COGNAC BRANDY.

ten gallons; oil of juniper, one drachm. Dissolve in two ounces of alcohol.

The tincture of the grains of paradise should be well strained, to insure transparency. The most common mode of treating gin, is to add about twelve ounces of sweet spirits nitre to every thirty gallons of spirit. This gives an artificial strength, but the nitre is injurious to health.

A bead can be given to these liquors when needed. See the Formula for the Beading Mixture.

DOMESTIC BRANDY.

New York Brandy.—Cleansed alcohol, thirty gallons; water, forty gallons; tincture of Guinea pepper, two gallons; mix nitric ether, two ounces; acetic ether, three ounces; one ounce sulphuric acid. Color with red beets and burnt sugar.

COGNAC BRANDY.

Cleansed alcohol, forty gallons; water, thirty-five gallons; one gallon of strong tea, and one gallon of tincture of grains of paradise; twenty pounds white or clarified sugar, dissolved in the thirty-five gallons of water before adding to the spirit; add two quarts of prune spirit, and three ounces of acetic ether. Color with a quart of burnt sugar, and a pint of tincture of sanders wood. "This is strong brandy."
PINEAPPLE BRANDY.

Clean alcohol, thirty-five gallons; water, forty gallons; mix. Tincture of the grains of paradise, one gallon; tincture of pellitory, one pint; six common sized red beets, sliced; one and a half pints of sugar coloring; five ounces of butyric ether. If this is not convenient, add two quarts of Jamaica rum, and six ounces of acetic ether, with five drops of oil of cloves rubbed up in a couple of ounces of sugar, and mix.

PEACH BRANDY.

Clean alcohol, seventy gallons; water, fifty-five gallons; one and a half ounces of English saffron, or the same of gamboge; five gallons of honey, or sixty pounds of white or clarified sugar; this is to be dissolved in the above mentioned water before adding; add fifteen drops of creasote; balsam of Peru, half ounce; essence of lemon, a wine glass full; essence of orange peel, half ounce. The saffron or gamboge should be suspended in the spirit, which will obviate the necessity of straining the liquid.

Burnt sugar, &c., is no longer used for peach brandy, but those preferring it can color as for other brandy. The above receipt furnishes a really fine sample of "old peach." It will have a fine body, pleasant taste,
APPLE BRANDY.

and approved flavor. This is sold for a distilled spirit, and is branded on the head to the effect that it is the product of some high sounding, though imaginary distillery.

Some manufacturers flavor this brandy with essence of almonds, and a small portion of ether; others, again, make use of ethers and water of ammonia; and others, of rum and essence of wintergreen; and, in fact, every operator has a formula of his own, and the receipt is good enough until the product is found unsalable. In America, almost every one is acquainted with peach brandy. And the aromatics should be added in minute quantities.

APPLE BRANDY.

Clean alcohol, twenty gallons; water, twenty gallons; strong decoction of grains of paradise, one quart; tincture of pellitory, half pint; three ounces each of sulphuric and acetic ether; one ounce each of essence of vanilla; tincture of sanders wood, one pint; burnt sugar, one pint.

The above brandy can be manufactured at as low a figure as could be desired, if the tincture of grains of paradise and tincture pellitory be substituted for alcohol.

Apple brandy belongs to that class of liquors that
CONCEALING ODOR OF GRAIN OIL.

pays but a small percentage, and, therefore, is scarcely worth noticing; yet it is desirable that the manufacturer should possess a knowledge of it. This brandy will be greatly improved by the addition of honey or sugar, in the proportion of four gallons to forty gallons of the spirit. A cheaper article of this brandy is made of common rectified whiskey, thus: to forty gallons of whiskey, add eight ounces of acetic acid; one ounce of sulphuric acid, three sliced red beets, one pint of burnt sugar, coloring; add a pint of wheat or rice flour, slightly scorched over the fire, to the liquor, and allow it to stand for ten days. The flour can be suspended in the spirit, by being tied up in a piece of muslin and hung in the barrel.

