

THE *J. W. 1826*
**VINTNER'S, BREWER'S,
Spirit Merchant's,
AND LICENSED VICTUALLER'S
GUIDE;**

CONTAINING
THE HISTORY, THEORY, AND PRACTICE
OF
MANUFACTURING WINES,
FOREIGN AND DOMESTIC,
**MALT LIQUORS; CIDER; PERRY; VINEGAR; SPIRITS;
LIQUEURS; ESSENCES; CORDIALS, AND COMPOUNDS.**

AN EXTENSIVE COLLECTION OF THE MOST APPROVED RECEIPTS,
Applicable to the various Subjects,
Many of which were never before published.

NUMEROUS IMPORTANT HINTS ON CELLARING,
And the general Management of all the Articles enumerated; the whole
carefully corrected by recent Experiments, and collected from
the best Authorities.

Also, a Description of the SACCHAROMETER, and the various
HYDROMETERS, with their Uses.

TABLES,

SHEWING THE DIFFERENCE IN QUANTITY AND VALUE BETWEEN
THE OLD AND NEW IMPERIAL MEASURES.

Selections from, and Abstracts of, all the Acts of Parliament relating to the
Excise Laws, Licences, and the Laws affecting Innkeepers, Publicans, &c.

Together with various useful Tables, and miscellaneous Matters, for constant
Reference.

BY A PRACTICAL MAN.

The whole arranged, with particular attention to the interests of those to whom it
is addressed, as well as for the use of

PRIVATE FAMILIES, GENTLEMEN'S BUTLERS, &c.

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P R E F A C E.

THE intention of this work is to present, to that part of the public to whom it is addressed, the HISTORY and DESCRIPTION of Wines, foreign and domestic, malt liquors, cider, perry, vinegar, spirits, liqueurs, cordials, and compounds, with the present improved mode of manufacturing them, both on a large and limited scale; a numerous and valuable *Collection of Receipts*, never before published, which have been used for many years by persons in very extensive business; and a copious selection from those of established credit, carefully revised, and adapted to the present improved state of science. It is hoped that such a publication will prove highly advantageous to the manufacturers of, and dealers in, the various articles treated on; so much information having never before been brought together in so condensed a form, comprehending instructions to meet almost every possible occurrence.

In the FIRST PART will be found a *History of Wine*, from the earliest period; the causes

of so great a diversity in its quality, arising from climate, cultivation, and the various methods of conducting the fermentative process; the treatment necessary for its preservation and improvement in this country, as well as the general management thereof; as also of wines made from fruits of British growth, as imitations or substitutes for the more expensive ones of foreign production; and the various processes for manufacturing them on scientific principles, at considerable length.

The SECOND PART contains a treatise on *brewing*, comprehending *porter*, and a variety of *ales*, (commonly known or distinguished by the names of *London*, *Burton*, *Welsh*, &c.) with a description of the various qualities of malt and hops, and substitutes for them.

In the THIRD PART is shewn the principles of *fermentation*, and the *distillation of spirits* of every denomination, viz. *alcohol*, *brandy*, *rum*, *geneva*, *whisky*, and spirits produced from a variety of substances possessing the flavour of the essential oil contained in them: a numerous collection of forms for the composition of *cordials* and

compounds of every description ; an important feature in which is, the great facility of preparing them to any extent that can be required, so contrived that they may be increased or diminished, with very little calculation ; a set of receipts for those most in use, on the small scale of *one quart*, which can be mixed ready for use, in merely the time required to put the articles together ; and, for the purpose of further convenience, forms are given for the preparation of a variety of *essences*, to be kept always ready, for increasing, at pleasure, the flavour of the various compounds, as well as for making them direct, and for any other use to which they may be applicable. The foregoing, as relates to *compounds*, is peculiar to the present work, nothing of the kind having hitherto appeared in print, and will be found of the greatest importance to the *compounder*, whether *rectifier* or *retail dealer*: the *rectifier* will find the use of essential oils, when procured genuine, facilitate the progress of his business very considerably, saving time and labour to an extent that but few are aware of, and thus enable him to compete successfully with his

rivals in trade; to the retail dealer, the advantage will be in proportion to the extent of his business; and every one will find a great advantage in using them.

The FOURTH PART relates to the manufacture of *cider, perry, mead, and vinegar*; for which purpose general directions and receipts will be found, sufficient to enable any one possessing the materials to manufacture those articles.

The FIFTH PART, on *cellaring*, contains very comprehensive directions for the management of *wines* under every circumstance requiring attention; the treatment of *porter, ales, and beer*, as relates to *fining, preserving, and correcting* when necessary, also as to *reducing, flavouring, colouring, fining*, and the general *management of spirits*; together with a number of forms for the preparation of various articles of general utility.

In the SIXTH PART is a description of the various *hydrometers* and *saccharometers*, and the manner of using them. The *hydrometer* being an instrument of the most *essential service* to all dealers in spirits; in fact, it is an *indispensable requisite*, as no business

to any extent can be *properly* conducted without it: in cases likely to lead to litigation, none should be depended on except the hydrometer sanctioned by Act of Parliament, made by Mr. R. B. Bate, Poultry, London. The saccharometer is an instrument indispensable to the *economic brewer, distiller, and vinegar manufacturer*, enabling him to manage his worts with the greatest accuracy, and thus be more certain of producing an uniform strength; taking care that the fermentative process is gone through in a proper manner, as that is an essential requisite in the production of good beer and vinegar, and also to the quantity of spirit a certain portion of material is capable of producing.

The SEVENTH PART contains very copious extracts from, and abstracts of, a great number of Acts of Parliament relating to the excise laws, excise and other licences, affecting all dealers in wines, spirits, malt liquors, &c.; also abstracts of the laws particularly applicable to *innkeepers* and *publicans*, as to their liabilities to their guests, which are often found of considerable importance to them.

The EIGHTH PART contains numerous

tables, of the highest importance to every one using *measures* for *liquids* of every description, as the *new imperial measure* becomes, on the first of January, 1826, the only *legal measure*, heavy penalties attaching to the use of any other after that day; these tables enable every one to ascertain, in a moment, the proportion that any number of gallons of the *old measure* bears to the *new measure*, and the *comparative value* of each. There are also other tables, for ascertaining the quantity of liquid in casks of various dimensions, by the dipping rule.

Having described the contents of the volume, it only remains to observe, that no means of information have been neglected,—no pains or expense spared, to procure from authentic sources,—from persons of long experience, and by numerous experiments, under the superintendence of scientific men, every thing connected with the various subjects treated on, that can contribute to the *interests* of the *patrons* of the work, who have so numerously supported it, or to the advantage of the public in general.

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THE
VINTNER'S, BREWER'S, SPIRIT MERCHANT'S,
AND
LICENSED VICTUALLER'S GUIDE.

PART I.

OF WINES.

The early History of Wine.

It is impossible to fix the era when mankind first discovered fermented liquors.—Some historians have ascribed the discovery to Noah, others to Saturn, others to Bacchus, &c.*: in short, almost every country in which the vine is indigenous has boasted of some individual or native deity, to whom the honour has been attributed; and if we reflect upon

* Among a number of fictions, the following is at least amusing: The Persian emperor who founded Persepolis, being extremely fond of grapes, put some into jars to preserve them; tasting them while fermenting; he found them so bad, that he put them back, and marked *poison* on the jar. His favourite mistress, from some cause weary of life, drank the liquor, which (the fermentation being at an end,) was so pleasant as to reconcile her to life, instead of poisoning her. The emperor found out what had taken place, and the discovery of producing wine from the juice of the grape was the result.

the simplicity of the processes essentially necessary to be had recourse to in making wine, it will appear exceedingly probable that the discovery was not made by one person or country exclusively, but by different individuals and nations, at very different periods.

Different kinds of wine were known at a very early period; and as civilization and luxury advanced, the number was greatly extended. Hence the cultivation of the vine became an object of importance, and many new varieties were produced, which, favoured by soil and situation, rendered particular places more famous than others. Thus the ancient Romans not only possessed a great variety of native wines, but, in the days of their greatest splendour, those also of distant and more favoured climes, as the *Vinum Chium*, *Lesbium*, *Leucadium*, *Rhodium*, &c. &c.

Little is known respecting the modes of manufacturing some of the most celebrated of the ancient wines. The general processes, however, did not perhaps differ much from those at present in use. The fruit was collected, bruised by the feet, and subjected to pressure, as now practised.

Both Greeks and Romans appear to have frequently concentrated their wines, either by spontaneous evaporation, or by boiling. For this purpose, the wine was sometimes introduced into bladders or large jars, and exposed in the chimney to the

heat of fire, or in the upper parts of the house to the heat of the sun. Sometimes the fruit was converted into raisins by drying, and the wine prepared from such fruit was denominated *passum*. At other times the *must* was reduced by boiling to one half. This formed the *vinum defructum*: occasionally even to one third, when it was termed *sapa*. By one, or perhaps more of these methods, the wines were reduced to the state of syrup, or in some instances even to dryness, and were capable of being preserved for a very long time. Thus Aristotle states, that the Arcadian wines required to be diluted with water before they were drank, as indeed was the case with most of the ancient wines; and Pliny speaks of wines as thick as honey, which it was necessary to dissolve in warm water, and filter through linen, before they were used.

Pliny mentions Staphylus as the first who mixed wine with water; but Athenæus gives the credit of it to Amphytryon, king of Athens. On this occasion a fable was invented, that Bacchus, having been struck by a thunderbolt, and being all inflamed, was presently cast into the nymphs' bath to be extinguished.

These remarks, however, are applied by the above authors chiefly to very old wines. Thus the wine compared by Pliny to honey had been made two hundred years before; indeed, wines of a hundred years old, and upwards, seem not to have been

uncorruption among the luxurious citizens of ancient Rome.

Seven years was the shortest period, according to Aristotle and Galen, for keeping a wine before it was fit for drinking.

Sir Edward Barry, in his *Observations, Historical, Critical, and Medical, on the Wines of the Ancients*, suggests that our best modern wines, especially those of a delicate texture and flavour, may be more effectually preserved in earthen vessels of a larger size than our bottles, well glazed externally and internally; that dry sand is preferable for covering the bottles in the bins to saw dust; and that a small anti-cellar, built before all large cellars, would be a considerable defence and improvement.

The ancients were fond of giving their wines an artificial flavour, and for this purpose they introduced pitch, turpentine, and different herbs into the *must*;—a practice still followed by the modern Greeks.

Such are the principal facts known respecting the celebrated ancient wines, which, as Chaptal justly remarks, appear in general to have rather deserved the name of extracts or syrups, than wines. They must have been sweet and little fermented, and consequently have contained a very small proportion of alcohol. Indeed, it is difficult to suppose how they could contain any spirit whatever, or possess in consequence any intoxicating properties.

The above remarks, however, can be only applicable to those wines which the refinements of luxury or caprice had rendered valuable, from their uncommon occurrence, or the difficulty with which they were procured.

Wine kept in a cool vault, and well secured from the external air, will preserve its texture entire in all the constituent parts, and sufficiently strong for many years, as appears not only from old wines, but other foreign fermented liquors, particularly those of China, prepared from a decoction of rice, which, being well closed down in the vessel, and buried deep under ground, will continue for a long series of years, rich, generous, and good; as the histories of that country universally agree in assuring us.

It is certain that the ancients were well acquainted with the fermentative process, and ordinarily took advantage of it in the formation of their wines; hence it is extremely probable that the wines used in the primitive states of society, and, perhaps, at all times used by the common people, consisted simply of the fermented juice of the grape, and therefore differed in no respects whatever from the wines in common use at the present time.

General Principles of Wine Making.

We shall consider this interesting subject under two principal points of view: first, the manufacture

of wine from grapes, and, second, from other fruits. First, the manufacturing of wine from grapes is liable to be influenced by a great variety of circumstances, such as *climate, soil, aspect, season, &c.*; of some of the most important of which we shall take a cursory view.

The vine is a native of the middle regions of the temperate zone, that is to say, between the latitudes of twenty-five and fifty degrees; and here only does it flourish and mature its fruit in absolute perfection. Indeed, a belt, comprised between the latitudes of forty and fifty degrees, may be said to include all the most celebrated vineyards of the northern hemisphere; those, namely, of Spain, Portugal, France, Italy, Austria, Styria, Carinthia, Hungary, Transylvania, and part of Greece.

The vine grows beyond the latitude of fifty degrees, but its juices are austere, and without the requisite degree of saccharine matter to form good wine. The fine aromatic odour and flavour of its fruit, also, are not developed much beyond this latitude. In the southern hemisphere, which is colder than the northern, the vine flourishes somewhat nearer the equator.

The vine grows in every soil, but that which is light and gravelly is best adapted for its cultivation. It flourishes extremely well, also, in volcanic countries. Thus, some of the best wines in Italy are made in the neighbourhood of Vesuvius. The

famous Tokay wine is also made in a volcanic district, as are several of the best French wines; many parts of the south of France bearing evident marks of extinct volcanoes. The vine also flourishes well in primitive countries, and especially among the *débris* of granite rocks; thus the celebrated Hermitage wine is made from a soil of this description.

The same climate, soil, and mode of culture, however, often produce wines of very different qualities. Position and aspect alone, all other circumstances being the same, make a prodigious difference. The same vineyard, for example, according as its different parts have a northern or southern aspect, will produce wines of opposite characters; as will also the same hill, at its top, middle, and bottom. The aspect most favourable for a vineyard is upon a rising ground or hill, facing the south-east, and the situation should not be too confined. If the soil be not favourable for the vine, no art can make it so. Manure of different sorts will, indeed, render the fruit more abundant, but the wine will suffer in quality. The best manure is stated to be the dung of pigeons or poultry. Burnt sea-wrack, also, is a favourite manure with some. Fat and putrid manures are absolutely to be rejected, as they destroy the wine altogether, by vitiating its flavour.

The qualities of wines are very much affected by the seasons. In cloudy and wet seasons the wine is

always inferior. Rain is most to be dreaded at the season of the vintage. Moderate rains, just after the season of bloom, are of great advantage, and cause the fruit to swell very rapidly. Rough winds are very prejudicial to vineyards: mists are still more so, especially during the season of bloom, as they are apt to destroy the flower, and consequently the fruit: the reason of this is, perhaps, not very evident, but it seems to depend, in part, upon the rapid evaporation of the moisture left by the fogs, when the sun breaks through them, and the great and sudden change of temperature which takes place in consequence. Too great a degree of heat is injurious to the vine; the perfection of their fruit depends upon a due equilibrium between the quantity of water affording aliment to the plant, and the degree of heat necessary to elaborate this water into its juices.

Towards the northern limits of the vine country, the plants are always supported on poles; and in cold and wet seasons they sometimes strip off the leaves, or twist the stalks of the clusters, in order to suppress vegetation and facilitate the ripening of the grapes: but in warmer climates, on the contrary, the earth requires to be shielded from the heat, and here the vine is generally left to spread over the ground, and thus by its foliage to protect the soil, as well as its fruit, from the direct rays of the sun.

Of the Vintage.

It is of the utmost importance, in the manufacture of wines, to attend to the precise moment when the grapes have arrived at their full maturity; and then, and not before, ought the vintage in general to commence. This may be known by the following signs:

1. The green end of the cluster becomes brown.
2. The cluster becomes pendent.
3. The seed loses its hardness, and the skin becomes thin and transparent.
4. The cluster and seeds are easily detached.
5. The juice is sweet, bland, thick, and clammy.
6. The kernels of the seeds are free from glutinous matter.

The fall of the leaves denotes rather the approach of winter than the maturity of the fruit, especially in the more northern climates; this, therefore, is a fallacious sign: nevertheless, when the frost has been so severe as to destroy the leaves, it will seldom be proper to delay the vintage much longer, as the fruit can hardly be expected after this to become ripe; and by delay, it may stand a chance of being spoiled entirely.

On the contrary, in the manufacture of particular wines, the grapes are permitted to remain till they wither, or they are gathered and dried in the sun. Thus the celebrated Tokay wine is made of dried fruit; as are, also, many of the luscious wines of

Italy. Some of the French wines, likewise, are made with fruit that has been suffered to ripen and wither upon the vines.

It is desirable, in general, that the weather should be settled, and the soil and fruit dry, during the vintage. It is therefore recommended to abstain from gathering till the sun has dispersed the dew. As a general rule, this is proper; but in Champagne they commence gathering the fruit before the sun has risen, and cease their labours about nine o'clock, unless there be a fog, when they continue to gather all day; by this means they improve the whiteness and briskness of their wine, which are the qualities that chiefly render them celebrated:—they also increase their quantity. Thus it is found in Champagne, that they gain a tun in every twenty-four where they collect the fruit moist with dew, and a great deal more if there happens to be a fog. When the fruit is ripe, a proper number of experienced hands should be procured, so as to be able, in a single day, to fill the fermenting tub or vat, in order to insure an uniform degree of fermentation. Women are commonly employed for the purpose, but the presence of an intelligent male overseer is absolutely necessary. In some parts of France the fruit is separated with scissors; in others, with the nail; and in Champagne they use a knife. The scissors are undoubtedly preferable, as they do not shake the stock. The ripe fruit only should be

collected, if the object be to make good wine; and what is unripe or decayed, should be carefully rejected; indeed, they have always two or three separate vintages in those countries where they are careful of the quality of their wines; and the wine made first is always considered the best. In those parts, on the contrary, where the wine is chiefly distilled, as in Languedoc and Provence, they usually collect all the fruit, indiscriminately, at one time. In some districts, where the finest wines are made, as in Bourdeaux, &c. the fruit is carefully picked, and only the prime of the clusters taken. On the contrary, they carefully avoid having the fruit too ripe in Champagne, and other districts, where sparkling wines are chiefly manufactured, and prefer the presence of a certain proportion of unripe fruit. It need scarcely be remarked, that the greatest care should be taken to prevent the fruit being bruised or otherwise damaged.

The next important step is the management of the fruit after it has been collected. In different countries, different preliminary steps are pursued before the fruit is submitted to pressure. Thus in Spain, especially in the neighbourhood of St. Lucar, they leave the fruit exposed for two days to the rays of the sun. In Lorraine, part of Italy, in Calabria, and the island of Cyprus, as before observed, they dry the fruit completely; and this is

the case in the manufacture of all the rich white wines.

A question that has been much agitated is, whether it be advantageous to strip the grapes from the stalks, and remove the latter, or suffer them to remain? Both these methods have their advocates; but Chaptal remarks, very properly, that neither ought to be followed exclusively. It is true, the same celebrated chemist observes, that the stems have a rough and austere taste; but this appears to be of advantage to some wines, especially those made in the more northern districts, where the slight astringency imparted by the stems, corrects their insipidity, and appears to have the property of making them keep better; perhaps by rendering the fermentation more complete. In the neighbourhood of Bourdeaux, indeed, they remove the stalks from the red grapes, in the manufacturing of their best wines; but they modify that part of the process, in some degree, according to the ripeness of the fruit: when the fruit is unripe, or has been injured by the frost, they remove nearly the whole of the stalks; but if the fruit be over-ripe, they leave a very large proportion of them. A certain portion, however, is always permitted to remain, with the view of facilitating the fermentative process, and rendering it more perfect. From the white grapes, the stalks are never removed. In short, in the colder districts,

where the wines are of an inferior quality, or where the object is to render the wines as strong as possible, with the view of distilling them, the stems, in general, do not require to be removed; but in warmer countries, where the finer-flavoured and richer wines are manufactured, every thing liable to affect these desirable qualities is to be carefully removed, and the stems among the rest. The stems are separated in various ways: sometimes by agitating the grapes in the vessels in which they are deposited, with three-pronged forks, sometimes by coarse sieves, made of osiers, &c.

The next important step is bruising the fruit, which is generally performed by treading them with the feet in perforated tubs, or baskets, placed over the vat or tub destined to receive the must. This mode of bruising grapes, though perhaps as ancient as wine-making itself, is very imperfect, as a great deal of the fruit remains unbroken. In England, we should adopt the use of machinery.

Of Fermentation.

The juice, or *must*, as it is termed, is no sooner in the vat than it usually begins to ferment. The various fermentation is influenced by several circumstances, such as temperature, presence of the air; the volume of the must, &c. A temperature of about fifty-five degrees is required to enable it to commence; it is, however, much influenced by the

bulk or quantity of the must. It is a well-established fact, that the greater the quantity, the more violent is the fermentation.

An experienced manufacturer of wine, therefore, will take care to proportion the quantity of must to the qualities of his fruit, or rather, perhaps to those of the wine which it is his object to procure: the sweeter and more luscious the must, the greater the quantity, in general, which it will be proper to submit to the fermentative process in one mass.

Other important circumstances which influence the fermentative process are, the quantities and due relative proportions to one another of the necessary principles. The saccharine and fermentative principles, tartar and water, are the principles essential to the production of wine. The sweetest grapes do not always make the best wine, nor actually contain the greatest quantity of sugar, at least of real sugar, such as is proper for the formation of alcohol. Pure saccharine matter, however, will not ferment alone, but requires a certain proportion of other principles to put it in motion. When the must contains too large a proportion of water, the fermentative process is feeble, and the wine is consequently bad. The ancients obviated this, as before mentioned, by boiling the must;—a practice still sometimes followed in the northern districts, especially in wet seasons. The same object is gained by drying the fruit; and sometimes by the introduc-

tion of lime into the vat. The juice of the grape always contains a certain proportion of tartar. This quantity is greater, in general, as the quantity of sugar is less. If the juice contains too large a proportion of sugar in relation to the tartar, it is customary to add a portion of the latter principle. On the contrary, if the saccharine principle be deficient and the tartar in excess, sugar is to be added.

