Shellac melted and run into small sticks the size of a quill. Use, to join glass, earthenware, &c. The edges must be heated sufficiently hot to melt the cement, which must be then thinly smeared over them and the joint made while they are still hot. This is the cement so commonly vended in the streets of London.

Water proof Liquid.—Prep. 1st. Indian rubber ¼ oz;

oil of turpentine ¾ pint; put them into a pot, tie it over with bladder, and set it in hot water; when dissolved, add hot "boiled" oil 1 pint.

2nd. Boiled oil, 1 quart; Indian rubber, 1 oz; dissolve by heat.

3rd. Linseed oil, 1 pint; yellow wax and common turpentine of each 2 oz; burgandy pitch 1 oz; melt together.

4th. Lindseed oil, 1 pint; suet, 8 oz: bees wax, 6 oz: rosin, 1 oz; melt together.

All the above are used to render leather boots and shoes water proof.

Water proof composition for boots and shoes.—Prep. Boiled oil, 1 pint; oil of turpentine, black Rosin, and bees wax, of each, 3 oz. Proc. Melt the wax and rosin, then stir in the oil, remove the pot from the fire, and when it has cooled a little, add the turpentine.

2nd. Take 3 oz of spermaceti, and melt it in a pipkin, or other earthen vessel, over a slow fire; add thereto 6 drachms of indian rubber, cut into slices, and these will presently dissolve. Then add seriatim of tallow, 8 oz; hogs lard, 2 oz; amber varnish, 4 oz: mix and it will be fit for use immediately.

Apply. The boots or other material to be treated, are to receive two or three coats with a common blacking brush, and a fine polish is the result.

To clear and fine liquors.—After all the articles used to prepare any kind of liquors are put in, and they do not become perfectly clear, you will draw into a barrel which has only one head or bottom in it, with a faucet near the bottom, and sift into each barrel from 1 to 3 oz of finely pulverised lime, which will cause every impurity to settle when it will be again drawn and returned to clean vessels or bottles as desired. You need have no fear of this, as the following will show.

To make hard water soft.—Take 1 oz of fresh lime and stir it will in a bucket of water, then stir all thoroughly in a barrel of water, and as soon as it settles the water will be soft and fit for use, As it will drive

every impurity to the bottom. River water when muddy, is better to drink by the process.

To keep cider sweet,—and sweeten sour cider.—To keep cider nice and perfect, take a keg and put several holes in the bottom of it, and a piece of woolen cloth at the bottom; then fill with pure sand closely packed, and then draw your cider from a barrel just as fast as it will run through the rectifyer or keg, and put of in clean barrels that had a peice of cotton or linen cloth 2 by 6 inches dipt in sulphur and burned in them; then keep it in a cellar or room where there is no fire, and add ½ lb of white mustard seed to each barrel.

If cider is long made and souring when you get it, about 1 quart of hickery ashes (or a little more of other hard wood ashes) stirred into each barrel will sweeten and clarify it nearly equal to rectify it, but if it is not rectified it must be racked off to get clear of pomace; with this in it *will sour.* Oil or *Whiskey* barrels are best to put up cider in, or ½ pint of sweet oil to a barrel, or a gallon of whiskey to a barrel, or both may be added with decidedly good effects. Isinglass 4 oz to each barrel, helps to clarify and settle cider that is not going to be rectified.

To keep apple cider sweet without expense.—When your cider has worked so as to let the pomace sink, or just to suit your taste, rack it off and rise the barrel, (unless you have plenty of barrels) and return 3 gallons of the cider into barrell. Now take a strip of cotton cloth 2 by 7 inches, which has been dipped in melted sulphur and dried, fire one end of this strip and introduce it into the bung hole, and hold it by means of the bung, giving it air sufficient to let it burn, keeping the smoke in as it burns, when you will push the bung in tight and shake the barrel until the sulphur gas is absorbed into the cider; then return the cider to the barrel free of sediment, shake altogether, and it is complete for any length of time, so says Gideon Howell of Orramel, N.-Y., who says he drank it 2 years after it was put up, just as nice as when first made. I know

that with ½ lb of mustard seed after rectifying, and kept in a cool cellar, that it is safe; but if any desires to try it without the mustard or cannot get it, they have a good prospect of success without that expense. The first not costing the fourth of a cent per barrel, and I know that in some parts of England by using only ripe sound apples to make cider from, letting it work clear racking off about twice, properly rectifying, bottling, &c. Cider is kept as many as 20 years. When cider is drawn off and bottled it should not be corked until the next day after filling the bottles, or many of them will burst.

Vinegar in three days without drugs.—You will take 3 barrels, or 2 barrels, and saw one of them in two in the centre, and put one half on the top and another half at the bottom of the whole barrel. The middle barrel is to be filled with maple, beech, or basswood shavings, which are to be planed from the edge of boards only two or three feet long, which allows the shavings to roll, and prevents them from packing tight, and also allows air to circulate through them which is admitted through a number of inch holes which are to be made near the bottom of the barrel and just above the faucet which lets the vinegar run into the tube below. The top tube has its bottom pierced with small bit holes having several threads of twine hanging in them to conduct the vinegar evenly over the top of the shavings *in the middle barrel.* Air must be permitted to pass out between the top tub and barrel which comes in at the holes in the bottom. The shavings which fill the barrel must be soaked three or four days in good vinegar before they are put in. When thus arranged, for every gallon of water, I use half a pound of sugar (that which comes out of molasses barrels is as good as any). If I wish to make vinegar from whiskey, I put in 4 gallons of water to *1 pint of whiskey*, and if from cider put in one third water, and fill the top tub with this fluid putting one pint good yeast to each barrel making; and have the holes with threads or twine so arranged that it will run through every twelve hours,

and dip or pump up with a wood pump every night or morning, and three days will make good substantial vinegar which will keep a id also improve by age.

REMARKS.—"1 *pint*" must mean 1 gallon whiskey according to what he says on the other page.

The reason why much of the vinegar manufactured gives no better satisfaction is, that they do not give it only about half the body I no, using *only* "1 *gallon whiskey to 7 gallons water.*" Let me say make a good article. If a few gallons of the water is made boiling hot, so as to warm the whole of a gentle warmth, it will make faster than if used cold. This must be done in cool weather, and then the room should also be kept warm. For families, small kegs will do, but for manufacturers large casks are best. Many make vinegar by just putting fluid into the barrels of shavings soaked as directed above, and do not let it run through but stand in the shavings till sour, but it does not work fast enough for manufacturers.

It will do when only a small amount is needed. Keeping the same strength of fluid as for the other plan which is best.

I know men who have paid from $50 to $125 dollars for this recipe.

If vinegar is made from whiskey, it will have a more beautiful color, if five or six pounds of sugar is put into each barrel, of course keeping the same proportions of water as though only one kind was used.

These shavings will last the whole season.

Pure oils of cognac, wine, and rum, with directions for sale by Montreal or New York druggists, also oils of Bourbon whiskey, oil of jamaica, oil of apple and oil of apple brandy.

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