CHERRY BRANDY.

Rectified whiskey, one hundred gallons; honey, eight gallons; clarified sugar, thirty pounds; bruised bitter almonds, one pound; cloves, one-half ounce; cassia, one ounce; bruised nutmegs, two ounces; infuse two ounces of cochineal in two gallons of warmed water for a few days, until the coloring is extracted, and add one pint of sugar coloring, and two ounces of sulphuric acid. The above is usually put up in ten gallon kegs.
IMITATION OF JAMAICA RUM.

CHERRY BRANDY (CHEAP).

Corn whiskey, twenty gallons; water, seventeen gallons; loaf sugar, twenty-five to fifty pounds; tincture of grains of paradise, one and a half gallons; pellitory, one pint; five ounces of ground mustard, one-half ounce of sulphuric acid; cloves, one-half ounce, bruised; cassia, one ounce; one-half pound bruised bitter almonds. Color with six red beets, sliced, and one-half pint of burnt sugar coloring. If the acid in either of the above is not clearly perceptible to the palate, it should be added until it is.

RUM.

The best is Jamaica rum. This rum is indebted to the mode of its distillation for its superiority, which consists in conducting the process of distillation very slowly.

IMITATION OF JAMAICA RUM.

Clean proof spirit, 100 gallons; sugar refined, dissolved in five gallons water, sixty pounds; pale ale, five gallons; sulphuric acid, two ounces; Jamaica rum, eight to twelve gallons; acetic ether, eight ounces; burnt sugar, one and a half pints; tincture of sanders, half a pint.
CONCEALING ODOR OF GRAIN OIL.

ST. CROIX RUM.

Clean spirit proof, 100 gallons; refined sugar, dissolved in five gallons water, forty pounds; catechu, five ounces; spirit of vanilla, a tumbler or glass full; acetic acid, five ounces; Jamaica rum, five gallons; color as above, or leave it transparent; add half a gallon tincture grains of paradise, and one and a half ounces sulphuric acid.

NEW ORLEANS RUM.

Clean proof spirit, one hundred gallons; refined sugar, dissolved in five gallons of water, fifty pounds; tincture grains of paradise, half a gallon; powder catechu, five ounces; sulphuric acid two ounces; Jamaica rum, five gallons; acetic acid, ten ounces; ten drops oil of cinnamon, dissolved in alcohol.

NEW ENGLAND RUM.

Whiskey, one hundred gallons; refined sugar, dissolved in four gallons of water, thirty pounds; sulphuric acid, two ounces; oil of cinnamon, ten drops, dissolved in alcohol; acetic ether, ten ounces; Jamaica rum, five gallons. Mix.

These liquors can be colored, if desired. The
RUM SHRUB.

New Orleans rum is usually transparent; the same proportions as for other liquors, using cochineal and burnt sugar.

RUM SHRUB.

Tartaric acid, five pounds; refined sugar, one hundred pounds; oil of lemon, four drachms; put them into an eighty gallon cask, and add water ten gallons; rumage until the sugar and acid are dissolved, then add proof rum, twenty gallons; water, thirty-five gallons; coloring, one quart fine with twelve eggs; if twelve oranges, and five ounces of bitter almonds be added, it will improve the flavor.

RUM SHRUB.

Sugar, two hundred pounds, dissolved in fifty gallons of water; add rum, thirty gallons; oranges sliced, twelve; two dozen sliced lemons; cassia bruised, half an ounce; cloves bruised, half an ounce; bitter almonds, eight ounces; tincture of the grains of paradise, and as much tartaric acid as may be necessary to give it the required acidity; let it stand for a week, and fine with twenty eggs, shells yellows, and whites.
Gin.

Holland Gin.—Clean spirit, one hundred gallons; one and a half ounces of juniper oil, dissolved in half a glass of alcohol; half an ounce angelic essence; filter twenty gallons of the clean spirit through starch, this is to give the whole mass a body.