The fermentative process is accompanied by the production of heat, by the disengagement of carbonic acid gas, and the formation of alcohol.

Another important circumstance, however, which takes place during this process, is the *colouring* of the must. The juice of the black grape, as well as of the white, is nearly colourless; and if the fermentation be not permitted to take place in contact with the husks or *marc*, a colourless wine is obtained in all cases. The colour of red wine is derived from the *marc*, by permitting the wine to ferment in contact with it; the colouring principle of the *marc* or of husks being soluble in alcohol. Hence, when alcohol begins to be developed by the fermentative process, it acts upon the colouring principle and dissolves it, and the must becomes coloured. The following are the principal facts connected with this part of the subject. The wine is more coloured, the longer the fermentative process is continued; and, *vice versa*, the wine is more coloured, in proportion as the fruit is more ripe and less watery. Wine obtained by pressure is more coloured than other

wine; and lastly, wines manufactured in the south are in general deeper coloured than those produced in more northern districts.

Great attention and practical knowledge are required in managing the fermentation properly, as on this important process depend entirely the future qualities of the wines. The same fruit in different seasons, and from various causes, requires to be managed differently; and almost every kind of wine requires a different, and in some cases an opposite, mode of treatment. Thus the fine *bouquet* of Burgundy is completely dissipated by a too violent or lasting fermentation; while, on the contrary, the fermentation of the strong wines of Languedoc, celebrated chiefly for the quantity of alcohol which they contain, ought to be long and complete. In Champagne they collect the fruit, destined to form their white wines, while moist with dew or mist: on the contrary, in the manufacture of their red wines, they prefer fruit as dry as possible. In the former case the fermentative process is so languid, as often to require a gentle heat; in the latter, so violent as to require to be moderated. Weak wines ought in general to be fermented in casks—strong wines in the vat. No general rules, however, can be given that will apply in all instances; but the processes must be varied according to circumstances, and the judgment of the manufacturer. The fermentative process, for obvious reasons, is most difficult to manage in the northern districts, where the fruit is more im-

perfect. To encourage the process, they sometimes introduce a little warm must to the bottom of the cask or vat by means of a long funnel. They also agitate it frequently, and, to preserve a due degree of temperature, cover the vat with blankets, or heat the room artificially. A most material point in the manufacture of wines is to know the precise moment when the fermentative process has been carried far enough, and the means necessary to prevent its getting farther than this point. The following rules are the results of careful experiments and observation :—

1. The wine ought to ferment so much the less time as it contains less saccharine matter. Thus the light wines of Burgundy require to ferment in the vat no longer than from six to twelve hours.

2. The must ought to ferment a less time in the vat when it is intended to retain the carbonic acid gas, and make sparkling wines. In this case, the must is seldom left longer in the vat than twenty-four hours, before it is put into casks; and frequently it is introduced into the casks as soon as it is separated from the fruit; by these means, the fermentation is checked, and the carbonic acid gas prevented from escaping.

3. The fermentation ought to be of shorter duration, in proportion as it is the object to obtain wines more free from colour. This should be, therefore, particularly attended to in the manufacture of those

wines where the absence of colour is an essential requisite.

4. The fermentative process is more active in warm weather, and when the mass is larger, than under the opposite circumstances; and therefore is completed.

5. When the object is to preserve to the wine the original perfumed flavour of the grape, the fermentation requires to be checked sooner than under ordinary circumstances.

6. On the contrary, the fermentation requires to be continued longer, in proportion as the must is more thick, and the saccharine matter more abundant.

7. It will also require to be longer, when the object is to manufacture wines for distillation.

8. It will be longer in cold weather, and especially if the fruit has been gathered on a very cold day.

9. Lastly, it will be longer in proportion as it is the object to make a deeper coloured wine.

These principles, steadily kept in view, will perhaps be sufficient, with a little practice, to enable any person of ordinary knowledge and powers of observation to decide upon the important points in question.

Of preparing the Casks, and putting in the Wine.

Great care is requisite in the preparation of the casks for receiving the wine. When they are new,

they will spoil its flavour, if not prevented. For this purpose, boiling water, holding salt in solution, is introduced into them, which is frequently agitated, and permitted to remain in them a long time. After this, they are to be washed out with a portion of boiling must, in a state of fermentation; or, sometimes, with a little wine, &c. If the casks are old, but sweet, the top is merely taken out and the tartar removed; they are then washed well with warm water. If the casks have acquired a bad odour, it is better not to use them; for though it may be possible to cover, in some degree, their bad odours, yet they are very likely to re-appear and spoil the wine.

The vessels being ready, the wine is introduced into them; for which purpose it is drawn off from the vat by a cock placed a few inches above the bottom, into an open vessel, from whence it is conveyed to the casks. That portion of the wine resting immediately over the must, is termed *surmont*, in Burgundy. This is carefully defecated, as it constitutes the most delicate and palest of the wine. The liquor is drawn off till the head comes in contact with the *marc*. The head is then carefully removed, and the *marc* is submitted to frequent pressure. The wine thus farther obtained is usually mixed with the rest. That produced by the first pressure is strongest; that obtained by the last is usually more harsh and coloured. Sometimes, however, when it is the object to make vinegar, the

marc is pressed but once; at other times, they keep the wine obtained by the different pressures in separate casks. In Champagne, they usually mix together the wines obtained by the different pressures, though they are known by different names. The wines obtained without any pressure, or a very slight one, they call *vin gris*; those obtained by the first and second pressure, *vin de perdrix*; those by the third, *vin de taille*, which are most coloured, though sufficiently agreeable.

The *marc* is employed in various ways in the different districts. Some submit it to distillation; others, especially in the vicinity of Montpellier, prepare verdigris from it; others, vinegar. In some districts they feed cattle with it; in others they burn it for the sake of the pot-ash it yields, &c.

Of the Management of the Wine in the Casks.

The wine receives its last degree of elaboration in the casks; this consists in a sort of fermentative process, to which the name of insensible fermentation has been applied. Almost immediately after the wine is introduced into the casks, a scum begins to be formed upon its top, and escapes by the bung-hole, which at first requires to be covered slightly only with a leaf or tile.

In proportion as the fermentation subsides, the mass of wine diminishes in bulk; and they watch this cautiously, in order to supply its place from

time to time with new wine, so as to keep the cask always full: this process is denominated, in French, *ouiller*, which may be rendered *filling up*. In some districts they fill up every day during the first month, every other day during the second, and every eight days afterwards, till the time of racking. This is the method they adopt with the wines of Hermitage. In Champagne they permit the *vins gris* to ferment in casks for ten or twelve days; and when the ebullition has ceased, they close the bung-hole, leaving, however, a small spigot hole by its side, which is permitted to remain open for eight or ten days longer; after which they close this with a plug, in such a manner as to be able to open it at pleasure. When the bungs are introduced, they *fill up* every eighth day by the spigot, for twenty-five days. After this, every fifteenth day, for one or two months—and, finally, every two months during the whole time the wine remains in the cellar.

When the season has been wet and unfavourable, and the wines want body, or when it has been dry and hot, and they are too rich, twenty-five days after they have been made, they roll the casks five or six times, in order to mix the grounds, and re-excite the fermentative process; and this they repeat every eighth day, for a month.

The fermentation of the Champagne wines, which are designed to be brisk and sparkling, is very long and tedious. It is generally understood that they

will be sparkling, provided they are bottled any time between the vintage and the following May; and that the nearer the vintage, the brisker they will be. It is, however, generally taken for granted, that they will be sufficiently sparkling, if bottled about the middle of March. Wines begin to sparkle in about six weeks after they have been bottled; those, however, produced on mountains, become sparkling sooner than others. Wine bottled in June and July will be very little sparkling, and quite still, if bottled so late as October or November.

In Burgundy, after the fermentation has relaxed in the cask, they put in a bung, pierced with a small hole, in which they introduce a plug that can be easily removed at pleasure, in order to suffer the gas that may be extricated to escape. In the district of Bourdeaux, they begin to fill up eight or ten days after the wine has been introduced into the cask. A month after this, they introduce the bung and fill up every eight days. At first they bung the casks loosely, and then fasten them down by degrees, without running any risk. The white wines are racked and sulphured in December, and these require much more care than the red wines, from their containing more sediment, and their being more liable to become ropy. The red wines are not racked till towards February or March; and as these are much more apt to become sour than the white wines, they require to be kept in cooler cellars

during the summer. There are some who, after the second racking, turn the cask so as to place the bung on one side; and thus the casks being hermetically sealed, from there being no loss, there is no need of filling up. They then rack off annually, at any time of the year they find it convenient.

Methods nearly similar are adopted in other wine countries; hence it will be needless to repeat them. We shall, however, give a short account of the methods followed in the manufacture of Port, Madeira, and Sherry, the most popular wines of this country.

In Oporto, the complete fermentation of the must takes place in the vat. The wine is then introduced into large tuns, capable of holding twenty-five pipes each; and at this state the brandy is added, according to the judgment of the manufacturer.

In Madeira, the second or insensible fermentation is carried on in casks, and the wine is racked from them at the end of three or four months, at which time a portion of the brandy is added. The remainder is reserved to be mixed at the time of exportation.

In the manufacture of Sherry, the grapes are first slightly dried, and sprinkled with quick-lime. They are then wetted with brandy on being introduced into the press, and a portion of brandy is added to the must before the fermentation commences. The subsequent processes consist in repeated rackings, at

intervals of a month or two, till March, holiday being added at each racking.

Of Racking and Sulphuring.

The object of racking the wines is to separate the dregs, consisting of tartar, &c. deposited, from the wine, and which, if left, are liable to render it sour, by re-exciting from time to time the fermentation. The tendency to fermentation is counteracted by a process termed *sulphuring*, and the spontaneous separation of the dregs is rendered more complete by *clarification*, which see.

The sulphuring of wines consists in impregnating them with the vapours of burning sulphur, or sulphurous acid, and is generally effected by burning sulphur matches in the casks.

These matches are made in different ways, aromatics being sometimes mixed with the sulphur; but the sulphur is the only useful and necessary ingredient. Sometimes a wine highly impregnated with sulphurous acid is prepared, a little of which, mixed with the rest, answers the purpose of burning matches in the cask.

We have before observed that the mere racking of wines is not sufficient to render them pure, and various methods are adopted at the racking periods to render this operation more effectual; and these, altogether, constitute the process termed *clarification*.

Different periods, as before mentioned, are chosen in different districts for racking wines. Thus the wines of Hermitage are racked in March and September, those of Champagne about the middle of October, the middle of February, and the latter end of March. If possible, a serene and settled state of the atmosphere, and a dry and cold day, should be chosen for the purpose, as the wine is always turbid in damp close weather, and during the prevalence of southerly winds.

In racking wines, it is in general desirable to expose them as little as possible to the atmospheric air. In some districts a syphon is employed for this purpose. Dr. Macculloch recommends that the wine should be transferred from one cask to another by means of a leather hose, and this method is undoubtedly preferable.

Of Clarifying.

For clarifying wines, a great variety of substances are employed. Isinglass, and albumen, either from eggs or blood, are the most common; but gum, starch, rice, milk, the shavings of beech-wood, gypsum, sand, &c. are used in different wine countries. An ounce of isinglass, or about eighteen or twenty whites of eggs, are sufficient for one hundred gallons of wine.

Two very important circumstances in the practice of wine-making require yet to be mentioned;

these are the *medication* of wines, and the means of *remedying those diseases to which they are liable*.

Of Medication.

The *medication* of wines consists in altering the colour, the flavour, or the strength of any given wine, or in so mixing two or more together as to produce a compound differing from, or superior to, either. It is difficult to give any general rules for this purpose, and the proper management of the processes depends chiefly upon the experience and taste of the maker.

Of Fretting-in.

It generally happens that when two wines are mixed, the fermentative process is partially renewed, or the mixture is technically said to *fret*, whence the practice has derived the name of *fretting-in*.

Mixed wines appear to unite into one durable and homogeneous liquor, only in consequence of this fermentation. It is therefore desirable, if possible, to mix wines only at those periods, when they both shew a tendency to *fretting*, which, according to Chaptal, in the wine countries, appears to be at three principal seasons of the year, *viz.* when the vines begin to shoot, when they are in flower, and when the fruit begins to acquire colour. The wines being then proportioned according to the fancy or experience of the maker, a strong fermentation is excited,

which is still further assisted by agitation. The wine thus becomes homogeneous, and shews no more tendency to further change than if it had been produced by one operation; and the repetition of the processes of fining and racking renders it perfect.

In wine countries, particular wines, distinguished either by their strength, harshness, colour, or flavour, are often manufactured for mixing with others, and are applied according to circumstances. For making such wines, different fruit and peculiar management are often resorted to. The usual faults of wines requiring correction, are, *sweetness*, *dryness* (bordering on *acidity*), and excess or defect of *briskness*. Connected also with this part of the subject are the means of imparting to wine, *colour*, *flavour*, and *strength*, and other remarkable properties. *Sweetness* arises from the presence of too much saccharine matter, and may be generally remedied by prolonging the fermentation. On the contrary, when the fermentation has been carried so far as to decompose the whole of the sugar, the wine is said to be *dry*; and if the original quantity of sugar has been rather defective, it will have a strong tendency to become sour. The remedy in this case is, to add sugar, or sometimes brandy. The modes of ensuring a due degree of *briskness* in those wines intended to possess this quality, have been already pointed out.

Many of the processes followed in imparting

in a very slight degree, it may be palliated considerably by boiling: It is obvious, however, that the acid can only be got rid of by neutralizing or destroying it. For this purpose, the alkalies and alkaline earths have been employed, but they impart a disagreeable flavour to the wine. Of these substances, lime is the safest and best.

Of Ropiness.

Ropiness is another disease to which wines are liable. This occurs more particularly in those which contain a great deal of extractive matter. It may be much relieved, and sometimes cured, by exposing the bottles to the sun and air; by agitating and subsequently uncorking them; by adding a small quantity of vegetable acid; and by fining.

Of Mustiness.

The last disease we shall notice is, perhaps, the most formidable of any, namely, a *mustiness*, or rather *ill flavour*, communicated by the cask or cork. This appears to be, in general, absolutely incurable, though it may be sometimes diminished by agitating the wine in contact with the air, or by the introduction of common air, or carbonic acid, by pumping.—Such is a summary account of wine-making from grapes, as practised in the countries where that delicious fruit comes to perfection, and more especially in France.

*Of the Manufacturing of Wines from other Fruits,
or artificial Wines.*

In the above sketch we have endeavoured to present our readers with a general view of the principles of wine-making, at the same time that we described the practice. These principles are equally applicable to the manufacture of wine from all sorts of fruit.

The juice of the grape consists of a large proportion of water, holding in solution certain proportions of *saccharine matter*, of the *sweet* or *fermenting principle*, which appears to be a modification of the saccharine principle, of *various acids*, especially the tartaric and malic, and of various ill-defined *extractive matters*. These principles, left to themselves for a short time in a medium temperature, soon begin to re-act upon each other, and some of them at length undergo remarkable changes. This process is termed *fermentation*, and constitutes the grand principle of wine-making. When this process has begun to subside, it will be found that the greater portion of the saccharine principle has disappeared, and that its place is supplied by a corresponding portion of ardent spirit, or alcohol. This is the most striking feature of the change that has taken place, but all the other principles of the juice or *must* appear to have undergone, likewise, some change, either in quality or quantity. In short, the

sweet and crude juice of the grape is found to be converted into wine.

In this state, the wine is introduced into casks, where it undergoes further changes, and is matured by a modification of the fermentative process, which has been called the *insensible fermentation*. This is a most important step in the process of wine-making; as, by different modes of management in this stage, almost the whole of that infinite variety which exists among wines is produced. Here, also, it is that all foreign substances, designed to impart flavour, &c. to wines, are in general introduced with the greatest propriety. When the *insensible fermentation* has been carried to the point desired, it is checked by the processes of *racking, sulphuring, clarification, &c.*; and thus the wine is rendered capable of being preserved at any point or state we choose.

Let us now apply these principles to the manufacture of wines from other fruits.

We start upon the grounds that artificial wines are intended to be imitations of wines prepared from grapes. In the first place, therefore, we have to prepare a juice, or must similar to the juice, or must of the grape in its general composition. Now, no fruit whatever yields a juice precisely similar to that of the grape. In our northern climate, more especially, the saccharine principle, which is the fundamental principle in wine-making, exists in very minute proportion in most fruits. It must be,

therefore, supplied artificially. The tartaric acid, or rather *tartar*, which appears to be another essential principle in wine-making, is likewise wanting in most of our fruits. This therefore must be supplied. On the contrary, other principles, and particularly the malic acid, appear to exist in too large a proportion in most of our fruits, which, in their natural state, are thus better adapted for making *ciders* than wines. To get rid of the malic acid, and to prevent its deteriorating effects, as well as the deteriorating effects of other foreign principles, is difficult, or, perhaps, impossible; and this will, doubtless, always render artificial wines in general inferior to those of the grape, though very near approaches may be made by judicious management.

The practical mode of obviating these difficulties is, to dilute the juice of the fruit to such a degree, that a given quantity, when diluted, shall contain no more of the malic acid, for example, than a given quantity of the juice of the grape; and, as before observed, to supply, artificially, the two grand principles, sugar and tartar, which are wanting.

Having thus prepared an artificial must, as nearly resembling, in its composition, that of the grape as possible, the application of the other principles will be obvious, as we have nothing to do but to manage, in general, all the subsequent processes precisely as if we were operating upon the must of the grape. We shall now, therefore, descend from:

generals to particulars, and after having made a few remarks upon our native fruits, endeavour to point out the modes in which the more important foreign wines may be best imitated by them.

Fancy or caprice has led to the formation of wine from an infinite variety of substances, and almost every good housewife boasts of some favourite *receipt* for making wines, from what nature never intended for the purpose: such compounds hardly deserve the name of *wine*; we shall therefore principally confine our attention to fruits; the following are the domestic fruits most usually employed for the purpose.

Gooseberry, and three varieties of currant.

Strawberry, raspberry, blackberry, mulberry.

Slæ, damson, elderberry.

Quince, cherry.

British grapes.

To them may be added the foreign fruits:

Raisins.

Orange, lemon.

The gooseberry and currant are, of all others, the fruits most commonly employed for the fabrication of artificial wines; and perhaps, upon the whole, they are best adapted for the purpose. When used in their green state, both gooseberry and currant may be made to form light brisk wines, falling little short of Champagne. Ripe gooseberries are ca-

pable of making sweet or *dry* wines; but these are commonly ill-flavoured, particularly if the husk has not been carefully excluded. Ripe currants, if properly managed, make much better wines than gooseberries. These fruits are much improved, according to Dr. Macculloch, by boiling previous to fermentation. This, he states, is particularly the case with the black currant, which, when thus managed, is capable of making a wine closely resembling some of the best of the sweet Cape wines.

The strawberry and raspberry are capable of making both *dry* and sweet wines, of agreeable quality. As commonly managed, however, their peculiar flavour is dissipated in the process: hence, as Dr. Macculloch observes, little is gained by their use to compensate for their comparatively high price. A simple infusion of these fruits, in any flavourless currant wine, during the period of insensible fermentation, will, with greater cheapness and certainty, ensure the production of their peculiar flavour. The blackberry and mulberry are capable of making coloured wines, if managed with that view: they are deficient, however, in the astringent principle; nevertheless, they may be occasionally employed with advantage, when a particular object is to be gained.

The sloe and damson are so associated in qualities, that nearly the same results are obtained from both. Their juice is acid and astringent; and hence they

are qualified only for making dry wines. By a due admixture of currants or elderberries, with elder-damsons, wines not much unlike the inferior kinds of Port are often produced.

The elderberry is capable of making an excellent red wine. Its cheapness also recommends it. It does not, indeed, possess any great degree of flavour; but it possesses no bad one, which is a negated property often of great importance in artificial wine-making.

The quince, from its analogy to the apple and pear, is better qualified for making a species of cider than wine.

The cherry produces a wine of no very peculiar character. If used, care should be taken not to bruise too many of the stones, otherwise a disagreeable bitter taste will be imparted to the wine.

Grapes of British growth are capable of making excellent sparkling and other wines, by the addition of sugar. Dr. Macculloch informs us, that he has succeeded in making wines from immature grapes and sugar, so closely resembling Champagne, Graves, Rhenish, and Moselle, that the best judges could not distinguish them from foreign wines. The grapes may be used in any state, however immature when even but half grown, and perfectly hard; they succeed completely.

The cottagers in Sussex, says Dr. Macculloch, are in the habit of making wine, almost annually,

from the produce of vines trained on the walls of their houses. Many individuals, through various parts of the southern counties, and even as far north as Derbyshire, practise the same with success. But the experiment is well known to have been made for many years on a large scale, and with complete results, at Pain's Hill, by the Hon. Charles Hamilton, in a situation, with respect to soil and exposure, of which parallel instances are to be found throughout the country, and produced from land of no value whatever for the ordinary purposes of agriculture. That our ancestors made wine from the produce of their vineyards, there can be no doubt; and Dr. M. justly remarks, that we can still make by far better wine from our grapes, even as produced at present, than from any other fruit whatever. These, therefore, are cogent reasons for the cultivation of the vine, especially as (the same gentleman observes,) we might, with care, insure and domesticate to our climate, many of the richest and most delicate varieties, of southern latitudes.