Schiedam Swan.

Clean spirit, one hundred gallons; refined sugar, forty pounds; add, after dissolving in a few ounces of alcohol, two ounces oil of juniper; oil of coriander, half an ounce; nitric ether, four ounces; dissolve the sugar in four gallons of water, and mix the ingredients with the spirit.

English Gin.

Clean spirit, one hundred gallons; three gallons honey, and twenty pounds sugar, dissolved in five gallons water; two ounces oil of juniper, dissolved as above, and spirit of vanilla six ounces; bruised bitter almonds, one pound; digest the almonds in two gallons of the spirit for forty-eight hours, then strain and mix.

The clean spirit contemplated in these formulas,
is spirit of about the strength of common proof spirit, containing, say from forty-three to forty-nine per cent. of alcohol.

NEW YORK GIN.

Clean whiskey, one hundred gallons, oil of juniper, two ounces, dissolved in three ounces of alcohol; a few drops of turpentine are sometimes added.

ROSE GIN.

Clean whiskey, one hundred gallons; two ounces oil of juniper, dissolved in two ounces of alcohol; nitric ether, twelve ounces.

NEW YORK GIN—CHEAP.

Clean whiskey, sixty gallons; water, forty gallons; tincture grains of paradise, two gallons; tincture of mustard, half a gallon (tincture of mustard is made by digesting one pound of ground mustard in half a gallon of whiskey, for thirty-six hours); one ounce of sulphuric acid; two ounces oil of juniper, dissolved in half a pint of alcohol; nitric ether, six ounces; fine this by the addition of four ounces of powdered alum.

Gin Cordial.—Of the oil of bitter almonds, sul-
phuric acid, turpentine, and juniper, half a drachm each; dissolve these in alcohol, fifteen gallons clean spirit, and add one drachm coriander seed, two ounces bruised orris root, ten pounds of sugar, dissolved in four gallons of water; mix the whole.

WHISKEY.

Pure Irish and Scotch whiskey contain about fifty-two to fifty-five per cent. of alcohol, which would be equal in strength to pure French brandy.

The fancy brands of American whiskey contain from thirty to forty-eight per cent. of alcohol. A choice article of whiskey, which would not require the addition of foreign substances, should contain fifty-two per cent. of alcohol, freed of its grain oil; the aromatics necessary in the production of this whiskey, will conceal a considerable portion of grain oil.

Novices are apt to disregard all rules in adding foreign substances to liquors, acting under the impression that each substance imparts a peculiar virtue, and the mistake is not obvious until the liquid has been spoiled.

Experience has long since proven, that saccharine matter and starch will impart all the necessary and most desirable qualities to plain spirit.
SCOTCH WHISKEY.

Clean spirit, ninety-two gallons; water, thirty-five gallons; honey, dissolved in three gallons of water, six gallons; creasote, fifty drops; color slightly with burnt sugar.

SCOTCH WHISKEY—CHEAP.

Rectified whiskey, thirty gallons; creasote, ten drops; tincture grains of paradise, one quart decoction of strong tea (see directions for making), three quarts; thirty-five pounds, or less, of clarified sugar, dissolved in eight gallons of water; mix the whole, and color with a pint of tincture of sanders, and the same of burnt sugar coloring.

IRISH WHISKEY.

Cleaned alcohol, ninety-two gallons; water, thirty-five gallons; refined sugar, thirty pounds, dissolved in six gallons of water; creasote, thirty drops; water of ammonia, two ounces.

IRISH WHISKEY—CHEAP.

Rectified whiskey, thirty gallons; grains of paradise tincture, three quarts; catechu, two ounces;
creasote, ten drops; water, five gallons; mix the liquor before it is charged with any of the articles. It should be passed through a bed composed of ground oatmeal, or of ground rice, or of a mass composed of three parts of unground rice, to one part of wheat flour. This bed should be about twelve inches in depth, and for convenience can be arranged in an empty whiskey barrel. Full instructions for this will be found under the head of "Filtering." The spirit should pass with rapidity through the filter, and if it comes off too highly charged with starch, it should have clean spirit added until the starch becomes dissipated, or is not perceptible to the naked eye; or if the spirit should be too heavy, or cloudy, run it through the sand filter alone, until it comes out bright. The amount of flour necessary to impart the desired flavor to the spirit, is not distinguishable by the naked eye; and neither should the liquor have the slightest tinge imparted to its original color.

OLD ROANOKE WHISKEY.

Rectified whiskey, thirty-five gallons; honey, three gallons; decoction of strong tea, one quart; of bitter almonds, bruised, eight ounces (the almonds should not be rancid, as they leave an unpleasant taste on
TUSCALOOSA WHISKEY.

the palate); creasote, six drops; oil of wintergreen, ten drops, dissolved in an ounce of alcohol. If the above liquid is to be filtered through starch, the honey may be dispensed with. The bitter almonds give to this whiskey that peculiar nutty flavor on which its celebrity rests. The three gallons of honey are to be dissolved in two gallons of water, and added; thus making the mass into forty gallons.

OLD RYE WHISKEY.

Clean whiskey, one hundred gallons; water, twenty gallons; honey, five gallons,—mix; wintergreen, twenty-five drops, dissolved in alcohol, ten ounces; acetic ether, five ounces; one pint tincture sanders, one pint sugar coloring.

TUSCALOOSA WHISKEY.

Starch filtered rectified whiskey, one hundred gallons; pale ale, four gallons; Jamaica rum, three gallons. This should be colored very slightly, as the spirit used may contain sufficient coloring for the whole. This whiskey usually comes in half-barrels, and stands deservedly high with consumers; as yet it only has a local reputation.
MONONGAHELA WHISKEY.

Starch filtered whiskey, one hundred gallons; water, twenty-five gallons; decoction of strong tea, two gallons; tincture of grains of paradise, one gallon; sanders wood, one quart; burnt sugar, one quart.

MONONGAHELA WHISKEY FOR BOTTLING.

Clean spirit, five gallons; honey, one gallon; water to dissolve honey, half gallon; bruised bitter almonds, six ounces; rum, one quart; catechu, one ounce; spirit of vanilla, fifty drops; half pint tincture of cochineal; and half pint clean burnt sugar. This is a superb liquor, and of fine color.

MONONGAHELA RYE WHISKEY.

Starch filtered whiskey proof, one hundred gallons; water, twenty gallons; decoction of strong tea, two gallons; tincture of grains of paradise, one gallon; two grains of ambergris, dissolved in hot alcohol, or well rubbed in a small portion (say two ounces) of sugar; acetic ether, eight ounces. If the whiskey originally contained no coloring, make use of burnt sugar alone, and color to suit fancy. As a
OLD BOURBON WHISKEY.

general rule these whiskeys are not to be highly colored.

OLD BOURBON WHISKEY.

Starch filtered clean spirit, one hundred gallons; water, twenty-five gallons; strong tea, one gallon; tincture grains of paradise, one gallon; thirty drops wintergreen oil, dissolved in one ounce alcohol.

OLD BOURBON FOR BOTTLING.

Clean spirit, five gallons; honey, one gallon, dissolved in half gallon water; expressed juice of dried peaches, two quarts; sulphuric acid, one ounce; spirit of nutmegs, half pint; acetic ether, two ounces; oil of wintergreen, four drops, well rubbed up in sugar, and added. This is colored with half a pint of the tincture of cochineal, and the same of burnt sugar. If the sulphuric acid should be objectionable, a quart of common vinegar can be added. The object of the acid in liquors, has been fully explained under the head of Acids in Liquors.