Raisins are extensively used in this country for making domestic wines, and also for the imitation of foreign wines, although not a native fruit; therefore they deserve to be mentioned here. When properly managed, they are capable of making a pure and flavourless vinous fluid, well adapted for receiving any flavour which may be required, and thus of imitating many wines of foreign growth. The

orange and lemon are likewise used for making domestic wines. Upon the whole, however, they are not very well adapted for the purpose, as they contain too much acid, and too little of the extractive, and of the sweet or fermentative principle.

From what has been said of the manufacture of wine from grapes, our readers will observe, that different methods are pursued, according to the kind of wine which it is intended to make. Now, these remarks are equally applicable to artificial wines, in the manufacture of which it is absolutely necessary that the maker should determine beforehand upon the kind of wine which it is his object to produce, and to modify his processes accordingly. We may, with Dr. Macculloch, consider wines as of four general descriptions:—sweet wines; sparkling, or effervescing wines; dry and light wines, analogous to Hock, Grave, and Rhenish, in which the saccharine principle is entirely decomposed during fermentation; and, lastly, dry and strong wines, as Madeira and Sherry.

Those of the first and most simple class are the sweet wines, or those in which the fermentative process has been incomplete. It is to this class that by far the greater number of our artificial wines bear the greatest resemblance;—a resemblance, says Dr. M. so general as to shew, that few makers of this article possess sufficient knowledge of the art to enable themselves to steer clear of what may be

firmly called the radical defect, of domestic wines. Sweet wines may be made from almost any ripe fruits: those most generally employed, however, are the gooseberry and currant. We shall suppose that we wish to make the quantity of ten gallons of sweet wine from one or other of these fruits. For this purpose, the following are the proportions and other circumstances to be attended to. Forty pounds of fruit are to be introduced into a clean and sufficiently capacious tub, in which it is to be bruised in successive portions, by a pressure sufficient to crush the berries without breaking the seeds; or, if gooseberries be employed, without materially compressing the skins. Four gallons of water are then to be poured into the vessel, and the contents are to be carefully stirred, and squeezed in the hand, until the whole of the juice and pulp are separated from the solid matters. The materials are then to be permitted to remain at rest for a period of from six to twenty-four hours, when they are to be strained through a coarse bag by as much force as can be conveniently applied to them. One gallon of fresh water may afterwards be passed through the *marc*, for the purpose of removing any soluble matter which may have remained confined. From thirty to forty pounds of sugar, according to the strength and sweetness of the wine, and about six ounces of cream of tartar, or, what is better, crude tartar, are now to be dissolved in the juice thus procured, and the total bulk of the fluid made up with water, to

the amount of ten gallons and a half. The liquor thus obtained is the artificial *must*, which is equivalent to the juice of the grape. It is now to be introduced into a tub of sufficient capacity, which is to be well covered, and placed in a temperature varying from fifty-five to sixty degrees. Here it is to remain two or three days, more or less, according to the symptoms of fermentation which it may shew; and from this tub it is to be drawn off into the cask, where the fermentative process is intended to be brought to the point desired. As the fermentative process proceeds, the bulk of the liquor diminishes; and its place must be supplied, from time to time, by the superfluous portion of must made for the purpose, so as to keep the liquor near the bung-hole. When the fermentation has subsided a little, the bung may be driven in, taking care, however, to leave a small hole open by its side, which may be stopped with a peg, and opened occasionally to give vent to any air that may be generated. When the wine has arrived at the desired point of sweetness, &c. it must be racked and clarified in the manner already described; and these processes must be repeated, and the casks sulphured, if necessary, in order to prevent the fermentative process from proceeding further. In general, however, one racking, in the following December or January, will be sufficient, after which it may be kept in the cask for any length of time, or it may be bottled with the usual precautions. A fine, serene, and cold-

they should be chosen for these operations. Sometimes the fermentative process will stop before the wine has arrived at the desired point, in which case it may be consensually easily re-acted by raising the temperature, and shaking the cask; or, if these fail, by having recourse to the means formerly described for that purpose. By attending to these general directions, sweet wines may be made from other fruits, care being taken to increase or diminish the quantity of sugar, according to the natural sweetness of the fruit employed.

The second general description of wines comprehends the *brisk* or *sparkling* wines; which may be, at the same time, either *sweet* or comparatively *dry*. Our readers will recollect the methods adopted in Champagne, and other countries where they manufacture sparkling wines from the grape, and which are described in the former part of this article.

Now, these principles are to be held in view in the manufacture of artificial wines intended to possess similar properties. The fruits most generally employed for forming wines of this description, are the immature gooseberry and currant; sometimes, also, immature grapes, and even vine-leaves, are made use of for a similar purpose; but grapes are doubtless preferable, when they can be procured. Wines of this description are more difficult to be made than the last; at least they require much more care. If gooseberries are employed, they must be gathered

when they have nearly attained their full growth; but before they have shewn the least tendency to ripen. The variety of gooseberry is perhaps indifferent, but it will be advisable to avoid the use of those which in their ripe state have the highest flavour. Dr. Macculloch recommends the *green Bath* as among the best. Those which are unsound, as well as the remains of the blossom, and footstalk, should be carefully removed. Forty pounds of this fruit, thirty pounds of white sugar, and about six ounces of tartar, are sufficient for making ten gallons of wine. All the preliminary processes are to be conducted precisely in the same manner as those above mentioned for making sweet wines. The *must*, however, ought to remain in the fermenting-tub for about twenty-four hours, or two days only, when it is to be transferred to the cask, and the processes of *filling up*, &c. managed as before, except that the wooden peg, or *spile*, must be permanently tightened, as soon as the danger of bursting the cask has subsided. The wine thus made may commonly remain during the winter in a cool cellar, as it is no longer necessary to excite the fermenting process: to ensure its fineness, however, it is a good practice to draw it, towards the end of December, into a fresh cask, so as to separate the lees; and if at this time it should prove too sweet, instead of decanting, it will be better to stir up the lees so as to renew the fermenting process, taking care also to

increase the temperature at the same time. At whatever time the wine has been decanted, it is to be fined with isinglass, in the usual manner. Sometimes it will be necessary to decant it a second, and even a third time, into a fresh cask. All these operations should take place, as formerly mentioned, in dry, cool weather; and the wine must, at any rate, be finally bottled in March. If immature currants be employed, which are, perhaps, upon the whole, preferable to gooseberries, the same proportion of fruit, sugar, and tartar, and the same modes of management, may be had recourse to; care being taken to separate carefully the stalks of the currants. If grapes be used for the purpose, they may safely be taken of different degrees of ripeness, nor is it necessary to attend to the selection of any particular variety. The same proportions of fruit and sugar will be proper, as when gooseberries and currants are employed, but the tartar must be omitted. The husks, also, may be permitted to ferment with the liquor in the vat. The subsequent management is to be precisely the same as that described above. An excellent wine of the present description may be made from the leaves and tendrils of the vine. About forty pounds of these, and twenty-five or thirty pounds of sugar, will be sufficient for ten gallons of wine. To prepare it, seven or eight gallons of boiling water are to be poured upon the leaves, in a tub, and permitted to remain for twenty-four hours.

The liquor being poured off, the leaves must be strongly pressed, and subsequently washed with another gallon of water. The sugar and the remainder of the water are then to be added, and the fermentative, and all the subsequent processes, conducted precisely the same as before. The present class of wines, if the process has been successful (which is not always the case,) is brisk, and precisely similar in their qualities (flavour excepted,) to the wines of Champagne, with the strength of the best Sicily.

The third variety of wines is that of which Hock, Grave, and Rhenish may be taken as examples. In these, the saccharine principle is entirely overcome by a complete fermentation, while their future change is prevented by a careful application of the processes laid down for the preservation of wine of this class. Makers of domestic wines have rarely, says Dr. Macculloch, succeeded in imitating these wines. The reasons obviously are, the great disproportion of the sugar to the subsequent fermentation in the first instance; and that want of the after-management, the neglect of which soon consigns these wines to the vinegar cask, if chance should, even at first, have produced success. In making these wines, the relative proportion of fruit and sugar in common use must be materially altered, and the fermentative process be conducted in a very careful manner. The subsequent processes, also, of racking, sulphuring, and fining, must be

practised with great assiduity, in order to preserve these wines after we have succeeded in making them. Dr. Macculloch states, from his experience, that these wines may be successfully imitated, and that they constitute some of the very best of those which can be made from domestic fruit. The proportion of fruit (generally of immature fruit) to the sugar in the manufacturing of sweet wines, must be the greatest. The bung must remain open, but the fluid within must not be allowed to escape, while, if the fermentation proceeds languidly, it must be accelerated by heat and agitation. If, when it is finished, the wine continues too sweet, it may be bunged down till the Spring, without racking or fining, when the fermentation must again be renewed. The renewal of the fermentation may also be effected by adding some fresh juice of the same fruit. At whatever time, and under whatever of these processes it has become *dry*, it is to be carefully fined and racked into a sulphured cask, and bottled, after being once more carefully fined.

The fourth and last class of wines consists of those which are both dry in their quality, and strong in their nature; such are, Madeira, Sherry, &c.; the theory of these, from what has been said, will be sufficiently apparent. With due attention to the fermentative process, such wines may be made of the requisite degree of strength, without brandy. By means of this, however, if managed as formerly

directed, the operator has it always in his power to produce wines of any required degree of strength.

We need not here repeat the methods of imparting different flavours to domestic wines, or of correcting their faults, since they differ in no respect from those recommended to be adopted in the manufacture of wines from grapes, to which therefore we refer. :

The following General Remarks upon the Fabrication of Domestic Wines, will not, perhaps, prove uninteresting to our Readers.

The great radical defect in the manufacture of domestic wines, is using too small a proportion of fruit compared with the sugar employed. It is this circumstance chiefly which renders the fermentative process incomplete, and thus imparts that sweet and mawkish taste to our domestic wines, which renders them intolerable to many people, and even to all; perhaps, without the addition of brandy. The proportions of fruit and sugar given above, may be considered as mean standards, which may be varied either way, according to circumstances and the nature of the wine intended to be produced. A very superior class of fruit wines may be manufactured, by using the juices of our different fruits, either alone or very slightly diluted with water. We mentioned that some fruits, and especially the black currant, were much improved by boiling. For this purpose, it will be sufficient that the fruit be simply brought

to the boiling point before using it, the water in the vessel being so managed as to avoid any risk in burning. The black currant thus treated, and subsequently managed on the principles we have endeavoured to lay down, is capable of making a wine very nearly resembling some of the best sweet Cape wines.

The fermentative process being rendered tardy and incomplete, by the improper adjustment of the sugar to the fruit, is frequently endeavoured to be excited by *yeast*: nothing can be more injudicious than this. *Yeast* invariably spoils wines, by imparting to them a flavour that nothing will ever overcome. The only ferment to be employed in wine-making, is that furnished by nature; and when this is defective, as is sometimes the case in our domestic fruits, the ferment of the grape must be supplied artificially. This may be done by introducing a certain proportion of *crude tartar*, the dose of which may vary from one to six *per cent.* without materially affecting the wine, as a great proportion of what escapes decomposition will be subsequently deposited. All fruits, except the grape, will require more or less of *tartar*.

The last circumstance we shall notice, is the introduction of *brandy*, or other spirit, into domestic wines. As commonly manufactured, they often require, as we have just stated, this addition to render them tolerable. We trust, however, that from the attention that has been lately paid to the

subject of artificial wines, the modes of manufacturing them will be better understood, and that this will no longer be the case. Fine wines are invariably spoiled by the addition of ardent spirit, which seems to have the effect of slowly decomposing them, and thus of destroying that delicate, lively, and brisk flavour, so eminently possessed by all natural wines. Hence it is seldom or never used in wine countries; or rather it is confined to the manufacture of those wines destined for this country, where only this barbarous practice is tolerated. We again repeat, that if the fruit and sugar be duly adjusted to one another, and the fermentative process be properly managed, an infinitely better wine will be produced without the use of brandy, than can ever be produced with it.

An Abstract of the Theory of manufacturing Wine.

To bring into a smaller space the theory of manufacturing wine, we will here give an abstract, or recapitulation, of the principles on which it is founded, pointing out the successive changes, and various products, arising from the different modes of treating the articles subjected to the fermentative process.

Chemists give the name of wine in general to all liquors that have become spirituous by fermentation. Thus cider, beer, mead, and other similar liquors, are wines. The principles and theory of the fer-

mentation which produces these liquors are essentially the same.

All those nutritive, vegetable, and animal matters which contain sugar ready formed, are susceptible of the spirituous fermentation. This wine may be made of all the juices of plants, the sap of trees, the infusions and decoctions of farinaceous vegetables, the milk of fungivorous animals; and, lastly, it may be made of all ripe succulent fruits; but all these substances are not equally proper to be changed into good and generous wine.

As the production of alcohol is the result of the spirituous fermentation, that wine may be considered as essentially the best which contains most alcohol. But of all substances susceptible of the spirituous fermentation, none is capable of being converted into so good wine, as the juice of the grapes of France, or of other countries that are nearly in the same latitude, or in the same temperature. The grapes of hotter countries, and even those of the southern provinces of France, do, indeed, furnish wines that have a more agreeable, that is, more of a saccharine taste; but these wines, though they are sufficiently strong, are not so spirituous as those of the provinces near the middle of France; at least, from these latter wines the best vinegar and brandy are made.

The juice of the grape, when newly expressed, and before it has begun to ferment, is called must;

and, in common language, sweet wine. It is turbid, has an agreeable and very saccharine taste. It is very laxative; and, when drunk too freely, or by persons disposed to diarrhoea, it is apt to occasion these disorders. Its consistence is somewhat less fluid than that of water, and it becomes almost of a pitchy thickness when dried.

When the must is pressed from the grapes, and put into a proper vessel and place, with a temperature between fifty-five and sixty degrees, very sensible effects are produced in it, according to the quantity, the nature of the liquor, and the exposure of the place. It then swells, and is so rarified, that it frequently overflows the vessel containing it, if this be nearly full. An intestine motion is excited among its parts, accompanied with a small hissing noise and evident ebullition. The bubbles rise to the surface, and at the same time is disengaged a quantity of carbonic acid, of such purity, and so subtle and dangerous, that it is capable of killing, instantly, men and animals exposed to it in a place where the air is not renewed. The skins, stones, and other grosser matters of the grapes, are buoyed up by the particles of disengaged air that adhere to their surface, are variously agitated, and are raised in form of a scum, or soft and spongy crust, that covers the whole liquor. During the fermentation, this crust is frequently raised and broken by the air disengaged from the liquor, which forces its way

through it; afterwards the crust subsides, and becomes entire, as before.

These effects continue while the fermentation is brisk, and at last gradually cease; then the crust, being no longer supported, falls in pieces to the bottom of the liquor. At this time, if we would have a strong and generous wine, all sensible fermentation must be stopped. This is done by putting the wine into close vessels, and carrying these into a cellar or other cool place.

After this first operation, an interval of repose takes place, as is indicated by the cessation of the sensible effects of the spirituous fermentation; and thus enables us to preserve a liquor no less agreeable in its taste, than useful for its reviving and nutritive qualities, when drunk moderately.

If we examine the wine produced by this first fermentation, we shall find that it differs entirely, and essentially, from the juice of grapes before fermentation. Its sweet and saccharine taste is changed into one that is very different, though still agreeable, and somewhat spirituous and piquant. It has not the laxative quality of must, but affects the head, and occasions, as is well known, drunkenness. Lastly, if it be distilled, it yields, instead of the insipid water obtained from must by distillation with the heat of boiling water, a volatile, spirituous, and inflammable liquor, called spirit of wine, or alcohol. This spirit is, consequently, a new being,

which, by means of the insensible fermentation, has acquired more alcohol, and has disengaged itself of the greater part of its tartar, ought to be much better and more agreeable; and, for this reason, chiefly, old wine is universally preferred to new wine.

But insensible fermentation can only ripen and ameliorate the wine, if the sensible fermentation have regularly proceeded, and been stopped in due time. We know, certainly, that if a sufficient time has not been allowed for the first period of the fermentation, the unfermented matter that remains, being in too large a quantity, will then ferment in the bottles, or close vessels, in which the wine is put, and will occasion effects so much more sensible, as the first fermentation shall have been sooner interrupted; hence, these wines are always turbid, emit bubbles, and sometimes break the bottles, from the large quantity of air disengaged during the fermentation. We have an instance of these effects in the wine of Champagne, and in others of the same kind. The sensible fermentation of these wines is interrupted, or, rather, suppressed, that they may have this sparkling quality.

It is well known that these wines make the corks fly out of the bottles; that they sparkle and froth when they are poured into glasses; and, lastly, that they have a taste much more lively and more piquant than wines that do not sparkle; but this

sparkling quality, and all the effects depending on it, are only caused by a considerable quantity of carbonic acid gas, which is disengaged during the confined fermentation that the wine has undergone in close vessels. This air not having an opportunity of escaping, and of being dissipated as fast as it is disengaged, and being interposed betwixt all the parts of the wine, combines, in some measure, with them, and adheres in the same manner as it does to certain mineral waters, in which it produces nearly the same effects. When this air is entirely disengaged from these wines, they no longer sparkle, they lose their piquancy of taste, become mild, and even almost insipid.

Such are the qualities that wine acquires in time, when its first fermentation has not continued sufficiently long. These qualities are given purposely to certain kinds of wine, to indulge taste or caprice; but such wines are supposed to be unfit for daily use.

Wines for daily use ought to have undergone so completely the sensible fermentation, that the succeeding fermentation shall be insensible, or at least exceedingly little perceived. Wine, in which the first fermentation has been too far advanced, is liable to worse inconveniences than that in which the first fermentation has been too quickly suppressed; for every fermentable liquor is, from its nature, in a continual intestine motion, more or less strong

according to circumstances, from the first instant of the spirituous fermentation, till it is completely purified: hence, from the time of the completion of the spirituous fermentation, or even before, the wine begins to undergo the acid or acetous fermentation. This acid fermentation is very slow and insensible, when the wine is included in very close vessels, and in a cool place; but it gradually advances, so that in a certain time the wine, instead of being improved, becomes at last sour. This evil cannot be remedied, because the fermentation may advance, but cannot be reverted.

Wine merchants, therefore, when their wines become sour, can only conceal or absorb this acidity by certain substances, as by alkalis and absorbent earths. But these substances give to wine a dark greenish colour, and a taste which, though not acid, is somewhat disagreeable. Besides, calcareous earths accelerate considerably the total destruction and putrefaction of the wine. Oxides of lead, having the property of forming, with the acid of vinegar, a salt of an agreeable saccharine taste, which does not alter the colour of the wine, and which besides has the advantage of stopping fermentation and putrefaction, might be very well employed to remedy the acidity of wine, if lead and all its preparations were not pernicious to health, as they occasion most terrible cholics, and even death, when taken internally.

The only substances that cannot absorb or destroy, but cover and render supportable, the sharpness of wine, without any inconvenience, are sugar, honey, and other saccharine alimentary matters; but they can succeed only when the wine is very little acid, and when an exceeding small quantity only of these substances is sufficient to produce the desired effect; otherwise the wine would have a sweetish, tart, and not agreeable taste. From what is here said concerning the ascendency of wine, we may conclude, that when this accident happens, it cannot by any good method be remedied, and that nothing remains but to sell it to vinegar makers.

The following is Mr. Brande's valuable table of the quantity of spirit in different kinds of wine:—

Proportion of Spirit per cent. by measure.		Proportion of Spirit per cent. by measure.	
1. Lissa	26.47	5. Currant Wine . .	20.55
Ditto	24.35	6. Sherry	19.81
Average	25.41	Ditto	19.83
2. Raisin wine . . .	26.40	Ditto	18.79
Ditto	25.77	Ditto	18.25
Ditto	23.20	Average	19.17
Average	25.12	7. Teneriffe	19.79
3. Marsala	26.3	8. Colares	19.75
Ditto	25.5	9. Lachryma Christi	19.70
Average	25.9	10. Constantia,	
4. Madeira	24.42	white	19.75
Ditto	23.93	11. Ditto, red	18.92
Ditto (Sercial) .	21.40	12. Lisbon	18.94
Ditto	19.24	13. Malaga, (1666) .	18.94
Average	22.27	14. Bucellas	18.49

	Proportion of Spirit per cent. by measure.		Proportion of Spirit per cent. by measure.
15. Red Madeira . . .	22.30	Burgundy	11.95
Ditto	18.40	Average	14.57
Average	20.85	32. Hock	14.87
16. Cape Muschat . . .	18.25	Ditto	13.00
17. Cape Madeira . . .	22.94	Ditto, (old in cask)	8.88
Ditto	20.50	Average	12.08
Ditto	18.71	33. Nise	14.63
Average	20.22	34. Barsac	13.86
18. Grape wine	18.11	35. Tent	13.80
19. Calcavella	19.20	36. Champagne (still)	13.80
Ditto	18.10	Ditto, (spark- ling)	12.80
Average	18.65	Ditto, (red)	12.76
20. Vidonia	19.25	Ditto, (ditto)	11.30
21. Alba Flora	17.26	Average	12.61
22. Malaga	17.26	37. Red Hermitage	12.32
23. White Hermitage . . .	17.43	38. Vin de Grave	13.94
24. Roussillon	19.00	Ditto	12.80
Ditto	17.26	Average	13.37
Average	18.13	39. Frontignac	12.79
25. Claret	17.11	40. Côte Rotie	12.32
Ditto	16.32	41. Gooseberry wine	11.84
Ditto	14.08	42. Orange wine,— average of six samples made by a London manufacturer	11.26
Ditto	12.91	43. Tokay	9.88
Average	15.10	44. Elder wine	9.87
26. Malmsey Ma- deira	16.40	45. Cider, highest average	9.87
27. Lunel	15.52		
28. Sheraaz	15.52		
29. Syracuse	15.28		
30. Sauterne	14.22		
31. Burgundy	16.60		
Ditto	15.22		
Ditto	14.53		

Proportion of Spirit per cent. by measure.	Proportion of Spirit per cent. by measure.
Cider, lowest average 5.21	49. Brown Stout 6.80
46. Perry, average of four samples 7.26	50. London Porter, (average) 4.20
47. Mead 7.82	51. Ditto, small beer, (ditto) 1.28
48. Ale, (Burton) 8.88	52. Brandy 53.39
Ditto, (Edin- burgh) 6.90	53. Rum 53.68
Ditto, (Dorches- ter) 5.56	54. Gin 51.60
Average 6.87	55. Scotch Whisky 54.82
	56. Irish ditto 53.90

Of the Varieties of Wine.

Wines are distinguished, with regard to their colour, into white wine, red wine, claret wine, pale wine, rose or black wine. And, with regard to their country, or the soil which produces them, into French wines, Spanish wines, Rhenish wines, Hungarian wines, Greek wines, Canary wines, &c. And more particularly, into Port wine, Madeira wine, Burgundy wine, Champagne wine, Falernian wine, Tokay wine, Schiras or Sheraaz wine, &c.

Wines, again, are distinguished, with regard to their quality, into sweet wines, rough or dry wines, and rich or luscious wines, *vins de liqueur*; of which last some are exceedingly sweet, others sweet and poignant; and all chiefly used by way of a dram after meals, &c.

Such are French, Frontignac, Madeira, the

Canary, Hungary, Tokay, the Italian Montefiascone, the Persian Schiras, the Malitsey wines of Candia, Chio, Lesbos, Tenedos, and other islands of the Archipelago, which anciently belonged to the Greeks, but now to the Turks. These are sometimes called Greek wines, and sometimes Turkey wines.

The chief wines drank in Europe, are as follow:
 —First, The Madeira island, and Palma, one of the Canaries, afford two kinds: the first called *Madeirish sec*; the latter, which is the richest and best of the two, Canary or Palm sec. The name *sec* (corruptly written *sack*;) signifies dry; those wines being made from half-dried grapes. There is another kind of *sec* wine, prepared about Xeres, in Spain, and hence called, according to our orthography, Sherris or Sherry.—Second, The wines of Candia and Greece are of common use in Italy. Malitsey was formerly the produce of those parts only, but is now brought chiefly from Spain: it is a sweet wine, of a golden or brownish yellow, and to this is applied an Italian proverb, signifying, “*Manna to the mouth, and balsam to the brain.*” Almost all the wines used in the Venetian territories come from Greece and the Morea.—Thirdly, Italy produces the *vino Grecco*, which is a gold-coloured unctuous wine, of a pungent sweetness, the growth of Mount Vesuvius, but much sophisticated by the Neapolitans. In the neighbourhood of Mount Vesuvius, is made the *Mangiaguerra* wine, and a thick, blackish one,

called *Verracia*; and at the foot of the hill, the delicious *vino vergine*. The kingdom of Naples affords the *Campania* or *Pausilippo*, *Muscate*, *Salernitan*, and other excellent wines, and also the *Chiarello*, much drank at Rome. But the principal is the red, fat, sweet, and grateful poignant one, called *Lachryma Christi*.—Fourth, The Ecclesiastical State produces the bright, pleasant *Albano*, and the sweet *Montefascone*, a yellowish, not very strong wine, resembling good Florence, &c.—Fifth, In Tuscany are the excellent white and red Florence, the celebrated hot, strong, red wine, *de Monte Pulciano*, &c.—Sixth, In Lombardy, the *Modeness* and *Mountserat* are tolerable; between Nizza and Savona is produced an incomparable *Muscadine*.—Seventh, Piedmont and part of Savoy have excellent light wines.—Eighth, The Sicilian, Sardinian, and Corsican wines are also good.—Ninth, Most of the Spanish wines are composed of fermented or half-fermented wine, mixed with inspissated must, and variously manufactured, or of an infusion of dry grapes in weak must, (of these wines there are a few in Germany,) as the *Alicant*, which is a thick, strong, very sweet, and almost nauseous wine, Sherry, Spanish Malmsay, &c.—Tenth, In Portugal, there is plenty of red Port, which is much drank in England. The best *vino tinto*, a blackish-red wine, used by the coopers for colouring other wines, is said to be the produce of Portugal. This kingdom also deals

largely in Madeira.—Eleventh, In France there is a great variety of wines; of which the strong, sweet, full-bodied, spirituous ones, are called *vins de liqueur*. Languedoc and Provence afford the sweetest wines; and the same provinces, with Champagne and Burgundy, the strongest. The wines of the northern parts, as Picardy and Bourdeaux, are the worst; and those about the middle of the kingdom, as Paris and Orleans, of a middling kind. The most celebrated of the French wines, are, *Champagne*, *Burgundy*, *vin de Beaune*, or partridge-eye, *Frontignac*, *Hermitage*, &c.—Twelfth, In Switzerland, the best wines are, the *Neuschâtel*, *Vallée*, *Lacôte*, and *Keiff*: the *Vallée* straw wine, so called from the grapes being laid upon straw before they are pressed, is particularly celebrated.—Thirteenth, The dry grape wines of the Upper Hungary, are in general excellent, and much superior to those of the Lower.—Fourteenth, Among the German wines, those of *Tyrol* are very delicate, but do not keep.—Fifteenth, Of Austrian wines, those of *Kloster Neuburg*, and *Brosenberg*, are deemed the best: and there are also good wines in other parts of the Imperial domains.—Sixteenth, In the Palatinate, the best wine is that of *Worms*, especially the sort called *Woman's Milk*.—Seventeenth, Among the more esteemed German wines may be reckoned also *Rhenish*, *Magne*, *Moselle*, *Neckar*, and *Ebass*: a certain writer calls the *Rhenish*, made at Hock-

heim (Heck), the prince of the wines of Germany.

Of colouring Wine.

The method of converting white wines into red, so much practised by the modern wine-coopers, is this:—Put four ounces of turnsole rags into an earthen vessel, and pour upon them a pint of boiling water; cover the vessel close, and leave it to cool; strain off the liquor, which will be of a fine deep red, inclining to purple. A small proportion of this colours a large quantity of wine. This tincture might be either made in brandy, or mixed with it; or else made into a syrup, with sugar, for keeping. A common way with the wine-coopers is, to infuse the rags, cold, in wine for a night or two, and then wring them out with their hands; but the inconveniency of this method is, that it gives the wine a disagreeable taste, or what is commonly called the taste of the rag; whence the wines thus coloured usually pass among judges for pressed wines, which have all this taste from the canvas rags in which the lees are pressed.

The way of extracting this tincture, as here directed, is not attended with this inconveniency; but it loads the wine with water: and if made into a syrup, or mixed with brandy, it would load the wine with things not wanted, since the colour alone is required. Hence the colouring of wines has

always its inconveniences. In those countries which do not afford the tinging grape, which affords a blood-red juice, wherewith the wines of France are often stained, in defect of this, the juice of elderberries is used, and sometimes logwood is used at Oporto.

The colour afforded by the method here proposed, gives wines the tinge of the Bourdeaux red, not the Port, whence the foreign coopers are often distressed for want of a proper colouring for red wines in bad years. This might perhaps be supplied by an extract made by boiling stick-lach in water. The skins of tinged grapes might also be used, and the matter of the turnsole procured in a solid form, not imbibed in rags.

“ BRITISH WINES AND IMITATIONS.

“ *Wine from immature Gooseberries.*

“ The fruit must be selected before it has shewn the least tendency to ripen, but about the time when it has nearly attained its full growth. The particular variety of gooseberry is perhaps indifferent, but it will be advisable to avoid the use of those which, in their ripe state, have the highest flavour. The *green Bath* is perhaps among the best. The smallest should be separated by a sieve properly adapted to this purpose, and any unsound or

bruised fruit rejected, while the remains of the blossom and the fruit-stalk should be removed by friction or other means.

“Forty pounds of such fruit are then to be introduced into a tub, carefully cleaned, (the quantities, in all the receipts, are computed for a cask of ten gallons,) and of the capacity of fifteen or twenty gallons, in which it is to be bruised in successive portions, by a pressure sufficient to burst the berries, without breaking the seeds or materially compressing the skins. Four gallons of water are then to be poured into the vessel, and the contents are to be carefully stirred, and squeezed in the hand until the whole of the juice and pulp are separated from the solid matters. The materials are then to remain at rest from six to twenty-four hours, when they are to be strained through a coarse bag, by as much force as can conveniently be applied to them. One gallon of fresh water may afterwards be passed through the *marc*, for the purpose of removing any soluble matter which may have remained behind. Thirty pounds of white sugar are now to be dissolved in the juice thus procured, and the total bulk made up with water to the amount of ten gallons and a half.

“The liquor thus obtained is the artificial *mast*, which is equivalent to the juice of the grape. It is now to be introduced into a tub of sufficient capacity, over which a blanket or similar substance,

covered by a board, is to be thrown; the vessel being placed in a temperature varying from fifty-five to sixty degrees of Fahrenheit's thermometer. Here it may remain for twenty-four hours or two days, according to the symptoms of fermentation which it may shew, and from this tub it is to be drawn into the cask in which it is to ferment. When in the cask, it must be filled nearly to the bung-hole, that the scum which arises may be thrown out. As the fermentation proceeds, and the bulk of the liquor in the cask diminishes, the superfluous portion of must, which was made for the express purpose, must be poured in, so as to keep the liquor still near the bung-hole. When the fermentation becomes a little more languid, as may be known by a diminution of the hissing noise, the bung is to be driven in, and a hole bored by its side, into which a wooden peg is to be fitted. After a few days, this peg is to be loosened, that if any material quantity of air has been generated, it may have vent. The same trial must be made after successive intervals; and when there appears no longer any danger of excessive expansion, the spile may be permanently tightened.

“The wine thus made must remain over the winter in a cool cellar, as it is no longer necessary to provoke the fermenting process. If the operator is not inclined to bestow any further labour or expense on it, it may be examined some clear and cold day, towards the end of February or beginning of

March, when, if fine, as it will sometimes be, it may be bottled without further precautions.

“ To insure its fineness, however, it is a better practice to decant it, towards the end of December, into a fresh cask, so as to clear it from its first lees. At this time also the operator will be able to determine whether it is not too sweet for his views. In this case, instead of decanting it, he will stir up the lees so as to renew the fermenting process; taking care, also, to increase the temperature at the same time. At whatever time the wine has been decanted, it is to be fined, in the usual way, with *isinglass*. Sometimes it is found expedient to decant it a second time into a fresh cask, and again to repeat the operation of fining. All these removals should be made in clear, dry, and, if possible, cold weather. In every case, it must be bottled during the month of March.

“ The wine thus produced will generally be brisk, and similar in its qualities (flavour excepted) to the wines of Champagne, with the strength of the best *Sillery*.

“ Inattention, or circumstances which cannot always be controlled, will sometimes cause it to be *stilt*,—at others, to be dry.

“ In the former case, it may be re-manufactured the following season, by adding to it that proportion of juice from fresh fruit, which the operator's judgment may dictate, and renewing the fermentation

and subsequent treatment, as before. In the latter case, as its briskness can never be restored, it must be treated as a dry wine, by decanting into a sulphured cask, when it must be fined and bottled in the usual manner. Such dry wines are occasionally disagreeable to the taste in the first or second year, but are much improved by keeping.

“ Variations of the Process described above.

“ The husk of the gooseberry, or the whole of the *marc*, as well as the juice, may be fermented together in the vat along with the sugar, in the first state of the process. The fermentation will thus be more rapid, and the wine prove stronger and less sweet, but it will acquire more flavour.

“ Cream of tartar, or, which is preferable, crude tartar, may be added to the must, in the proportion of six ounces.

“ If it is wished to have a very sweet, as well as brisk wine, the quantity of sugar may be increased to forty pounds.

“ If the wine is intended to be less sweet and less strong than in the first case, the sugar must be reduced to twenty-five pounds. Thus made, it will rarely fail to be brisk, but will at the same time be less durable. Wines of this kind will resemble the inferior classes of Champagne, and must commonly be consumed within the twelve-month.

“ The proportion of fruit adopted in this receipt is that in common use ; but to ensure briskness without excessive sweetness, or the chance of being obliged to renew the fermentation, it is recommended to increase the proportion of fruit to fifty pounds, when the sugar is thirty. If, during the fermentation of wine thus formed, there should appear any danger of the sweetness disappearing altogether, it may be decanted, and the fermentation then checked by fining. Thus it will speedily be fit for use.

“ *Wine from immature Currants.*

“ The same proportions and precautions apply so precisely to this wine, that it is unnecessary to repeat them. I may only remark, that greater care must be taken in separating the stalks, but that, with this exception, the marc of the currants is more manageable. The produce is also less contaminated with a bad flavour ; and this fruit is therefore, perhaps, still better calculated for brisk wines than the gooseberry.

“ It must be understood, that in no case is the solid matter to be introduced into the cask ; and if the head which is formed in the fermenting-vat should acquire a sour or musty smell, it is to be carefully separated. It is also to be remembered, that in those cases, where the solid matter is not to be fermented with the fluid, the juice, or *must*, may

be introduced at once into the cask, without previously remaining in the vat.

“ Wine from immature Grapes. ”

“ As no bad flavour is communicated by the husk, or even by the stem of the grape, this fruit may be used in any state of immaturity in which it is most conveniently obtained. Grapes of different degrees of maturation may even be mixed together, nor is it requisite to attend to the selection of any particular variety.

“ It is but rarely, indeed, that we are allowed any choice in this matter. Fruit fit for this purpose may be obtained, where the vine is largely cultivated, from the thinning, as usually practised on the branches in this country where the vines are under cover. In case that fruit raised out of doors is to be used, it will be preferable to wait till the grapes shew a tendency to ripen, or till the advance of the cold season shews that no further change can be expected.

“ The proportions and the treatment are precisely similar to those laid down for the gooseberry; I may only add, that the husks may always be fermented in the vat with the fluid; and, with the exception of the seeds, no harm can arise from bruising the solid matters, since the skins give out no bad properties; and since the stems, during the period of immaturity, have not acquired any offensive

astriugency, while they add; at the same time, to the quantity of the vegetable extract.

“ The reader must have long since perceived, that yeast was not used. The fermentation will, therefore, sometimes not keep pace with his wishes; sometimes it will appear as if it would not occur at all. Impatience on this subject must be suppressed; it will not, finally, be less effectual because it has been more tedious; and an attention to the tempera- ture will commonly be sufficient both to excite and continue it. Any languor during its progress will be diminished by agitating the cask, or by omitting to replenish the vessel to the bung, so that the scum or head may be compelled to remain in the liquor.

“ *Wine from the Leaves of the Vine.*

“ The leaves may be taken at any period from vines that have been cultivated for this purpose, and from which fruit is expected.

“ In other cases, they may be obtained from the summer pruning. The tendrils are equally useful. The claret vine may be cultivated for this purpose, in which case the wine will have a red colour. The leaves are best when young; at furthest, they should not have attained their full growth, and must be plucked with their stems. In the neighbourhood of London they require to be carefully washed, to remove the taste of the soot, which so often adheres to them.

“Forty or fifty pounds of such leaves being introduced into a tub of sufficient capacity, seven or eight gallons of boiling water are then to be poured over them, in which they are to infuse for twenty-four hours. The liquor being poured off, the leaves must be pressed in a press of considerable power; and, being subsequently washed with an additional gallon of water, they are to be again submitted to the action of the press. The sugar, varying, as in the former receipts, from twenty to thirty pounds, is then to be added to the mixed liquors; and the quantity being made up to ten gallons and a half, the process recommended in the case of gooseberries is then to be followed. Although the water is here directed to be boiling hot, it must be remembered that it is immediately cooled down to that temperature which is most efficacious in extracting the several soluble ingredients of the fruit.

“The processes described above are calculated for brisk wines, although, from mismanagement, they may sometimes fail of producing these.

“If the operator desires to have sweet wines from them, he is to proceed in a different manner.

“In such cases, the largest proportion of sugar must be used; and, as soon as the first fermentation has subsided, the wine is to be racked into a sulphured cask, and fined. If it should, afterwards, shew a tendency to renew its fermentation, it

must be racked and fined again; or even a third time. These wines, when completed, may remain in the cask for an indefinite length of time.

“ If dry wines are desired, the proceedings must be varied in the following manner.

“ The proportion of the fruit to the sugar must be the greatest which has been named.

“ The bung must remain open, but the fluid within must not be allowed to escape; while, if the fermentation proceeds languidly, it must be accelerated by heat and agitation. If, when it is finished, the wine continues too sweet, it may be bunged down till the Spring, without racking or fining, when the fermentation must again be renewed. The renewal of the fermentation may also be effected by adding some fresh juice of the same fruit.

“ At whatever time, and under whichever of these processes, it has become dry, it is to be carefully fined and racked into a sulphured cask, and bottled, after being once more carefully fined.

“ Wine from mature Gooseberries, or Currants.

“ These wines may be made either sweet or dry. The rules, immediately preceding, which relate to the management of the fermentation, require equally to be attended to in this case.

“ If sweet wine is intended, the quantity of fruit should not exceed forty pounds; if dry wine is

desired, it may extend to sixty. The proportion of sugar will be thirty pounds, as before. If a much stronger, of either quality, is desired, it must extend to forty pounds.

“The same precautions are required in the selection and care of the fruit, and the management of the husks.

“*Wine from mature Grapes.*”

“It is so seldom that a sufficient quantity of these can be procured, that it is almost superfluous to mention this variety. But the reader already knows that the grapes ripened in this country make very indifferent wine, as, indeed, happens even in more favoured climates, where the grapes of gardens are noted for producing bad wine. If wine is to be made from ripe grapes, no water is to be used; but, as the juice of the fruit is, in general, deficient in sugar, it is necessary that a quantity of sugar, varying from one to two pounds, for each gallon of *must*, should be added to it; and this in proportion to the greater or less sweetness of the fruit. The addition of tartar is also useful in this case.

“The remainder of the management is as before.

“The wines from elderberries, or other fruits, are made in the same manner, and with similar proportions.

“A superior class of fruit wines is made by the

Juices of all these fruits, without any water being added.

If wine is to be made from boiled fruits, (a case chiefly applicable to the black currant,) it will be sufficient that the fruit is simply brought to the boiling point, before using it; the water in the vessel being so managed, as to avoid any risk of burning."—*Dr. Macculloch's excellent Practical Rules for managing Wines made from Fruits of British Growth.*

Raisin Wine.

Put thirty gallons of soft water into a vessel, at least one third bigger than sufficient to contain that quantity; and add to it one hundred weight of Malaga raisins, grossly picked from their stalks. Mix the whole well together, and cover it, partly, with a linen cloth. When it has stood a little while in a warm place, it will begin to ferment, and must be well stirred about twice in twenty-four hours, for twelve or fourteen days. When the sweetness is nearly gone off, and the fermentation much abated, which will be perceived by the subsiding and rest of the raisins, strain off the fluid, pressing it, first by the hand, and, afterwards, by a press, out of the raisins. Let this liquor be put into a sound wine cask, well dried and warmed, adding eight pounds of Lisbon sugar, and a little yeast, and reserving part of the liquor, to be added, from time to time,

as the decline of fermentation will give room. In this state, the liquor must remain for a month, with the bung-hole open; and, having filled the vessel with the reserved liquor, let it be closely stopped, and kept for a year, or longer, and then bottled off. At the end of a year and a half, it may be drunk, but will improve for four or five years.

Some saving may be made in the expense, by diminishing the quantity of raisins, and increasing that of sugar, in the proportion of four pounds of raisins to one of sugar; or, by diminishing the proportion of both raisins and sugar, and adding clean malt spirits when the bung of the cask is closed up. Any other large raisins may be used, as well as the Malaga; but the thinner the skins, and the sweeter the pulp, the stronger will be the wine.

If this wine be perfectly fermented, and kept a long time, so that no sweetness remain, it will resemble Madeira.

Frontignac.

An artificial Frontignac may be made of this wine, in which the proportion of sugar, or of malt spirits, to the raisins, is large, and the whole body weaker; the muscadel flavour being communicated by an infusion of the flowers of meadow sweet. In the making of this artificial Frontignac, the ferment should be stopped by closing the cask, and adding the spirit, while a considerable degree of sweetness

remains; and the wine may be drunk after it has been a little while in the bottles.

Cyprus.

Cyprus wine may be imitated by the same means; using three or four pounds more of sugar than the quantity above prescribed, and stopping the fermentation while a considerable degree of sweetness remains.

Mountain.

Artificial Mountain may be made by preserving a small degree of sweetness, giving the nut-like flavour, and keeping the best kind of the above wine to a due age. The flavour may be obtained by the infusion of the Florentine orris root, powdered, with a very small proportion of orange and lemon peel; and the wine may be rendered more dry and sweet, by continuing the fermentation for a greater or less time, and adding a corresponding proportion of clean malt spirits, when the fermentation is stopped sooner. The adding of some of the stony seeds of the raisins, well bruised, will give the nut-like flavour; and the putting in a part of the stalks will add a sharpness, found generally in this kind of wine.

Canary, or Sack.