When it is desired, these liquors can be manufactured at a low figure by the filtering process, and the free use of pellitory, tea, and grains of paradise. These inferior liquors should be well colored, and in neat packages and neatly marked. For directions
CONCEALING ODOR OF GRAIN OIL.

on barrelling liquors, look under the head of Barrelling Liquors, &c., &c.

RECTIFIED WHISKEY

Consists of from forty to forty-five per cent. of alcohol, and is known as single and double rectified whiskey; and probably the only difference between them is to be found in their names, as there is but little or none in their relative properties. It is possible that the double rectified whiskey may contain less essential oil than single rectified, by virtue of having passed through the rectifier for the third time; and this was a positive necessity, as the rectifiers were nearly exhausted; and thus it will be observed that three courses of filtration in exhausted rectifiers, are equivalent to one filtration through new rectifiers. For arranging rectifiers, and all information of interest upon this subject, see under the head of "Removal of Grain Oil."

Rectified whiskey always contains a greater or less portion of stimulus for the palate, either in the form of pepper, pellitory, or the astringent properties of tea.

COMMON RECTIFIED WHISKEY.

This whiskey is noticed under the head of low
proof spirit. It contains about twenty per cent. of alcohol, and the deficient alcohol is supplied from the usual articles used for giving artificial strength to spirits.

FUSEL OR GRAIN OIL.

This oil is always present in the production of alcoholic fermentation, and is an ingredient in spirit distilled from grain and potatoes. Grain spirit contains one part in five hundred by measurement. Fusel oil is an oily, colorless liquid, of a strong, disagreeable odor, and acrid, burning taste. It is soluble in a very small proportion of water, but in all proportions in alcohol.

There has been a multiplicity of plans proposed, and numerous theoretical suggestions offered, for the removal of grain oil for manufacturing purposes. We will notice a few of them. The first consists in saponifying the oil by the aid of caustic potassa, rendering the oil of a soapy consistency, or forming the oil into flocculent particles, that would be easily separated from the spirit by straining. Unfortunately for this theory, the potassa combines with the spirit, and forms an alkaline solution.

The other plans consisted of filtration through chloride of lime, magnesia, &c.,—they have all been
rejected as impracticable. The most feasible one, however, was the destruction of the oil by means of nitrate of silver; the oil, on coming in contact with the silver, subsides in the form of a black powder, and the powder to be separated by straining, and the silver to be recovered by the use of nitric acid.

Animal and vegetable charcoal are to be preferred, as presenting innumerable advantages over any other articles whose uses involve a chemical knowledge. The action of charcoal is simple, and adapted to the comprehension of all, being mechanical, when used for grain oil, as it acts by absorption. For full information see Charcoal Filterers.

The last process consists in concealing the oil, by infusing an article, the aroma of which conceals the odor of the grain oil.

Our list of aromatics, either singly or combined, furnishes some tempting inducements to those disposed to deal in this manner.

Another process, involving but a trifling expense, consists in filtering the spirit through a body of wheat bran, from eight to twelve inches in depth. The liquid as it passes off is somewhat heavy in color; finings will remove this. To obviate this, oat meal is used to the same depth as the bran in the filter. By some rice is used in alternate...
layers, the better to enable the fluid to pass off rapidly. This process gives to the spirit a luscious taste, a fine bead, and is decidedly the most economical mode that is in use for the manufacture of low proof spirits.

**Removal of Grain Oil by Filtration.**

*Arranging the Stands or Rectifiers.*—The material used for stands or filters may be adapted to all circumstances, thus: water casks, pipes, barrels, &c., will answer as well as the regular filter. The only objection to the barrels is the loss of the liquid and labor consequent upon the frequent filtrations necessary for the effectual removal of the grain oil, whereas a cistern of sufficient dimensions would obviate this difficulty.

The greater the surface presented to the action of the fluid, the greater the benefit. Usually, in all large establishments in America and Europe, the stands vary in size, say from twelve to thirty feet in height, and six to twelve feet in diameter. Again, others give the preference to filters six feet high; a series of these are arranged from the fourth or fifth story to the basement. These are packed alternately with charcoal and bone black; the two last stands being packed with charcoal alone, which removes the
ammoniacal taste and fetor peculiar to spirit filtered through bone black.

In small establishments, stands twelve feet high, and six to ten feet in diameter, will answer. The most simple and economical stands are made of barrels, so arranged at their bottoms with pipes, that the liquid flows from one barrel to the other, of course acting on the charcoal in its course, regardless of their outward structures. All stands are arranged, internally, alike, viz. in having a false bottom perforated with half inch holes. This false bottom rests from about four to eight inches above the main bottom, according to the size of the stand; for example, if a common cask or barrel is used for a stand, the space between the two heads need not be more than four inches, whereas a stand thirty feet in height would require a space of eight to ten inches. The number of holes in the false bottom are generally about twelve to twenty to the square foot; and beneath this false bottom should be fitted one or more faucets, as the operator may deem fit for the convenience of drawing off the spirit. This false bottom should be securely braced from the main bottom, as the entire weight of the contents comes upon it. The first process towards packing, consists in laying a blanket over the perforated bottom, which prevents the passage of any substance whatever. On this blanket, place clean, wash-
ed, sharp, white sand, to the depth of ten to twenty-five inches, according to the size of the stand. The object of the sand is to remove any particles of coloring matter that the liquid may have acquired in its passage through the charcoal, and the liquid passes off perfectly transparent—and all that does not, should be returned until it does. A second blanket is now placed upon top of the sand; this prevents particles of charcoal being forced, by hydraulic pressure, through the sand. The stand is now to be filled from this blanket up two thirds full, or to within fifteen or twenty inches of the top, with either bone black or charcoal, for reasons known to the reader. Bone black is objectionable, and many, from motives of economy, prefer charcoal, which can be found in all large commercial cities, prepared for the manufacturers of liquors. Almost all kinds of charcoal will answer, except that prepared from pine, which not being sufficiently carbonized, imparts to the liquid a turpentinish taste and odor. Any wood that imparts taste or color to spirit, is unsuitable to any of the purposes of the manufacturer of liquors. The common charcoal of the country, prepared from chestnut, walnut, ash, oak, beech, &c., needs no other preparation than pulverizing to small particles, one third smaller in size than a garden pea, and to separate by sifting the fine powder consequent upon pul-
verization, which, if allowed to remain, would render the liquor "inky." The stand or filter being filled as above, a blanket or gunny bags are spread over the whole, and a well fitting and strongly secured perforated head is placed on the charcoal. The object of the perforations in the head, is to cause the liquid to filter uniformly through the charcoal. The filtering is greatly facilitated by the use of "Digesting Barrels," and the grain oil is more effectually removed and presents all the advantages of filtration.

Digesting barrels consist of either wine, brandy, or water casks; and are filled through the bung one third full of bone black, and it is then filled with alcohol or whiskey; the bung is then tightly replaced, the barrel is rolled over several times, daily, from three to six days. It is then filtered through the charcoal, which removes the objectionable taste that was acquired in the digesting barrels. Manufacturing on the small scale, barrels will answer, but otherwise, digesting boxes are used. They are made of any convenient size, close jointed, without the use of any metallic lining, and air-tight coverings to prevent evaporation of the spirit; the inside is provided with loose jointed shelving, about ten inches apart from the bottom of the box to the covering. Bone black is deposited on these shelves to the depth of two to three inches; these boxes are filled from the top.
through a funnel, and so arranged that the spirit in its fall, will not displace any of the bone black from any of the shelves. These digesting apparatuses must of course be placed above the stands or filters, and so arranged that the liquid can be conducted to the stands for filtration.