The racy taste of Canary, commonly called Sack, may be counterfeited by the addition of a proper quantity of the juice of white currant berries to the

wine, made with a large proportion of sugar to the raisins, and left very sweet, in the fermentation. But it is said, that a spirit, distilled from the leaves of clary, and clean malt spirits, put to the wine, will give it a very strong resemblance of Sack. It is said, also, that the juice of the bramble berries, added to the mixture of the wine, before the fermentation, will give both the colour and flavour of Claret; but, in this case, the quantity of raisins should be considerably diminished, and that of sugar increased, as the fermentation must be continued till the sweetness be wholly destroyed.

Imitation Port Wine. No. 1.

Take twenty-four gallons of cider, six gallons of the juice of elderberries, four gallons of Port wine, one gallon and a half of brandy, one pound of logwood, two ounces of isinglass, dissolved in a gallon of the cider; mix all together; bung it down close; in two months it will be fit to bottle, but should be kept in the bottles six or eight months. To give it a rough flavour, add six ounces of alum.

Imitation Port Wine. No. 2.

Good cider, forty-five gallons; brandy, six gallons; good Port wine, eight gallons; ripe sloes, two gallons: stew them in two gallons of water, press off the liquor, and add to the rest: if the colour is not strong enough, add tincture of red sanders, or cudbear.

In a few days, this wine may be bottled, add to each bottle, a tea-spoonful of the powder of catechu, mixing it well: it will very soon produce a fine crusted appearance; the bottles being packed on their sides, as usual, soak the ends of the corks in a strong decoction of Brazil-wood, with a little alum, which, along with the crust, gives an appearance of age.

Southampton Port.

Take thirty-six gallons of cider, eleven gallons of elder wine, five gallons of brandy, eleven gallons of damson wine; mix all together; allow it to stand a few days to settle, it is then fit for use.

Sherry. No. 1.

Take thirty-two pounds of loaf sugar, ten pounds of sugar candy, sixteen gallons of water; boil them for a quarter of an hour, then add six gallons of pale ale wort, prepared as for English Madeira, and one pint of yeast; set it to ferment, taking off the yeast as it rises; on the third day, add ten pounds of raisins, stoned, and, in another two or three days, add one gallon of brandy; bung it down for four months, then draw it off into another cask, and add one gallon more brandy: in three months it will be fit to bottle.

Sherry. No. 2.

Take the cuttings of the vine, when they are undergoing their second pruning; put them into a

tub, which must previously have a cock-hole made in the bottom. Boil as much water as will cover them, which must be put on them in a boiling state. Cover the tub over, and let it stand twenty-four hours; then draw the extract from the tub by the cock. Put it into the copper, and, when it boils, put it a second time on the cuttings, and let it stand till it is cold; and, to every gallon of the liquid, put three pounds of good loaf sugar. Put it into a cask, and, when the fermentation has subsided, (which, perhaps, may continue near three months,) add to every eighteen gallons of wine made, a gallon of spirits of wine; and, about the month of September, it will be in a fit state to drink.

This wine will be found to equal the best Sherry, if it is suffered to remain two years, and the directions carefully attended to. Care must be taken, during the fermentation, the first month, to leave the bung-hole of the cask slightly covered, and, at the end of that time, to stop it down close.

Sherry. No. 3.

Take of the brown cluster grape, two bushels; press them once only, and then add nine gallons of soft water, and fifty-six pounds of raw sugar, and of bitter almonds, well bruised, one pound. Put them into the cask, and let it stand, with the bung-hole uncovered, till the fermentation, at least the violent fermentation, has subsided; then stop the bung-hole

close, and, at the end, put into a bag, half a pound of mustard-seed, which must be suspended, from the bung, about the middle of the cask; and, at the same time, add two quarts of French brandy: it should stand twelve months before it is tapped.

Madeira. No. 1.

Take four bushels of pale malt, ground, forty-four gallons of water nearly boiling; stir in the malt, and allow it to stand three hours; strain off twenty-four gallons, then add fourteen pounds of raw sugar; when it is dissolved, add one quart of good yeast; stir all well together, and allow it to remain in the tub twenty-four hours, as the yeast rises keep scumming it off, then put it into a cask, and when the fermentation is nearly finished add two gallons and a half of raisin wine, two gallons of brandy, and two gallons of Port wine; bung it down for six or nine months. A second infusion of the malt will make good table beer.

Madeira. No. 2.

Take twelve gallons of water, to which add forty-two pounds of good raw sugar; boil it half an hour, taking care that it is well scummed. When quite cold, put to it four gallons of good ale wort out of the tun; then put it into the cask, with twelve pounds of raisins, one quart of brandy, and one ounce of picked isinglass. When it has done working, stop

it close, and let it stand one year before you bottle it. The best time to make it is in October.

Madeira. No. 3.
Take seventy pounds of good Malaga raisins; put them into a tub, and add fourteen gallons of spring water. Let them remain for about three weeks; then put them into a press, and add to the liquor four gallons of fine ale wort. Put it into a cask; let the bung remain out for about a week; then stop it close, and it will be fit to tap in eight months.

Champagne. No. 1.

Take ten pounds of raw sugar, twelve pounds of loaf sugar, nine gallons of water, three quarters of an ounce of concrete acid of lemons or crystallised acid of tartar, dissolve by a gentle boil; before it becomes cold, add yeast one pint; when the fermentation is nearly over, add one gallon of perry, and two quarts of brandy; bung it up for three months, then draw out about a quart and dissolve one ounce of isinglass in it, pour it into the cask, mixing it well; in a fortnight it will be fine, bottle it, taking care to cork it well.

To make pink Champagne, add an ounce of powdered cochineal when first bunged up.

Champagne. No. 2.

Press the claret grape of this country in a press,

where the juice cannot come in contact with any of the iron part of it, as it will give a very unpleasant flavour. Put the juice into a cask together with the pulp, and expose it to the rays of the sun twenty-four hours, after which put them into the press a second time. Strain the juice well, and put it into a stout well-seasoned cask, and stop it close for forty-eight hours, then give it vent near the bung-hole, and let it remain with the vent-peg out for six days; after which, to every eighteen gallons put one gallon of white French brandy. Stop it up close again, and in four months it will be fit to bottle.

The corks of the bottles should be wired.

Gooseberry Wine. No. 1.

Take ten gallons of ripe berries, bruised, thirty gallons of water; soak them twenty-four hours, strain and press; to each gallon of the liquor add three pounds of raw sugar, ferment one month with the bung loose, then drive it tight; in six months it will be fit to bottle.

Gooseberry Wine. No. 2.

Take bruised berries eighty pounds, ten gallons of water, soak for twenty-four hours, and strain; to each gallon add four pounds of loaf sugar; ferment as usual, and a fine sparkling wine will be the result.

Gooseberry Wine. No. 3.

Take ten gallons of the juice of gooseberries not

two hips, twenty gallons of water, fifty pounds of good raw sugar; when the fermentation is nearly over, add one gallon of clean malt spirit or brandy; if carefully fermented, the product will be a very superior wine.

Gooseberry Wine. No. 4.

Take a bushel of white gooseberries, when they are about two-thirds ripe, and put them into a tub with nine gallons of water; let them stand twenty-four hours, put them into a press, and to the liquor, add forty pounds of good lump sugar; put it into a cask, bung it up, and let it stand twelve months, then bottle it, and be careful to wire the corks.

Gooseberry Wine. No. 5.

To every three pounds of gooseberries, put a pint of spring water, the gooseberries having been previously bruised; stir them well, and let them stand twenty-four hours, and to every three pounds of gooseberries and pint of water add a pound of lump sugar, stir it till the sugar is dissolved, and let it remain twenty-four hours more, then take off the scum, put the liquor into a cask, and let it work two or three days, then bung it up close, and let it remain four months before you bottle it; and be careful not to tap the cask too low down.

Gooseberry Wine. No. 6.

To twelve gallons of soft water put eight gallons

of white gooseberries, let them be well bruised, and steep them for forty-eight hours, then press them, and add to the juice forty-eight pounds of good raw sugar, put it into the cask, and let it work for three days; then add to it half a gallon of brandy, and one pint of fine mustard seed; bung up close, and let it stand for six months.

Red Currant Wine.

Take seventy pounds of red currants, bruised and pressed, good moist sugar forty-five pounds, water sufficient to fill up a fifteen-gallon cask, ferment; this produces a very pleasant red wine, rather tart, but keeps well.

White Currant Wine. No. 1.

To each gallon of the juice of white currants, add three pounds and a half of good moist sugar, stir them well together to dissolve the sugar, allow it to stand in the tub twelve hours, then put it into the cask, adding twelve ounces of crude tartar, powdered; to each twenty gallons, mixing it well; allow it to ferment for three months, carefully filling up, and covering the bung-hole with a tile; then bung down close, leaving the spile peg a little slack, to be examined occasionally to prevent the cask bursting for six months, it may then be drawn off into bottles, carefully avoiding to draw off the bottom; if partieu-

if attention is paid to it, a most beautiful wine will be produced.

White Currant Wine. No. 2.

To every gallon of juice, add two gallons of water, and to every gallon when mixed, three pounds of the best lump sugar, let the sugar be dissolved, then put it into the cask, and leave the bung-hole open, so as to admit a little of the air; and when it has been working about fourteen days, put into it, in a bag suspended from the bung, about half way in the cask, one pint of mustard seed, previously steeped in a quart of brandy, and in twelve months it may be tapped.

These wines are too generally tapped in three or four months after they are made; but, if it is convenient to let them remain a season before they are used, they will be little inferior to Lisbon wine.

White Currant Wine. No. 3.

To ten gallons of water, put the same quantity of white currants; let them remain in steep for forty-eight hours, then press them, and add fifty pounds of good lump sugar, put it into the cask, and when it has worked fourteen days, add two ounces of bitter almonds well bruised, and one gallon of brandy; let it stand for six months, and you may then tap it.

Mixed Currant Wine.

Take of the juice of red and white currants and

water equal parts; to each gallon add four pounds of raw sugar, when the sugar is dissolved put it into the cask, treat it in the same way as the white currant, fermenting rather longer; it makes a beautiful coloured wine.

Black Currant Wine. No. 1.

Take black currants twenty pounds, brandy three pints, water twelve gallons, ferment for ten days, then bottle and cork well. A pleasant, vinous, cooling liquor is produced, of a purple colour.

Black Currant Wine. No. 2.

To seven gallons of the juice of the currant, put the same quantity of water, and add to it fifty-six pounds of good raw sugar, put it into a cask, keeping back a little of the wine to fill up the cask with as it works over. When the fermentation has subsided, put to it one gallon of brandy, then bung it down close, and let it remain for twelve months.

Black Currant Wine. No. 3.

Take one bushel of black currants, and a peck of strawberries, to which add ten gallons of water; let them remain twenty-four hours in steep, press off the fruit, and add to the liquor twenty-eight pounds of raw sugar; when the sugar is dissolved, put it into a cask, add four ounces of bruised Jamaica ginger, and in a fortnight, put into it three quarts of

brandy, bung it down tight, and let it remain for six months.

Mixed Fruit Wine. No. 1.

Take of white currants three sieves, red gooseberries two sieves, these should yield forty pints of juice; to each gallon, add two gallons of water, and to each gallon of the liquor, add three pounds and a half of raw sugar; ferment three months, and bottle.

Mixed Fruit Wine. No. 2.

Take equal parts of white, red, and black currants, black-heart cherries, and raspberries; to each four pounds of the bruised fruit, add one gallon of water; steep for three days, press, and to each gallon of liquor add good moist sugar three pounds; ferment, and when nearly finished, add to each nine gallons two pints of brandy; if it does not fine soon enough, dissolve an ounce of isinglass in a quart of water to each twenty gallons.

Mixed Fruit Wine. No. 3.

To ten gallons of white and red currants, add nine gallons of water, let them steep for twenty-four hours, then add twenty-eight pounds of raw sugar, and fourteen pounds of good honey, and about two pounds of sliced beet-root. Let it work as usual, and then add one gallon of brandy; let it stand twelve months before you bottle it.

Cherry Wine. No. 1.

Take thirty pounds of cherries, twenty pounds of moist sugar, water sufficient to fill a seven-gallon cask ; ferment slowly for four months, with the bung hole slightly closed ; bung down close for six months longer, it will then be very fine.

Cherry Wine. No. 2.

Take sixty pounds of black cherries picked from the stalks, bruise them well with the hands, half a bushel of red currants, and one gallon of strawberries well bruised, fifty pounds of raw sugar, as much water as will make up eighteen gallons, stir all well together, ferment with the bung out one month, then close the cask, and allow it to remain three months longer, then rack off the wine, and when fined, bottle for use.

Elder Wine. No. 1.

Take eight gallons of the juice of elderberries, twelve gallons of water, sixty pounds of brown sugar, boil them together half an hour, put it into a cask, and when at a proper heat, add half a pint of yeast ; when the fermentation is nearly finished, add half a gallon of brandy ; bung it up for three months. When mulled with spices, it is a very agreeable cordial.

Elder Wine. No. 2.

Gather the fruit when full ripe; put it into a copper, when picked, and boil till the berries begin to sink; then draw it off from the copper, and strain through a sieve; to every gallon of juice, put three gallons of water; and to each gallon, when mixed, add three pounds and a half of raw sugar. Put the juice into the copper again, and let it boil for an hour, skimming it well, then draw it off into a tub, and when it is about lukewarm, spread some yeast upon a toast, and put it into the tub to the wine. Let it ferment in the tub two nights; then draw it off into a cask, and add to each eighteen gallons, one ounce of cloves, two ounces of ginger, and two ounces of allspice powdered. Put the bung in slightly, till it has done hissing; then stop it close, and in three months it will be fit to tap.

Elder Wine. No. 3.

Take half a hundred weight of Malaga raisins, to which add sixteen gallons of water; steep ten days, then press off the liquor and put it into a copper, with four gallons of elder juice, and fourteen pounds of raw sugar; let it boil well for half an hour; then pour it upon four ounces of ginger, two ounces of cloves, and four ounces of allspice, all powdered; add toast and yeast, as before. After two days, draw it off into a cask; when it has done

working, bung it down. It will be fit to tap by Christmas.

Elder Wine. No. 4.

Take four gallons of elder juice, to which add eight gallons of soft water, and thirty-six pounds of good raw sugar; put them into a copper, and boil half an hour, keeping it well skimmed; then draw it off hot into a tub, in which is four ounces of powdered ginger and four ounces of powdered allspice, and work it with toast and yeast twenty-four hours; then draw it off into a cask, to which add six gallons of good cider, and in four days after, bung it down close.

Elder Wine. No. 5.

To every gallon of berries put a gallon of water, and let them stand twenty-four hours, stirring it often; then put it into a copper and boil it well for half an hour; then draw it off and strain it through a sieve; then put the juice into the copper a second time, and to each gallon of liquor add three pounds and a half of moist sugar; let it boil well together for half an hour; in the last five minutes add bruised ginger and pimento, of each four ounces to every ten gallons; then take it out, and when cool, put in a toast covered with good yeast; let it work well. When it has done fermenting, put it into a cask, stop it close; let it stand three or four months, then bottle it off. This wine will be excellent, pec-

sessing all that rich and full flavour is much admired by good judges of this wine.

Parsnip Wine.

Is made by cutting the root into thin slices, boiling them in water, pressing out the liquor and fermenting it. This wine, when made strong, is of an excellent quality and flavour.

Orange Wine. No. 1.

Take thirty pounds of good raw sugar, ten gallons of water, boil for half an hour; clarify with the whites of six eggs; pour the boiling liquor upon the peels of one hundred oranges; add the strained juice of these oranges, and half a pint of yeast; let it ferment three or four days, then strain into a barrel, bung it up loosely; in a month, add four pints of brandy; and in three months it will be fit to drink.

Orange Wine. No. 2.

Take half a chest of Seville oranges, squeeze the juice from them, and dissolve in it forty-six pounds of good lump sugar; then take half the quantity of the peel, put it into another tub, and pour upon it ten gallons of boiling water; let it stand till it is cold, then squeeze the peel as dry as you can, and put the liquor, sugar, and juice into a cask. When the fermentation has subsided, add to it two quarts

of good French brandy; let it stand six months, and then bottle it.

Orange Wine. No. 3.

To every gallon of water put two pounds of good raw sugar and one pound of Malaga raisins; let them be put into a tub to steep for fourteen days; then press the fruit, and to every gallon of liquor, add the juice and peel of a Seville orange; put it into a cask, and let it remain for six months.

Quince Wine.

Take quinces, when they are fully ripe, and wipe off the skin very clean; then take out the cores. Bruise the fruit as you do apples for cider, and press out the juice; to every gallon of which add two gallons of water, and to each gallon of liquor, two pounds and a half of loaf sugar, stirring well together till the sugar is dissolved; afterwards, put it into a cask, and when the fermentation is over bung it up well. Let it stand six months before you bottle it: This wine will improve by being kept two or three years.

Blackberry Wine.

Take the berries when they are ripe, and to every gallon of berries add one gallon of water; bruise the berries well, and steep them twenty-four hours; strain off the liquor, and to every gallon add three pounds and a half of raw sugar, and the juice

and rind of twenty-four lemons to eighteen gallons of the wine. Put it into a cask, and the next day bung it down close. In two months it will be fit to bottle.

Plum Wine.

Take green-gages, or Orleans plums, and put them into a tub, and add as much boiling water as will cover them; cover the tub over, and let it stand three days; draw the liquor from the bottom of the tub, and to every gallon put three pounds of lump sugar. When the sugar is dissolved, put it into a cask, and bung it down in a week, adding a gallon of brandy to eighteen gallons of wine.

Apricot Wine.

Take sixteen pounds of apricots, when nearly ripe, wipe them clean, and cut them in pieces; add two gallons of water, and boil till the water has strongly imbibed the flavour of the fruit; then strain the liquor through a hair sieve, and to every quart add half a pound of lump sugar; boil it again, carefully taking off the scum; then pour it into an earthen vessel, and the next day bottle it.

Ginger Wine. No. 1.

Take twelve ounces of good ginger, bruised, ten gallons of water, boil for half an hour; then add twenty-eight pounds of sugar (loaf sugar if it is wished to be pale) boil till it is dissolved; put into

the cask fourteen lemons, sliced, and pour on the liquor; when cool enough, add yeast, and ferment, filling up the cask, that the yeast may work out; when the fermentation abates, add three pints of brandy: bung it up for three months, and then bottle it.

Ginger Wine. No. 2.

To fifteen gallons of water, put fifty-six pounds of good raw sugar; boil it well for half an hour, taking off the scum as it rises. Bruise one pound of the best Jamaica ginger; pare and cut three dozen lemons; and when the syrup has boiled sufficiently, pour it upon the lemons and ginger, and let them remain in it till the syrup is about lukewarm; then squeeze them out, and put into the tub a little yeast. Let it work three days; then put it into a cask, with a little isinglass, and let it stand three months; it will then be fit for use.

Put the ginger and lemons into the cask.

Ginger Wine. No. 3.

Take fifty-six pounds of Malaga raisins, to which add twenty gallons of soft water; let them steep for fourteen days; then press them off, and put the liquor into a cask; to which add one pound of ginger well bruised, with the peel and juice of eighteen lemons, and one gallon of clarified syrup; let it remain for four months, and it will be found to be a very fine wine.

Raspberry Wine. No. 1.

To every gallon of raspberries put a gallon of water, and let them steep for forty-eight hours; then press the fruit, and to every gallon of juice put three pounds of good raw sugar; put it into a cask, and add to every eighteen gallons of wine one gallon of brandy. It will be ready to tap in three months.

Raspberry Wine. No. 2.

If cider is used instead of water, and treated according to the preceding receipt, it will produce a most delicious and rich wine; if kept twelve months before it is bottled, it may be introduced as foreign wine, as the flavour of the raspberry will in a great measure be gone, and a more grateful one substituted.

Strawberry Wine. No. 1.

To one bushel of pine strawberries, when pressed, add ten gallons of water, and twenty-eight pounds of good raw sugar. When the sugar is dissolved, put it into a cask, with the rind and juice of twelve lemons; allow it to ferment fourteen days, and then add one gallon of brandy. It will be fit to tap in three months.

Strawberry Wine. No. 2.

To one bushel of strawberries, when pressed, add six gallons of Herefordshire cider, and the same

quantity of water, to which add twenty pounds of good raw sugar, with the juice and rind of three lemons, and a quarter of a pound of well-bruised ginger; allow it to ferment fourteen days. Then add two quarts of brandy; bung it down close, and let it remain till bright.

Raisin Wine.

Take one hundred weight of Malaga or Lexia raisins; sixteen gallons of water; soak for fourteen days; press out the liquor; put it in a cask, with the bung loose till it has done hissing; then add four pints of brandy, and bung it up close.

Turnip Wine.

Take as many turnips as will produce ten gallons of juice, by grinding them in an apple mill, or bruising them in a large mortar; put the whole, so ground or bruised, into a hair bag, and press the liquor out; add to it two pounds and a half of loaf sugar, for every gallon of juice. Let it stand in a tub twelve hours, that the sugar may dissolve, observing to stir it often; put half a pint of brandy, and one quart of pleasant cider, to every gallon of liquor. Then put the whole into a clean cask, that will hold about fifteen gallons; add pure water, or more turnip juice, enough to fill the cask, and let it stand, closely stopped, till the expiration of eight or ten months, when it will be fit to bottle.

The juice and rinds of ten lemons, and one ounce of castor, would greatly improve its quality.

Lemon Wine. No. 1.