The advantages of barrels over boxes are innumerable. The pecuniary advantage is an important one, as old barrels can be made available at an insignificant cost compared to the boxes. The rotary motion of the barrel brings the particles composing both bodies in contact, a matter not attainable in the boxes. It will be seen that this rotary motion is highly beneficial, as the grain oil is diffused throughout the entire mass of the spirit. The multiplicity of barrels required is the only objection to them.

To make a spirit that will show no traces of grain oil with the nitrate of silver (see preparation of the test), requires the spirit to be digested with and filtered through bone black; the digestion should continue from four days to a week, and the peculiar taste the spirit acquires from the bone black not having been sufficiently burned to have disengaged the animal matter that it contains, can be removed by a subsequent filtration through charcoal; after a few barrels of alcohol have been passed through, the disagreeable taste and odor disappear, that is, in the
majority of cases. Instances may occur, when, the bone black not being burned sufficiently, to attempt the use of an article of this kind, would be to realize results not agreeable, and the best preventive in this instance, would be in testing a portion of bone black in spirit by digestion, and note the result. If it should prove unfit for use, it can be saturated in a strong solution of potash, and burned to a low red heat; and this course is to be pursued with bone black that has exhausted its absorbing powers by long use.

When filtration is to proceed rapidly in the rectifiers, the sand should have a quantity of small shells or gravel mixed throughout it, which prevents the mass from becoming too solid. Straw is sometimes used in alternate layers with the sand. Straw is liable to decomposition, and imparts a slight taste to the fluid, which renders its use objectionable. Alternate layers of gunny bags and sand are used by some operators.

When spirit is rectified for neutral spirit, it should not be taken from the rectifiers until the nitrate of silver test has shown the entire absence of fusel oil. Some manufacturers add one gallon of Jamaica rum to every hundred gallons of neutral spirit; the effect of the rum is to conceal any traces of the grain oil that might be perceptible to the nasal organ.

When spirit is rectified for the manufacture of
common liquors, viz. domestic brandies, gin, and fancy brands of whiskey, &c., the object sought is to remove the oil, as far as practicable, by a single filtration, and to conceal the remaining portion by the addition of aromatics, and the nitrate of silver test would be useless with these liquids, as the sense of taste will answer every purpose.

The stands or rectifiers should never be used for decolorizing or discharging color from fluids, as the rectifier will soon become charged to such an extent, that any liquid filtering through it will become contaminated in color. Separate cisterns should be arranged for the purpose. See Clarifying and Filtering.

When spirit is rectified or freed of grain oil, for the manufacture of domestic brands of rum or whiskey, it should pass through a bed of oatmeal; this should be placed on the bottom of the last stand or filter that the spirit has to pass through. The usual depth of this bed is twelve to sixteen inches.

But when clear and transparent liquors are required, the spirit should be filtered through the same depth of equal parts of rice and rice flour. The use of the whole grains of rice is to prevent the flour from lying in a too compact and solid body, which would impede the free filtration of the fluid.
V.

DIRECTIONS FOR PREPARING

THE MOST CHOICE LIQUORS

IN QUANTITIES OF FIVE GALLONS.

For bars, hotels, wine-cellars, and private use, the following directions will insure a saving of from forty to two hundred and fifty per cent. per gallon; and the most critical examination will scarcely detect the imitation from the genuine, a chemical test alone being able to indicate the difference of the one from the other.

The consumer finds one strong inducement, aside from the economical production of this liquor, for its use, viz. he is familiar with its composition, which is not the case in relation to foreign liquors. Aside from the manufacturer, who can say whether the ends used to obtain that spirit were prejudicial to health or not? It must be presumed that the incentive to exertion, on the part of the manufacturer, is
founded on interest, and it would be but a reasonable conclusion that he will make use of articles in manufacturing liquors that are the most economical. His liquors are made for exportation, and thus he will never witness the thrusts and cuts that he gave in the dark: for the reader must not suppose that foreign liquors are always prepared from distillation. On the contrary, owing to the high character that they have attained, it has given the foreign manufacturer an extensive field for imitating and adulterating, and he does this with a confidence of favorable commercial results.

Persons desirous of preparing liquors from the following formulas should be provided with any convenient quantity of neutral spirit containing about fifty to fifty-five per cent. of alcohol.

Neutral spirit is alcohol freed from the essential or grain oil by distillation or filtration through charcoal. This process is fully explained in another chapter of the work.

Some attention should be paid to the selection of the neutral spirit, to obtain it perfectly limpid, inodorous, and free of all tastes, except those peculiar to alcohol, viz. a biting, pungent taste, that soon becomes dissipated after swallowing the liquor. If, on the contrary, the spirit, after being drunk, should leave a slight stinging, burning, or sense of rough-
ness, either in the throat or mouth, it should be rejected as unsuited for the purposes of the following recipes.

Pure neutral spirit should evaporate from the hand without leaving any odor.

Neutral spirit usually comes in forty gallon barrels, and usually contains about fifteen to twenty per cent. more of alcohol than proof whiskey does, or say about sixty to sixty-five per cent. of alcohol. This spirit is perfectly clear and transparent, of a peculiar alcoholic taste, and sometimes it has a slight aromatic odor, recalling that of acetic ether or rum. The addition of aromatics is made to conceal the slight odor of grain oil that may exist; but the better to prevent deception, the nitrate of silver should be used to indicate the presence of grain oil,—for a really fine imitation of foreign liquors cannot be made with a spirit containing grain oil.

The use of nitrate of silver, for testing, is fully explained under the head of "Tests for the Purity of French Brandy."

Any acrimonious substances that the spirit might contain will be indicated by evaporating a quantity of the spirit to dryness, and the extract will indicate to the taste the pepper, pellitory, &c. The liquors under consideration, owing to their fine aroma and beautiful transparent color, are admirably adapted to the pur-
pose of bottling; and, if intended for commerce, the manner in which they are put up should be characterized by neatness. The colors necessary for the following liquors are red, brown, and yellow.

The red is prepared from infusing cochineal, one ounce, in one and a half gallons of water, with three drachms of potash. The water should be allowed to boil for fifteen or twenty minutes, and then be kept near the fire for two hours; and then strain through muslin. The brown color is made from white, or clean brown sugar. (See Coloring.) The yellow is made from English saffron, thus: Take two ounces of saffron chopped fine, one quart of proof spirit, and digest for twenty-four hours, and strain.

The colors enumerated above are the finest in use.

BRANDIES.

Cognac Brandy.—Neutral spirit, four gallons; half a gallon of honey dissolved in water, two pints; Jamaica rum, one gallon; catechu, half an ounce; butyric ether, one ounce. Mix.

Cognac Brandy (2nd).

Neutral spirit, four gallons; five pounds of refined sugar dissolved in water, four pints; decoction of
tea, two pints; infusion of bitter almonds, one pint; oil of wine, one ounce. Color either of the above with five ounces of the tincture of cochineal, and nine ounces of sugar coloring.

BARZERAC BRANDY OF THE VINTAGE OF 1795, 1798, 1805 1837.

Neutral spirit, four gallons; three pints of water to dissolve honey, four pints; rum, three quarts; porter, three pints; infusion of almonds, half a pint; oil of wine, one ounce; sugar coloring, four ounces; cochineal tincture, one ounce; then add of the alcoholic solution of starch, three pints; and mix. This starch solution is made by infusing one quart of wheat or rice flour in one and a half gallons of equal parts of clean spirit and water for twenty-four hours.

OTARD BRANDY.

Neutral spirit, four gallons; four pounds of refined sugar dissolved in water, two pints; powdered catechu, one ounce; sulphuric acid, half an ounce; butyric ether, one ounce; twenty drops of oil of orange dissolved in the ether; four ounces of sugar coloring. Mix.