Pare four dozen of lemons; put the peels into one gallon of brandy, and let them stand fourteen days; make the juice of the lemons into a syrup, with two pounds of lump sugar. When the peels have infused a sufficient time, boil ten gallons of water, with forty pounds of good lump sugar, half an hour; put it into a tub, and, when cold, add the brandy, peel, and syrup, and put it into the cask; stop it close, and let it stand six months.

Lemon Wine. No. 2.

To fifteen gallons of water, add thirty pounds of good honey, and fifteen pounds of Malaga raisins; steep them for fourteen days; then press off the liquor, and add to it the juice and rind of forty lemons, and two quarts of brandy. Put it into a cask, and let it stand till it is fine.

Mulberry Wine.

Take mulberries, when they are ripe, and to every gallon of fruit put a gallon of spring water, and let them steep twenty-four hours, then press them well, and to every gallon of the liquor put three pounds of lump sugar. When it is dissolved, put it into a cask, and do not bung it down till it

has done fermenting. Then bung it down close, and, when fine, bottle it, and let it remain twelve months before used.

Birch Wine.

The season for procuring the liquor from the birch trees, is at the beginning of March, while the sap is rising, and before the leaves appear. The method of procuring the juice is by boring holes in the body of the tree, and putting in faucets, which are commonly made of the branches of elder, the pith being taken out. You may, without hurting the tree, if large, tap it in several places, five or six at a time, and by that means save, from a few trees, several gallons every day. If you have not enough in one day, the bottle, in which it drops, must be corked close: however, make use of it as soon as you can. Take the sap, and boil it as long as the scum rises, skimming it all the time, and to every gallon of liquor put four pounds of good sugar, and the peel of a lemon; boil it, afterwards, half an hour, skimming it very well; pour it into a clean tub, and, when it is almost cold, set it to ferment, with yeast upon a toast: let it stand five or six days, stirring it often. Take a cask, and sulphur it, then run the wine; lay the bung on light, till it has done fermenting, then stop it close: keep it three months, then bottle it off.

Grape Wine. No. 1.

Take ripe grapes, of the sweet water kind, fifty pounds; put them into a press, and to every gallon of the expressed juice add two gallons of water; and six pounds of East-India sugar. Let the sugar be well dissolved in a tub, and allow it to stand twenty-four hours, exposed to the air; then draw it off into a cask, leaving the bung out. When the fermentation has subsided, rack it off into another cask; putting what sediment may remain in the cask into a filtering bag, and, when it has run through, put it into the wine, with one gallon of French brandy; stir it well, then stop the bung close, and in six months after it will be found to be a very fine wine.

Grape Wine. No. 2.

Take two bushels and a half of ripe grapes; put them into a tub; add eight gallons of soft water; let them stand for three days, then press them; add the expressed juice to the water, with twenty pounds of strong raw sugar; then draw it off into a cask. Let it ferment for about ten days, then add two gallons of French brandy, and half a pound of mustard seed. Bung it down close for six or eight months, it will then be in a fit state to tap.

Damson Wine.

To every eight pounds of damsons add one gallon of boiling water; allow it to stand three days;

strain off the liquor, and to every gallon add three pounds of raw sugar; put it into a cask, and ferment with the bung loose, two months; then drive it in close, and allow it to stand four months longer, and, when fine, bottle it off.

Cowslip Wine.

Take twelve pounds of raw sugar, six gallons of water, the whites of four eggs; boil and skim till the liquor is clear; pour it hot upon three pounds of cowslips, and the yellow rind of six lemons; add some yeast; the third day strain the liquor, and finish the fermentation.

PART II.

OF BREWING.

The early History of Brewing.

THE art of brewing, or of preparing a vinous fermented liquor from farinaceous seeds, is of very high antiquity. The ancient Egyptians, from the soil and climate of their country not being favourable to the culture of the vine, were induced to seek a substitute in barley, from which, in all probability, by the process of malting, they knew how to procure a fermented liquor. All the ancient malt liquors, however, seem to have been made entirely of barley, or some other farinaceous grain, and therefore were not, generally, calculated for long keeping; as this quality depends considerably, though not entirely, on the bitter extract of hops, or other vegetables, with which the liquor is mingled. Modern malt liquor is essentially composed of water, of the soluble parts of malt and hops, and of yeast.

Besides the various qualities of malt liquors, of a similar kind, there are certain leading features by which they are distinguished, and classed under

different names, and to produce which different modes of management must be pursued. The principal distinctions are, into beer, properly so called; ale; table, or small beer; and porter, which is commonly termed beer in London. Beer is a strong, fine, and thin liquor; the greater part of the mucilage having been separated by boiling the wort longer than for ale, and carrying the fermentation farther, so as to convert the saccharine matter into alcohol. Ale is of a more sirupy consistence, and sweeter taste; more of the mucilage being retained in it, and the fermentation not having been carried so far as to decompose all the sugar. Small beer, as its name implies, is a weaker liquor, and is made either by adding a large portion of water to the malt, or by mashing, with a fresh quantity of water, what is left after the beer or ale wort is drawn off. Porter was probably made, originally, from very high-dried malt; but, it is said, that its peculiar flavour cannot be imparted by malt and hops alone.

Of Water.

Lightness is considered as a perfection in water; that which weighs least, being generally the purest. In brewing, the difference of water, whether rain, spring, river, or pond, is of little importance, provided it be equally soft and pure. The chief art consists in the due regulation of heat; and as soft waters are found in most places, and become more

alike when heated to the degree necessary to form extracts from malt, it is evident, that any sort of beer or ale may be brewed with equal success, in all places where malt and hops can be procured.

Of Malting.

Malt is barley rendered fit for the purpose of brewing, by being made to sprout or germinate with degrees of heat nearly equal to those which the seed should be impressed with, when sown in the ground; and dried with a heat superior to that of vegetation, and capable of checking it. The barley is put into a cistern that holds five, ten, twenty, or more quarters, and covered with water about five inches, to allow for its swelling; it should remain in the cistern two or three days, more or less, in proportion to the heat of the air, and the state of the barley; that which has been washed by rains requires less time than the dryer grain, that was saved well, and grew on dry ground. To judge when the corn is fully saturated, some persons drop an iron rod perpendicularly into the cistern; if the grain readily gives way, it is then considered time to draw off the water. Others take some of the corns, endways, between their fingers, and gently crush them; if they are in all parts mellow, and the husks open, or start a little from the body of the corn, they conclude it has soaked long enough. The nicety of this is a material point, for if it is infused too much it

will lessen the sweetness and spirit of the malt, and cause the beer or ale, made from it, to become dead and sour in a short time. The water being well drained off, the grain should be taken out of the cistern and laid in a heap, about two feet in height.

The corn should not be suffered to acquire so great a degree of heat in this heap, as to carry on germination too fast, for this would cause the malt to become bitter and ill tasted. Before the acrospire is perceived to lengthen, the barley must be dispersed in beds, on the floor of the malt-house, and be turned every four, six, or eight hours, the outward parts inward, and the bottom upwards; always keeping a clean floor, that the corn which lies next it, may not be chilled. As soon as it begins to come, or spire, it should be turned every three, four, or five hours, according to the temperature of the air, (by which this management ought to be governed,) as it comes or works more, the heaps must be spread wider and thinner, in order that it may cool. Thus it may lie, and be worked upon the floor, two or three feet thick, ten or more feet broad, and fourteen or more feet in length, to chip or spire; and when it is come enough, it is to be turned twelve or sixteen times in twenty-four hours, if the season is warm. When it is fixed, and the roots begin to die, it must be thickened again, and often carefully turned and worked, that the growth of the root may not revive. The floor should be kept clear, and the malt turned

often, that it may neither mould nor acrospire, but that the blade may not grow out at the opposite end of the root; for, if it does, the strength of the malt will be destroyed.

It is of great consequence, in making of malt, that the grain be dried by a very slow and gradual heat; for this purpose it should be thrown into a large heap, and there suffered to grow sensibly hot; in this active condition, it is spread on the kiln, where it is exposed to a heat greater than is necessary for vegetation, by which its further growth is stopped. The time usually allowed for drying a kiln of malt, is from eight to twelve hours. When the colour of the barley has not been greatly changed by the heat, it is called pale malt; in proportion to the degree of heat it has been exposed to, the deeper will be the colour, each shade being distinguished by a different name, as brown malt, amber malt, &c. Malt, when sufficiently dried, must be taken from the kiln and spread in an airy place, till it is thoroughly cool; and then put into a heap. When malt is suffered to grow too much, or until the spirit has shot through the skin of the barley, though all that is left be malt, it is not fit to brew drinks for long keeping. Some maltsters sprinkle water on malt newly removed from the kiln, to make it appear to have been made a long time, or, as they say, to plump it; this is a deceit which cannot be too much exposed, as, by this practice, the purchaser is grossly

imposed on. The grain, by being moistened, occupies a greater volume, and soon grows mouldy, heats, and is thereby greatly injured.

There are several contrivances made use of for the purpose of drying the malt on,—as the iron-plate frame, and the tile frame; which are both full of little holes; the brass-wired and iron-wired frames, and the hair-cloth. The iron and tiled frames were chiefly invented for drying brown malt, and saving of fuel; these, when thoroughly hot, will scorch the corn in a short time. The wire frames are better, yet they are apt to scorch the outward part of the corn, which cannot be got off so soon as the hair-cloth admits of. The last three ways are much used for drying pale and amber malts, because the malt can be more gradually dried; but the hair-cloth is considered the best of all.

Malt is dried with several sorts of fuel,—as coke, culm, Welch coal, straw, wood, fern, &c. Coke is considered the best, if properly made, because it does not send forth smoke to injure the flavour of the malt. Some persons put a peck or more of peas with every five quarters of barley to be made into malt, which greatly mellows the drink; beans will do so likewise, but they will not come so soon, nor mix so conveniently with the malt, as peas.

Oats, malted in the same manner as barley, will make a weak, soft, mellow, and pleasant drink; but wheat, so treated, will produce a strong, heady, nourishing, and fine liquor.

To know good from bad malt, examine if it has a round body, breaks soft, is full of flour, smells well, and has a thin skin; chew some of it, and if you find it sweet and mellow, it is good; if it be hard and steely, and retain something of the nature of barley, it has not been rightly made, and will weigh heavier than that which has been properly malted.

Pale Malt

Is the slowest and slackest dried of any, and will produce a greater length of wort than the brown high-dried malt; for which reason it is sold for two, three, and four shillings per quarter more: it is, of all others, the most nutritious, being the most simple, and nearest to its original barley-corn; and will retain an alkaline and balsamic quality much longer than the brown sort.

Amber-coloured Malt

Is dried in a degree between pale and brown; and is much in use, though but seldom used alone.

Brown Malt

Is the highest dried, and will not admit of so much wort being drawn from it as pale and amber malt.

According to Mr. Combrune's statements, one hundred and twenty degrees is the lowest heat for drying pale malt, and one hundred and fifty the highest for brown malt; and he assumes it as a

principle, that the heat of the extracting liquor should be in proportion to that with which the malt was dried. When the exciser takes his gauge on the floor, he allows ten in the score; but at times, he gauges in the eastern couch, floor, and kiln; and where he makes most, there he fixes his charge.

Of Grinding.

It is necessary for malt to be ground, in order to facilitate the action of the water on the grain, which otherwise would be obstructed by the outward skin. Every corn should be cut, but not reduced to flour or meal; for in this state the grist would not be easily penetrable; it is therefore sufficient that every grain be divided into two or three parts. In every brewing, the intention of grinding is the same; and the transparency of the liquor does not depend on the cut of the corn, as is supposed by some persons. It has been recommended to bruise the malt between two iron cylinders, instead of grinding it: if by this means, some of the fine mealy parts are saved, which would otherwise be lost in air, it must be very inconsiderable, and perhaps not equal to the direct advantage of the water not coming in immediate contact with the flour of the grain; so that, upon the whole, the difference between bruising and grinding the grain can be of no great consequence.

The constituent parts of malt, like those of all

vegetable sweets, are so inclined to fermentation, that when once put in motion it is difficult to retard their progress, retain their preservative qualities, and prevent their becoming acid. Among the many means put in practice to check the forwardness of malt, none promised so much success as blending with the extracts the juices of such vegetables as of themselves are not easily brought to fermentation. Hops were selected for this purpose, and experience has confirmed their wholesomeness and efficacy.

Hops

Are an aromatic, grateful bitter, endowed with an austere and astringent quality, and guarded by a strong resinous oil. The aromatic parts are volatile, and disengage themselves from the plant with a small heat. To preserve them in the processes of brewing, the hops should be put into the copper as soon as possible, and be thoroughly wetted with the first extract, while the heat of the wort is at the least, and the fire under the copper has little or no effect thereon; by this means, that flavour is retained which would otherwise be dissipated.

After hops are bagged, the sooner and tighter they are pressed the better they will keep. If in brewing, part of a bag or pocket be left unused, let the upper part of the bag be covered close over the remainder, and a heavy weight put upon it, to exclude the air.

Of Mashing.

The first step in the process of brewing is mashing, which is performed in a large circular wooden vessel, called a tun, shallow in proportion to its extent, and furnished with a false bottom, a few inches above the real one, pierced with small holes, and made either moveable or fixed. There are two side openings in the interval between the real and false bottom, to which pipes are fixed; one for the purpose of conveying water into the tun, and the other for drawing the liquor out of it. The malt is to be strewed evenly over the false bottom of the tun; and then, by means of the side-pipe, a proper quantity of hot water is introduced from the upper copper. The water rises up through the malt, or, as it is called, the grist; and when the whole quantity is introduced from the upper copper, the mashing begins, the object of which is to effect a perfect mixture of the malt with the water, so that the soluble parts may be extracted by it; for this purpose, the grist is incorporated with the water, by means of iron rakes, and then the mass is beaten and agitated by long, flat, wooden poles, resembling oars, which are either worked by hand or machinery. When the mashing is completed, the tun is covered, to prevent the escape of heat, and the whole is suffered to remain at rest for some time, in order that the insoluble parts may separate from the liquor.

The time it is allowed to remain still is various, according to the nature of the liquor to be brewed, and is called the standing of the mash. The side hole is then opened, and the clear wort allowed to run off, slowly at first, but more rapidly as it becomes fine, into the lower or boiling copper.

The chief thing to be attended to in mashing, is the temperature of the mash, which depends on the heat of water, and on the state of the malt; if the water was let in upon the grist boiling hot, the starch which it contains would be dissolved, and converted into a gelatinous substance, in which all the other parts of the malt, and most of the water, would be entangled beyond the possibility of recovery. The most eligible temperature for mashing appears to be from one hundred and eighty-five degrees to one hundred and ninety degrees of Fahrenheit; for the first mashing, the heat of the water must be somewhat below this temperature, and lower in proportion to the dark colour of the malt made use of; for pale malt, the water may be one hundred and eighty degrees; but for brown, it ought not to be more than one hundred and seventy degrees. The wort of the first mashing is by much the richest in saccharine matter; but to exhaust the malt, a second and a third mashing is required, in which the water may be safely raised to one hundred and ninety degrees or upwards. The proportion of wort to be obtained from each bushel of malt depends

entirely on the proposed strength of the liquor. It is said, that twenty-five or thirty gallons of table-beer may be taken from each bushel of malt. For ale and porter of the superior kinds, only the produce of the first mashing, or six or eight gallons per bushel, are to be taken.

Of Boiling and Hopping.

If only one kind of liquor is made, the produce of the three mashings are to be mixed together; but if both ale and table-beer are required, the wort of the first and second mashing is appropriated to the ale, and the remainder is set aside for the beer. All the wort destined for the same liquor, after it has run from the tun, is transferred to the large lower copper, and mixed with a certain proportion of hops. The better the wort, the more hops are required. In private families, a pound of hops is generally used to every bushel of malt; but in public breweries, a much smaller proportion is deemed sufficient. When both ale and table-beer are brewed from the same malt, the usual practice is to put the whole quantity of hops in the ale-wort, which having been boiled some time, are to be transferred to the beer-wort, to be again boiled with it.

To preserve porter for twelve months, when fermented at forty degrees, twelve pounds of hops are considered sufficient for the produce of one quarter of malt; but if heated to sixty degrees, rather more

than double the quantity of hops will be required to preserve the beer the same length of time. For small-beer, to be fermented at forty degrees, three pounds to the quarter will be sufficient; but at sixty degrees, it will require six pounds of new hops, or six and three-quarters pounds of old hops, which are such as have been kept one year, and have, in consequence, lost some of their good qualities; but this difference is not worthy of notice, when only small quantities are used.

When the hops are mixed with the wort in the copper, the liquor is to be made to boil; and the best practice is to keep it boiling as fast as possible, till upon taking a little of the liquor out, it is found to be full of small flakes, like those of curdled soup. The boiling copper, in common breweries, is uncovered; but in those on a very large scale, it is fitted with a steam-tight cover, from the centre of which passes a pipe, that terminates by several branches in the upper mashing or copper. The steam, therefore, produced by the boiling, instead of being wasted, is let into the cold water, and thus raises it very nearly to the temperature required for mashing, besides impregnating it very sensibly with the essential oil of hops, in which the flavour resides.

Of Cooling.

When the liquor is boiled, it is discharged into a number of coolers, or shallow tubs, in which it

remains until it becomes sufficiently cool to be submitted to fermentation. It is necessary that the process of cooling should be carried on as expeditiously as possible, particularly in hot weather, and for this reason the coolers in the great brewhouses are very shallow. Liquor made from pale malt, and which is intended for immediate drinking, need not be cooled lower than seventy-five or eighty degrees: of course this kind of beer may be brewed in almost the hottest weather; but beer brewed from brown malt, and intended to be kept, must be cooled to nearly sixty degrees before it is put into a state of fermentation. Hence, spring and autumn have been deemed the most favourable seasons for the manufacture of the best malt liquors. In the summer, worts must be got as cool as the weather will admit of; and it being found that about three o'clock in the morning is the coolest period of the twenty-four hours, this is the time that they should be set to work.

Of Fermentation.

Beer receives its strength and spirit from the process of fermentation, during which a quantity of fixed air is given out of the fluid; the wort loses its viscosity and sweet taste, its specific gravity is diminished, and an inebriating quality is given to the liquor. When the wort is at a proper temperature, the yeast is added to it, in the gyle tun, or square; and in a short time the fermentation begins at the

sides of the tun, and gradually advances to the middle, till the whole surface is covered with a white scum formed of small bubbles, which increase in size as the fermentation advances, forming a head of yeast. Some of the bubbles, on reaching the surface, burst, and the film of yeast which covered them sinks, but is again borne up by the ascending bubbles. These films form at first a yellow, and as the process advances, a dirty brown uneven covering to the yeast, giving it the appearance of rocks. In this state the fermentation is at its crisis, and afterwards diminishes. When the head begins to sink, (which it does first in the middle of the tun,) the fermentation is to be checked, by cleansing, that is, dividing it into small casks, and allowing any further yeast which it may produce to flow off as fast as it is formed, taking care to keep the casks filled up with fresh liquor, till this discharge ceases, when the bung-hole is to be closed, and the liquor, after having stood a sufficient time to fine, will be fit for use. In London, from the large capital required in the brewing trade, the brewers find it necessary to make a quick return, and therefore send the beer out in the rough, as they term it, that is, before it has stood a sufficient time to fine; in this case a proper quantity of fining is sent with it, which is composed of isinglass dissolved in very sour beer, brewed on purpose, without hops, from a fourth mash. The innkeeper puts the finings into the

cask, which mixes with the fecula floating in the beer, and forms a kind of net-work, which, gradually sinking to the bottom, carries all the impurities with it. Heat increases the violence of fermentation, and if it is too great, the process advances so rapidly as to render it difficult to check it at the proper stage, which, if not effected, the acetic fermentation will commence before it has precipitated the mucilage, or, in the brewer's language, purged itself, and causes an unpalatable mixture of acid, from the excessive fermentation; and of bitter, from the excess of mucilage. In the other extreme, where the heat is not sufficient for the fermentation, a decomposition of the wort takes place, and produces an unpalatable liquor, containing a combination of sweet and bitter. In strong pale ales, it is the object of the brewer to give them the greatest possible strength, together with a very clear and fine light colour, without containing much of vegetable flavour. In brown ales and porter, a fulness of palate, deep colour, glutinous taste, and vegetable flavour, are produced by retaining part of the farinaceous matter, instead of expelling the whole of it, as in the former instance.

When the heat of the atmosphere is more than sixty degrees, the cool of the night must be chosen to put the wort to work. In lower degrees of the atmosphere, the wort must be set at a greater heat than that of the air; for, as the tendency to ferment-

tation increases with the heat of the weather, it is necessary to correct it by putting the liquor to work colder in hot weather, than in cold. If the air is at thirty degrees of Fahrenheit, small beer should be set to work at about seventy degrees; beer intended for keeping, at fifty-six degrees; and amber, or glutinous ales, at fifty-four degrees. When the air is at fifty, all these kinds may be set to work at fifty degrees. In the process of fermentation, the temperature of the wort is often increased as much as ten degrees; and it may in general be considered, that the wort will be ten degrees higher at the height of the fermentation than it was when first put to work, supposing the heat of the air continues the same.

Of Yeast.

The yeast produced from strong beer is the best to effect a temperate and regular fermentation; that from weak small beer should not be used when the other can be procured; it being apt to act violently for a short time, and then cease. The quantity of the yeast has some effect on the degree of fermentation; a greater quantity will increase the rapidity of the process, in the same manner as a greater degree of heat would, and *vice versa*; hence, a greater proportion of yeast is required in winter than in summer. Small beer intended for immediate use, when the temperature is as low as forty degrees, will require about eight pints of yeast to one

quarter of malt, at sixty degrees, six pints; at seventy degrees, five pints; and at eighty degrees, only four pints.

All kinds of beer, intended for keeping, will require only six pints at forty degrees, five pints at sixty, four pints at seventy, and three pints at eighty degrees.

Of Colouring.

The colour and flavour of porter and brown beer was formerly derived from high-dried malts, which were scorched and partially charred on the kiln; but this process being found to cause a great waste of the fermentable matter, which might otherwise be extracted from them, has given place to the more economical plan of colouring beer, obtained from pale malt. The cheapest method of effecting this purpose is, by the addition of burnt sugar, which gives it the desired flavour as well as colour.

The mode of preparing the sugar for colouring is as follows:—One hundred weight of coarse brown sugar is put into a cast-iron boiler, of a hemispherical figure, with one gallon of water. This is boiled, and kept constantly stirred, till it turns black, and is of the consistence of treacle; the smoke rising from it is now set on fire, and this communicates to the whole, which is suffered to burn about ten or twelve minutes, and then extinguished by putting on the cover of the boiler. While it is hot,

it is diluted with water, to bring it into a liquid state; three parts of the sugar will make two parts of this colour. When used, it is put into the gyle tun, in the proportion of two or three pounds to a barrel; but this depends upon the colour of the malt from which the liquor is brewed, and the colour which the beer is intended to have.

To avoid the prejudice which the public have generally entertained against the introduction of any matters into the beer, excepting malt and hops, some porter brewers have of late used a portion of their richest wort, instead of sugar, for making the colouring. This is concentrated by boiling it in an iron pan, and is burnt in the same manner as the sugar, over which it has some slight advantage, as the burning the farinaceous matter contained in the wort gives it an agreeable bitter. M. de Roche took out a patent in 1809, for using the husks of the malt for colouring, by burning them to a coffee-colour, and mixing them with the malt, at the rate of thirty-one pounds to a quarter of malt; or the water may be coloured before brewing, by infusing these roasted skins in it.

If wort is suffered to remain in the under back too long, a premature fermentation will take place, called by the brewers, foxiness; and the beer produced from such wort, will be nauseous and unpalatable.

The grist of malt is said by brewers to be set,

When, instead of separating for extraction, it runs in clots, increases in heat, and coagulates. This accident is owing to the over-quantity of heat in the water applied in the extraction.

The air included in the grist, which is a principal agent in resolving the malt, being thereby expelled, the mass remains inert, and its parts adhering too closely together, are with difficulty separated. Though an immediate application of more water to the grist is the only remedy, yet, as the cohesion is speedy and strong, it seldom takes effect. New malts, which have not lost the heat received from the kiln, are most apt to lead the brewer into this error, and generally in the first part of the process.

Of the Signs which generally direct the processes in Brewing.

1. When a white flour settles either in the under back or copper back, which is sometimes the case of a first extract, it is a sure sign such an extract has not been made sufficiently hot, or, in technical terms, that the liquor has been taken too slack.

2. The first extract should always have some froth, or head, in the under back.

3. The head, or froth, in the under back appearing red, blue, purple, or fiery, shews the liquors to have been taken too hot.

4. When the grist feels slippery, it generally is a sign that the liquors have been taken too high.

5. Beer ought always to work kind out of the cask when cleansed, but the froth in summer will be somewhat more open than in winter.

6. When the head of yeast in the gyle tun begins to sink, it is a sign that the vinous fermentation is ended.

Utensils used in a Brewhouse.

1. *The liquor back* is a cistern in which the cold water (or, as it is called, the liquor) is reserved for use.

2. *The copper*, used for heating the liquor.

3. *The copper back*.

4. *The mash tun*, in which the operation of mashing is performed.

5. *The under back*, into which the wort is drawn off after mashing.

6. *The jack back*, which receives the wort after it has been boiled with the hops, and has, in some brewhouses, a cast-iron floor, pierced with small holes, to admit the wort but retain the hops.

7. *The coolers* are shallow vessels, in which the wort is soon cooled, by presenting a large surface to the air.

8. *The gyle tuns, or squares*, in which the liquor is first put to ferment.

9. *Working tuns*, in which the liquor is cleansed.

10. *Store vats* are immense tuns used in large breweries, for keeping beer till wanted for sale.

11. *Casks*, large and small.

Of Porter.

The distinguishing characters of this liquor, are its deep brown colour, and an agreeable flavour, which it is difficult to describe, our language having so few words expressive of different tastes. The origin of the name is thus related, by the ingenious author of the Picture of London: "Before the year 1730, the malt liquors in general use in London, were ale, beer, and twopenny; and it was customary for the drinkers of malt liquor to call for a pint or tankard of half and half, *i. e.* half of ale, and half of beer; or half of beer, and half of twopenny. In course of time it also became the practice to call for a pint or tankard of *three threads*, meaning, a third of ale, beer, and twopenny; and thus the publican had the trouble to go to three casks, and turn three cocks, for a pint of liquor. To avoid this inconvenience and waste, a brewer of the name of Harwood conceived the idea of making a liquor, which should partake of the same united flavours—of ale, beer, and twopenny; he did so, and succeeded, calling it *intire* or entire butt, meaning that it was drawn entirely from one cask or butt; and as it was a very hearty and nourishing liquor, it was very suitable for porters, and other working people; hence it obtained the name of porter." The house of Harwood is still a respectable brewery; but an immense

trade has, since the period above mentioned, arisen, and is divided among several brewers.

At first, the essential difference in the method of brewing porter and other kinds of beer, was, that it was brewed from brown malt, and this gave to it both the colour and flavour required. Of late years, it has been brewed from mixtures of pale and brown malt, and the colour of the present liquor is much less than was formerly deemed requisite; but finding that pale malt yields a much greater portion of saccharine matter than brown, the greatest number of the London brewers have given up the brown malt altogether, using pale and amber malt, which is intermediate between the two; from these they procure a liquor of proper strength, and they give it both colour and flavour by the addition of colouring matter made from burnt sugar, or by burning the sugar of concentrated wort. All the London porter is professed to be one entire butt, as indeed it was at first, but the system is now altered; and it is very generally compounded of two kinds, or rather the same liquor in two different stages, the due admixture of which is palatable, though neither is good alone. One is mild, and the other stale porter, the former is that which has a slightly bitter flavour, from having been lately brewed; the latter has been kept longer. This mixture the publican adapts to the palates of his several customers, and

effects the mixture very readily, by means of a machine containing small pumps worked by handles. In these are four pumps, but only three spouts, because two of the pumps throw out at the same spout; one of these two pumps draws the mild, and the other the stale porter, from the casks down in the cellar; and the publican, by dexterously changing his hold to the handle of the next pump, works either pump, and draws both kinds of beer at the same spout. An indifferent observer supposes, that since it all comes from one spout, it is entire butt beer, as the publican professes over his door, and which vulgar prejudice has decided to be the only good porter, though the difference is not easily distinguished.

To review the several processes of the brewing of porter, it should be observed, that it is required, in the mashing, to extract from the malt all the saccharum it contains; but the heat at which this must be done is also favourable for extracting a great proportion of the mucilage and glutinous parts of the malt, which must afterwards, in some degree, be separated from the wort, and the portion which is left will determine the flavour and colour of the beer. If the heat of the mashing liquor is too low, it will extract so much of these matters, that all the subsequent processes can never separate them sufficiently to make the liquor fine; and, at the same time, it will not extract much saccharum. But, by

increasing the heat, the mucilage becomes, in a measure, coagulated in the tun, and is not extracted in so great a degree, whilst the saccharum is taken up by the wort in full proportion. On the other hand, an excessive heat carries this too far, for it makes a complete paste of the malt, by melting the gluten; and the whole resembles a hasty pudding. This disaster, which the brewer calls *setting the goods*, spoils the whole process, as a great proportion of the water becomes combined with the malt, in the state of paste, and will not run off; whilst that proportion which does remain unmixed, and can be drained out, has extracted little or nothing, either of saccharum or gluten, from the malt. This state of things takes place, in a greater or less degree, whenever the extracting heat is taken too high; the other extreme we have spoken of. Between these the brewer endeavours to keep; and by his success in this simple point, the quality and strength of his beer will be influenced most materially. No precise rules can be given for the actual heats, as they depend upon the nature of the malt, the heat used in drying it (the brown requiring less heat than pale); the quality of the water has also its share, and the quantity of malt mashed at once, (because a great mash-tun loses less of its heat during the mashing than a smaller one;) also the temperature of the atmosphere.

Having been thus necessitated to extract more of

the solid matters from the malt than he wishes to retain, the brewer, in the succeeding processes, turns his attention to the most effective means of expelling the superabundant mucilage, and, without losing the sugar, to leave a fine transparent and palatable liquor.

By the process of boiling, the grossest part of the mucilage extracted by the wort is coagulated, and in a manner precipitated into distinct fecula, leaving the liquor, which was before thick and muddy, comparatively clear, between the flakes, which are so large as to be individually visible. The boiling, also, extracts the bitter of the hops, which is necessary to make the beer keep, till it becomes fine and fit for the table; it also concentrates the wort, by evaporating a part of the water used in the mashing; on spreading the wort thin in the coolers, the fecula then subsides, and is left behind.

The fermentation does not expel any of the extract matter, but the chief object of it is, to convert the saccharum into alcohol or spirit; and at the same time it disposes the grosser parts to a more favourable state for the separation which takes place in the second fermentation in the rounds; and by the great quantity of yeast which is thrown off, the beer becomes finer, at the same time that the production of spirit continues, and it loses its sweet taste. When this fermentation subsides, the beer is stored, and remains quiet, the longer time the better, to

become clear and transparent ; but this is, provided the quantity of hops it had is sufficient to prevent its becoming sour, because the extract of the hop is inimical to fermentation, and prevents that process going on in the store vat, which, if it did, would produce vinegar. What is really intended in the store vat is, to deposit those finer particles of superabundant matter which have escaped the other processes ; and the beer improves in its strength.

To brew three Barrels of Porter.

Take one quarter of high-dried malt, with one or two pecks of patent malt ; mash in the same manner as directed for beer. Add the following ingredients : eight pounds of good hops, one pound of liquorice root, two pounds of Spanish juice, half a pound of ground ginger, one pound of salt, eight ounces of hartshorn shavings, and four ounces of porter extract.

Separate the hops, and run the wort on them ; when placed in the copper, and in a state of ebullition, infuse the whole of the other ingredients. Let it boil about one hour, or till you discover the surface of the liquor to become flaky, and the wort broken ; then take it from the copper and strain it into the coolers. Now proceed in the usual way till it be fit to rack, which will be in about a fortnight ; draw it off into another vat, in which let it remain three hours to settle, and in the mean time wash the

cask quite clean; draw from the vat the contents, and return them to the cask, leaving the sediment that has lodged during the three hours. If the colour be not full enough, add, when racking, some brandy colouring, which soon gives to it that pleasing appearance peculiar to good porter. Do not fill the cask quite full; bung it close the following day, but leave the peg-hole open for a few days, or a week, according to the state of the atmosphere; peg it when you think it is fine; and if it appears to be fast approaching to clearness, and has stood long enough for the attainment of maturity, tap it, and draw it quickly; for porter, in cask, always requires a quick draught, and when it gets flat bottle it off as soon as possible.

It will improve greatly by standing a few months in the bottle.

London Porter.

For five barrels.—Eight bushels of malt; mash at twice, with a sufficient quantity of water; add in the boiling from eight to twelve pounds of hops, six pounds of treacle, moist sugar sixteen pounds (one half of which is usually made into *essentia bina*, and the other into colour), half an ounce of capsicum, two ounces of Spanish liquorice, one ounce of linseed, a quarter of an ounce each of cinnamon and heading; cool, and add yeast one or two gallons; when it has got a good head, cleanse it with ginger, three ounces, and *cocculus indicus* one ounce; then

barrel and finish the working; fine with isinglass or hartshorn shavings.

Brown Stout

Is brewed in the same manner as porter, using a larger proportion of the ingredients to give it strength; consequently, more time is required to bring it to perfection. Good brown stout should stand in the cellar nine months or more, before it is tapped.

Brown stout should always be preferred for bottling.

To brew one Hogshead of London Ale.

Take six bushels of good brown malt, and five pounds of good hops. Add to the wort, when boiling, the following ingredients: three pounds of honey, three pounds of molasses, two ounces of ground ginger, four ounces of hartshorn shavings, and half an ounce of common salt.

Let the above articles be well boiled in the liquor, and go through the same process as other ales. Rack it when convenient, and let it stand three or four months: this is a very delicious rich ale when it has attained perfection.

Burton Ale.

For one hogshead of Burton use five bushels of the best brown malt, and four pounds and a half of hops;

infuse into the liquor, when boiling, the under-mentioned articles, namely, six pounds of molasses, two ounces of bruised ginger, four ounces of harts-horn shavings, two ounces of salt, and two ounces of coriander seed.

Rack the contents in the space of ten days after fermentation has ceased, then add three pounds of oat, barley, or wheat meal, and let it remain undisturbed about three months, then it will be fit for use.

Strong Ale.

Twelve bushels of malt to the hogshead for beer, (or fourteen if you wish it of a very good body); eight for ale; for either pour the whole quantity of water, hot but not boiling, on at once, and let it infuse three hours, close covered; mash it in the first half hour, and let it stand the remainder of the time; run it on the hops, previously infused in water: for strong beer, three quarters of a pound to a bushel; if for ale, half a pound. Boil them with the wort two hours from the time it begins to boil. Cool a pailfull to add two quarts of yeast, which will prepare it for putting to the rest when ready next day; but, if possible, put together the same night. Tun as usual; cover the bung-hole with paper, when the beer has done working; and when it is to be stopped have ready a pound and a half of hops, dried before the fire; put them into the bung-hole, and fasten it up.

Let it stand twelve months in casks, and twelve in bottles, before it is drank. It will keep, and be very fine, eight or ten years. It should be brewed the beginning of March.

Great care must be taken that the bottles are perfectly prepared, and that the corks are of the best sort.

The ale will be ready in three or four months, and if the vent-peg be never removed, it will have spirit and strength to the very last. Allow two gallons of water at first for waste.

After the beer or ale is run from the grains, pour a hogshead and a half for the twelve bushels; and a hogshead of water, if eight were brewed; mash, and let stand, and then boil, &c. Use some of the hops for this table beer that were boiled for the strong.

When thunder or hot weather causes beer to turn sour, a tea-spoonful, or more if required, of salt of tartar, put into the jug, will rectify it. Let it be drawn just before it is drank, or it will taste flat.

Welsh Ale.

Pour forty-two gallons of water, hot, but not quite boiling, on eight bushels of malt; cover, and let it stand three hours. In the mean time, infuse four pounds of hops in a little hot water; and put the water and hops into the tub, and run the wort upon them, and boil them together three hours. Strain off the hops, and keep for the small beer.

Let the wort stand in a high tub till cool enough to receive the yeast, of which put two quarts, of ale; or, if you cannot get it, of small beer yeast. Mix it thoroughly and often. When the wort has done working, the second or third day, the yeast will sink rather than rise in the middle; remove it then, and turn the ale as it works out; pour a quart in at a time, and gently, to prevent the fermentation from continuing too long, which weakens the liquor. Put a bit of paper over the bung-hole, two or three days before stopping up.

Table Beer.

On three bushels of malt, pour of hot water the third of the quantity you are to use, which is to be thirty-nine gallons; cover it warm half an hour; then mash and let it stand two hours and a half more; then set it to drain. When dry, add half the remaining water, mash and let it stand half an hour, run that into another tub, and pour the rest of the water on the malt; stir it well, and cover it, letting it infuse a full hour; run that off, and mix all together; a pound and a half of hops should be infused in water, as in the former receipt, and be put into the tub for the first running.

Boil the hops with the wort an hour from the time it first boils. Strain off and cool. If the whole be not cool enough that day to add the yeast, a pail or two of wort may be prepared, and a quart of

yeast put to it over night. Before tunning, all the wort should be added together, and thoroughly mixed with the lade-pail. When the wort ceases to work, put a bit of paper on the bung-hole for three days, when it may safely be fastened close. In three or four weeks, the beer will be fit for drinking.

It is evidently a very important matter for every publican to acquire the art of brewing good table beer, especially when their families and establishments are large. It would be very imprudent to allow domestics to drink, in common, a beverage which pays ten shillings per barrel duty, when good table-beer may be obtained for family use, at two shillings per barrel: all judicious persons in that line will find their own experience dictate to them the great utility of having in their cellar a stock of good table beer, as well as strong beer. The quantity of hops for brewing table beer, ought to be governed by their strength; and when the weather is warm, a greater portion is required; a skilful brewer will always judge how far the strength has been exhausted by previous extraction. By practice, the precise quantity can be ascertained.

Substitutes for Hops.

Quasia and gentian-root are excellent substitutes for hops, when they are very scarce and dear, and the private brewer is not interdicted from using

them; their bitter taste is a very wholesome stomachic: the proportion of gentian-root ought to be one ounce and a half, to which a quarter of a pound of hops should be added to every bushel of malt. The root to be cut into thin slices, and if boiled in a quantity of water for some time before it is added to the hops in the usual manner, it will ensure the extraction of the bitter principle; although by many who have used it, it is merely sliced and put in the boiling wort, precisely in the same manner as hops usually are; and it is almost impossible to distinguish the beer so brewed, from that where hops are used: if any thing, the gentian imparts a more grateful bitter. A few hops added in the cask, when the liquor is stopped down, will impart the full flavour of the hop. The quantity of the root may be diminished or increased, so that the bitter may suit the taste; and a little experience will enable those who use it to do so. Generally, perhaps, one ounce, with four ounces of hops, will be found sufficient for each bushel of malt.

Of preparing Sugar as a Substitute for Malt.

Take any quantity of brown sugar, put it into an iron kettle or pot, and boil it until it acquires a pleasant bitter-sweet taste; take it off the fire and put it into the boiler with your wort and hops, and boil as you would do had you brewed with malt alone. Seven pounds of prepared sugar are equal

to one bushel of malt. Sugar prepared in this manner does not turn sour, like sugar boiled in wort or water. Beer, ale, or porter, brewed in this way, from sugar prepared as above directed, will be stronger in proportion than that brewed from malt alone, and will keep a longer time in draught.

PART III.

OF SPIRITS.

Of Distillation.

THE objects of distillation, considered as a trade, are chiefly spirituous liquors; and the distillation of compound spirits and simple water, or those waters that are impregnated with the essential oil of plants, is commonly called rectification. The great object of the distiller ought to be, to procure a spirit perfectly flavourless, which, it is admitted, is not an easy task. The materials for distillation that have, in this country, been used in large quantities, are malt, molasses or treacle, and sugar. All these, but sugar the least, abound with an oily matter, which, rising with the spirit, communicates a disagreeable flavour, from which it is with the utmost difficulty freed. Previously to the operation of distillation, those of brewing and fermentation are necessary, for which we refer to PART II. *Of Brewing.* Methods have been suggested, and we believe carried into practice, for reducing the brewing and fermentation into one operation, which are said to improve the

spirit in quality, and greatly augment it in quantity. On this principle, the following receipt has been given for fermenting malt for distillation, in order to get its spirit:—"Take ten pounds of malt, reduced to fine meal, and three pounds of common wheat-meal; add to these, two gallons of water, and stir them well together; then add five gallons of water, boiling hot, and stir the whole well together. Let it stand two hours, and then stir it again; and when become cold, add to it two ounces of solid yeast, and set it by, loosely covered, in a rather warm place, to ferment." This is said to be the Dutch method of preparing what is technically called the wash for proof spirit, which commodiously reduces the two processes of brewing and fermentation to a single operation. In London and its neighbourhood, the method is to draw and mash for spirits as they do for beer, except that, instead of boiling the wort, they pump it into coolers, and afterwards pump it into backs, to be then fermented with yeast. Thus, in the opinion of some persons conversant with the subject, they bestow twice as much labour as necessary, and lose a great quantity of their spirit by leaving the gross bottoms out of the still for fear of burning. All simple spirits may be considered, in their different states of low wines, proof spirit, and alcohol. The first contains only one-sixth of spirit to five-sixths of water. Proof spirits contain one-half of totally inflammable spirit ;

and alcohol, if very pure, consists wholly of spirit, without any admixture or adulteration. Malt low wines, which is the first state after distillation from the *wash* prepared in the usual way, are exceedingly nauseous, owing to the gross oil of the malt that abounds in it. When these are distilled gently, and by a slow fire, into proof spirits, they leave a considerable quantity of this foetid oil behind, in the still with the phlegm; the liquor loses its milky colour, and is perfectly clear and bright. When proof spirit from malt is distilled over again, to be brought into the state of alcohol, the utmost attention must be paid to the fire, or some of the oil will be forced over, and injure the whole process. The use of the *balneum mariae*, instead of the common still, though a much more tedious process, would effectually prevent this mischief, and give a purer spirit in one rectification than can be procured in many, according to the common method of malt spirit; and indeed, spirits from other substances must be brought into the state of alcohol, before it is adapted for internal uses, after which it is said to be more fit for all the various internal uses than even French brandy; it being, by this purification, a more uniform tasteless spirit, than any other spirits which are frequently esteemed much better. A quarter of malt, according to its goodness, and the season of the year, will afford from eight to fourteen gallons of alcohol. The malt distiller always gives

his spirit a single rectification *per se*, to purify it a little; and in this state, though certainly not at all adapted to internal use, it is frequently and at once distilled into gin, or the other ordinary compound liquors.

The Dutch never give it any further rectification than this:—they distil the *wash* into low wines, and then at once into full proof spirit, from which they manufacture their celebrated Hollands Geneva, which they export to foreign countries. Malt spirit, in its unrectified state, is usually found to have the common *bubble* proof, which makes it a marketable commodity, and which is obtained by mixing with it a certain portion of the gross oil of the malt; this, indeed, gives the rectifier much trouble, if he require a very fine and pure spirit; but, in general, he does not concern himself about this, but mixes it still stronger by alkaline salts, and disguises its taste by the addition of flavouring ingredients. The spirit loses in these processes the vinous character which it had when it came out of the hands of the malt distiller, and is, in all respects, inferior, except in the disguise of a mixed flavour. The alkaline salts used by the rectifier, destroying the natural vinosity of the spirit, it is necessary to add an extraneous acid to give it a new one, and this is frequently what is denominated, in the shops, “*spiritus nitri dulcis* ;” and the common method of applying it is the mixing it to the taste with rectified spirit;

and it is said to be this that gives the English malt-spirit a flavour somewhat like brandy, which flavour is, however, apt to fly off; and, accordingly, experienced manufacturers recommend the addition of a proper quantity of Glauber's strong spirit of nitre to the spirit in the still; by this means the liquor comes over impregnated with it, the acid is more intimately mixed, and the flavour is retained. The action of the alkali is thus explained:—there is a greater attraction or affinity between the alkaline salt and the water, than between the water and the spirit; of course, the salt combines with the water contained in the spirit, and sinks with it to the bottom.

One great object with distillers in this country is a method of imitating the foreign spirits, particularly brandy, and hollands gin; it may not, therefore, be amiss to describe the modes adopted in France for the distillation of spirits from their wines, as brandy is extracted from wines; and as these are very different, according to the grapes from which they are made, we may expect that there would be, as experience tells us there really is, a considerable difference in the flavour of foreign brandies; every soil and climate, every variety of grapes, varies with regard to the quantity and quality of the spirit extracted from them. Some wines are proper for distillation, others not at all so. The wines manufactured in Languedoc and Provence afford a

great deal of brandy by distillation; but those of Orleans and Blois afford still larger quantities: but the best, and what are deemed the highest-flavoured brandies, are those distilled from grapes that are produced in the territories of Cognac and Andaye.

Of Leaven, or Yeast.

Whenever this property is not inherent in the subject to be fermented, its place must be supplied by an artificial preparation, as without this the alcoholic fermentation of any liquid would become acid or putrid. The natural leaven is that which is connected with the composition of vegetables, and which will confer the faculty of fermenting without any assistance; the artificial leaven is frequently composed of various matters. The grape contains a large portion of the first description; the sugar cane, the beet, cherries, apples, and pears, contain more or less of this leaven, which in fermentation always swims upon the surface of the liquor in the form of froth or scum; and at this time it may be collected to be used in the fermentation of those vegetables which are devoid of it in themselves. The leaven thus collected is not always equal in its qualities, but varies according to the nature of the parent vegetables; but the ferment, the most active and effectual that art has produced, is that of beer, known by the name of yeast.

A phenomenon worthy of remark, the knowledge

of which should not be lost sight of, is the influence that the temperature of boiling water has upon fermentation. For example, the juice of the grape, which contains the ferment necessary for its decomposition, will operate in the course of a few hours, when placed in a favourable situation; this, however, would not take effect, if, previous to fermentation, the liquor had been brought to a proper state of ebullition, even though it should have been again cooled down to its proper temperature. In this condition, the leaven would loose its exciting quality, and would not recover its pristine energy, perhaps for some days. To produce effect in fermentation, yeast should be taken great care of, especially in summer; it may then be kept fifteen days or longer, if deposited in a cellar, or any other place where the temperature of the air does not exceed fifty-four degrees. In winter, it will keep for months, where the heat is under fifty-four degrees; if frozen, it may continue good; but if thawed, it will soon corrupt. To preserve yeast to the longest possible period, it is best to separate it from the water it contains, by draining or by pressure; it may thus be brought back into the form of paste, kept a considerable time, and even removed, if necessary, from one place to another. The yeast of new beer is always best for exciting fermentation; and when of the best quality, a smaller quantity will be required for use.

Of Alcohol.

This term is applied in strictness only to the pure spirit obtainable by distillation, and subsequent rectification, from all liquids that have undergone vinous fermentation, and from none, but such as are susceptible of it. But it is commonly used to signify this spirit, more or less imperfectly freed from water, in the state in which it is usually met with in the shops, and in which, as it was first obtained from the juice of the grape, it was long distinguished by the name of spirit of wine. At present it is extracted chiefly from grain or molasses in Europe, and from the juice of the sugar-cane in the West Indies; and in the diluted state, in which it commonly occurs in trade, constitutes the basis of the several spirituous liquors, called brandy, rum, gin, whisky, and cordials, however variously denominated or disguised.

As we are not able to compound alcohol immediately from its ultimate constituents, we have recourse to the process of fermentation, by which its principles are first extricated from the substances in which they were combined, and then united into a new compound; to distillation, by which this new compound, the alcohol, is separated in a state of dilution with water, and contaminated with essential oil; and to rectification, by which it is ultimately freed from these.

It appears to be essential to the production of

alcohol, that the fermenting fluid should contain saccharine matter, which is indispensable to that species of fermentation called vinous.

In France, where a great deal of wine is made, particularly at the commencement of the vintage, that is too weak to be a saleable commodity; it is a common practice to subject this wine to distillation, in order to draw off the spirit; and as the essential oil that rises in this process is of a more pleasant flavour than that of malt or molasses, the French brandies are preferred to any other; though even in the flavour of these there is a difference, according to the wine from which they are produced. In the West Indies a spirit is obtained from the sugar cane, which is highly impregnated with its essential oil, and well known by the name of *rum*. The distillers in this country use grain or molasses, whence they distinguish the products by the name of malt spirits, and molasses spirits.

It is said that a very good spirit may be extracted from the husks of gooseberries or currants, after wine has been made from them.

As the process of malting develops the saccharine principle of grain, it would appear to render it fitter for the purpose; though it is the common practice to use about three parts of raw grain, with one of malt. For this, two reasons may be assigned: by using raw grain, the expense of malting is saved, as well as the duty on malt; and the process of

malting requires some nicety of attention, since, if it be carried too far, part of the saccharine matter is lost; and if it be stopped too soon, this matter will not be wholly developed. Besides, if the malt be dried too quickly, or by an unequal heat, the spirit it yields will be less in quantity, and more unpleasant in flavour. Another object of economical consideration is, what grain will afford the most spirit in proportion to its price, as well as the best in quality. Barley appears to produce less spirit than wheat; and if three parts of raw wheat be mixed with one of malted barley, the produce is said to be particularly fine. This is the practice of the distillers in Holland, for producing a spirit of the finest quality; but in England they are expressly prohibited from using more than one part of wheat to two of other grain. Rye, however, affords still more spirit than wheat.

The practice with the distillers in Scotland, is to use one part, with from four to nine parts of unmalted grain. This mixture yields an equal quantity of spirit, and at a much cheaper rate than when the former proportions are taken.

Whatever be the grain employed, it must be coarsely ground, and then mixed carefully with a little cold water to prevent its running into lumps; water, at about ninety degrees, may then be added till it is sufficiently diluted; and lastly, a sufficient quantity of yeast. The whole is then to be allowed to

ferment in a covered vessel, to which, however, the air can have access. Attention must be paid to the temperature, for if it exceed seventy-seven degrees, the fermentation will be too rapid; if it be below sixty degrees, the fermentation will cease.

The mean between these, will be found most favourable. In this country, it is the more common practice to mash the grain as for brewing malt liquors, and boil the wort. But, in whichever way it be prepared, or if the wash (so the liquor intended for distillation is called,) be made from molasses and water, due attention must be paid to the fermentation, that it be continued till the liquor grows fine, and pungent to the taste, which will generally be about the third day, but not so long as to permit the acetous fermentation to commence.

In this state the wash is to be committed to the still, of which, including the head, it should occupy at least three-fourths; and distilled with a gentle heat as long as any spirit comes over, which will be till about half the wash is consumed.

The more slowly the distillation is conducted, the less will the product be contaminated with essential oil, and the less danger will there be of empyreuma. A great saving of time and fuel, however, may be obtained by making the still very broad and shallow, and contriving a free exit for the steam. This has been carried to such a pitch in Scotland, that a still,

measuring forty-three gallons, and containing sixteen gallons of wash, has been charged and worked no less than four hundred and eighty times in the space of twenty-four hours. This would be incredible, were it not established by unquestionable evidence.

The above wonderful rapidity of distillation has now ceased, since the excise duties have been levied on the quantity of spirit produced, and not, as formerly, by the size of the still. Hence, too, the spirit is probably improved in flavour.

The first product, technically termed low wine, is again to be subjected to distillation; the latter portions of what comes over, called faints, being set apart to be put into the wash still, at some future operation.

Thus a large portion of the watery part is left behind. This second product, termed raw spirit, being distilled again, is called rectified spirit. It is calculated, that a hundred gallons of malt, or corn wash, will not produce above twenty of spirit, containing sixty parts of alcohol to fifty of water; the same of cider wash, fifteen gallons; and of molasses wash, twenty-two gallons. The most spirituous wines of France, those of Languedoc, Guienne, and Roussillon, yield from twenty to twenty-five gallons of excellent brandy from one hundred; but those of Burgundy and Champagne, much less. Brisk wines, containing much carbonic acid, from the fermentation having

been stopped at an early period, yield the least spirit.

The spirit thus obtained ought to be colourless, and free from any disagreeable flavour. But for ordinary sale, something more is required. The brandy of France, which is most in esteem here, though perfectly colourless when first made, and often preserved so for use in that country, by being kept in glass or stone bottles, is put into new oak casks for exportation, whence it soon acquires an amber colour, a peculiar flavour, and something like an unctuousness of consistence. As it is not only prized for these qualities, but they are commonly deemed essential to it, the English distiller imitates by design these accidental qualities. The most obvious and natural method of doing this, would be by impregnating a pure spirit with the extractive, resinous, and colouring matter of oak shavings; but other modes have been contrived. The dulcified spirit of nitre, as it is called, is commonly used to give the flavour; and catechu, or burnt sugar, to impart the desired colour.

The finest gin is made in Holland, from a spirit drawn from wheat mixed with a third or fourth part of malted barley, and twice rectified over juniper berries, three pounds to the twenty gallons, with two ounces of the oil; but in general, rye meal is used instead of wheat.

They pay so much regard to the water employed,

that many send vessels to fetch it on purpose from the Meuse; but all use the softest and clearest river water they can get. In England it is the common practice to add oil of turpentine, in the proportion of two ounces to ten gallons, with three handfuls of bay salt, and draw off till the fairs begin to rise.

But corn or molasses spirit is flavoured likewise by a variety of aromatics, with or without sugar, to please different palates; all of which are included under the general technical term of *compounds*; or *cordials*.

MM. Adam and Duportal have substituted, for the re-distillations used in converting wine or beer into alcohol, a single process, of great elegance. From the capital of the still, a tube is led into a large copper recipient. This is joined by a second tube to a second recipient, and so on through a series of four vessels, arranged like a Woelfe's apparatus. The last vessel communicates with the worm of the first refrigeratory. This, the body of the still, and the recipients nearest it, are charged with the wine or fermented liquor. When ebullition takes place in the still, the vapour issuing from it communicates soon the boiling temperature to the liquor in the two recipients. From these the volatilized alcohol will rise and pass into the third vessel, which is empty. After communicating a certain heat to it, a portion of the finer or less condensable spirit will pass into the fourth, and thence in a little time into the worm

of the first refrigeratory. The wine round the worm will likewise acquire heat, but more slowly. The vapour that, in that event, may pass uncondensed through the first worm, is conducted into a second, surrounded with cold water. Whenever the still is worked off, it is replenished by a stop-cock from the nearest recipient, which, in its turn, is filled from the second, and the second from the first worm tub. It is evident, from this arrangement, that by keeping the third and fourth recipients at a certain temperature, we may cause alcohol, of any degree of lightness, to form directly at the remote extremity of the apparatus. The utmost economy of fuel and time is also secured, and a better flavoured spirit is obtained. The *arrière goût* of bad spirit can scarcely be destroyed by infusion with charcoal and re-distillation. In this mode of operating, the taste and smell are excellent, from the first. Several stills on the above principle have been constructed at Glasgow, for the West India distillers, and have been found extremely advantageous. The excise laws do not permit their employment in the home trade.

Of Brandy.

Brandy is produced by the distillation of wines of all kinds, and, properly speaking, by no other fermented liquor, though the purely spirituous part of all fermented vinous liquors procured by distillation is essentially the same; and therefore, an infinite

variety of imitations of the intermediate products of distillation may be produced by adding flavouring and colouring matters to any kind of pure spirit. Brandy is prepared in many of the wine countries of Europe, and with particular excellence in Languedoc, in Anjou, (whence the well-known Cognac brandy,) and other parts of the south of France.

Though every wine will give a certain portion of brandy by distillation, it is not every kind that can be used with advantage. In general, the strong heavy wines are to be preferred.

Those that do not yield a sixth of their quantity of spirit, are not worth the expenses of working. The apparatus is composed of three parts: the alembic, or boiler; the capital fitted on the top of the boiler, to receive the spirituous vapour; and the serpentine, or worm, a convoluted pipe, fitting to the beak of the alembic, and immersed in water, in which the vapour is condensed, and flows out at the bottom, in the form of distilled spirit. In distilling, care should be taken not to urge the fire too much at first, otherwise the wine boils up into the capital, and comes over into the worm, mixing with and fouling the spirit. In general, the slower the process, and the smaller the stream of spirit from the worm-pipe, the finer and better is the brandy.

The distillers make a distinction between the former and the latter runnings of the spirit.

What first comes over has the strongest, richest, and highest flavour; and this is gradually lessened,

and the spirit becomes more and more watery to the end. Therefore, when the brandy becomes weak, the portion already distilled is set apart, and the remainder is collected in a separate vessel, and is seconds or faints, in the term of British distillers, and is not immediately fit for use, but is re-distilled with fresh wine in the next process, being still too valuable to be lost. Brandy is naturally clear and colourless as water: but the different shades of colour which it has in commerce arise partly from the casks in which it is kept, but chiefly from the addition of burnt sugar, sanders wood, and other colouring matters, that are intentionally added by the manufacturer, and which appear to do neither good nor harm to the quality of the spirit.

The strength of the spirit, of course, depends on the strength of the wine with which it is made; and this again depends on the quantity of saccharine muddle contained in the must or grape-juice, and the perfection of the fermentation. Generally speaking, the wines of hot climates furnish much more spirit than those of colder; and sweet, rich, well-ripened grapes give much more than the cold, sour, watery fruits. The richest wines furnish as much as a third of spirit; and the general average of the wines in the south of France and Spain is stated to be, by Chaptal, about a fourth. On the other hand, some of the northern wines (though perfect as wines) give no more than a fifteenth of

spirit. The manufacture of brandy in other countries very closely resembles the French process which we have just described. Thus, in Spain, the still is filled to four-fifths of its contents with wine, the capital luted on, a fire kindled; and in about an hour and a half, the spirit begins to come over. About a fifth of the entire quantity of wine is proof spirit, in which olive oil sinks, and comes over fit to be used, without further process; and as much of inferior and weaker spirit comes over afterwards, which is re-distilled and rectified. When the wines are old, heavy and a fine clear spirit is wanted at once, water is added to the wine to keep down the oil. The principal distilleries in Spain are in Catalonia.

On the various Methods used for the Sophistication of Brandy.

The first is performed by the addition of other fermentable matter to the must, before the fermentation has taken place, which increases the quantity in proportion to the increase of spirit produced by the matter so added. This kind of brandy is evidently inferior to the genuine, and in a certain degree recedes from those distilled spirits which are reckoned safe and wholesome.

Another method is by adding spirits of malt, already distilled, to the wine, or fermented must, these being the cheapest; but they must have been previously rectified for this purpose, and indeed for

making any palatable spirituous liquor whatever. The depravity of this kind of brandy is still greater than the first; as it comes over in the still, nearly as so much ardent spirit mixed with the brandy; and it will of course exert its noxious properties on those who drink it. Some persons adulterate brandy by the addition of simple rectified spirit, or by counterfeit brandy; but the far most general method is by putting a counterfeit kind to the genuine. This counterfeit brandy is made of malt spirits, first rectified, then dulcified by re-distillation with acids.

The rectification of malt spirit, in order to make brandy, is always necessary, on account of its being impregnated with a proportion of empyreumatic oil in the first distillation, which oil is commonly called the *faints*. These give a very disgusting taste and smell to the spirit distilled.

The substance much used for keeping down the faints is a chemical preparation, called *potassa fusa*.

The acid used in the preparation of counterfeit brandy is commonly called *spirit of nitre*, or *aqua fortis*, which, when combined with the rectified spirit, raises a flavour and taste much resembling those of brandy.

Some distillers use quick-lime in rectifying their malt spirit, which cleanses it considerably; but if chalk, calcined and well-purified animal bones, were substituted for quick-lime, the spirit would have a less alkaline taste, and consequently the flavouring ingredients might be added to it with more success

than by the other methods. Fine dry sugar seems best adapted for the purpose of rectifying these spirits, as it readily unites with the essential oil, detains, and fixes it, without imparting any urinous, alkaline, or other nauseous flavour to the spirits.

Many English spirits, with proper management, are convertible into brandies, that in many respects (provided the operation be neatly performed,) can scarcely be distinguished from the foreign. Even a cider spirit and a crab spirit, may from the first extraction be made to resemble the fine and thin brandies of France. The art of colouring spirits owes its rise to observations on French brandies; and being found to have been derived from the oak of the cask, it is no difficulty to imitate it to perfection.

French Brandy, from the Apples or Seed Pods of Potatoes.

The process is very simple: the apples are collected when they are perfectly ripe, and carefully bruised. The pulp is put by to ferment spontaneously. It is afterwards distilled, and one hundred pounds is usually obtained from twenty or twenty-four hundred weight of unbruised apples. The brandy is of a good flavour. It is remarkable, that the apples produce about one-tenth of the volume of alcoholic matter.

To make British Brandy.

To sixty gallons of clean rectified spirits, put one pound of sweet spirit of nitre, one pound of cassia seeds, ground, one pound of bitter almond meal,

two ounces of orris root, sliced; stir them all well together two or three times a day, for three or more; let them settle, then add one gallon of the best wine vinegar; and if you wish to have it better than British brandy is in common, add to every four gallons one gallon of foreign brandy, which will make it nearly equal to foreign.

To prevent the Deterioration of Brandies.

It is certain, that when brandy is kept in vessels, the pores of which will not admit of any transmission of the liquor, (as glass, for instance,) the brandy will improve instead of getting worse. We have no idea of bottling off a whole store; but without much expense, we may render the hogsheads absolutely impermeable; and, besides, the expense in doing this, being once undertaken, will be available for a considerable time. To effect this, a very large tub should be well hooped; two layers of oil colours then being laid on, this should be followed by a good coating of pitch and tar; this will put every idea of evaporation out of the question. In a barrel thus treated, the spirit of the brandy may be preserved three years, without the least loss, either in quantity or quality. These large tubs or reservoirs, being built into the brick-work, &c. of the store-house, may serve during a considerable lapse of time, without any reparation.

Of the Distillation of Rum in the West Indies.

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

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

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

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

Great quantities of rum are made at Jamaica, Barbadoes, Antigua, and other sugar islands. The method of making it is this:—When a sufficient stock of materials is got together, they add water to them, and ferment them in the common method, though the fermentation is always carried on slowly at first; because, at the beginning of the season for making rum in the islands, they want yeast to make it work; but after this, they, by degrees, procure a sufficient quantity of the ferment, which arises up as a head to the liquor in the operation; and thus they are able, afterwards, to ferment and make their rum

with a great deal of expedition, and in very large quantities. When the wash is fully fermented, or to a due degree of acidity, the distillation is carried on in the common way, and the spirit is made up proof, though sometimes it is reduced to a much greater degree of strength, nearly approaching to that of alcohol, or spirits of wine; and it is then called double-distilled rum.

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

When spirits are made in this country from sugar, they are entirely destitute of this flavour, and resemble, in their properties, the common spirit made in this country from barley. The colour of rum, as it is said of French brandy, is derived from the oak casks in which it comes to this country from the islands.

The best state to keep rum, both for exportation and other uses, is doubtless in that of alcohol, or rectified spirits. In this manner, it would be contained in half the bulk it usually is, and might be

let down to the common proof strength, when necessary.

Of Geneva, or Hollands.

The following is the Dutch mode of making Geneva:—One hundred weight of barley-malt, and two hundred weight of rye-meal, are mashed with four hundred and sixty gallons of water, heated to one hundred and sixty-two degrees. After the farine have been infused for a sufficient time, cold water is added, till the wort becomes equivalent to forty-five pounds of saccharine matter per barrel. Into a vessel of five hundred gallons capacity, the wort is now put, at the temperature of eighty degrees, with half a gallon of yeast. The fermentation instantly begins, and is finished in forty-eight hours, during which the heat rises to ninety degrees. The wash, not reduced lower than twelve or fifteen pounds per barrel, is put into the still along with the grains. Three distillations are required; and at the last a few juniper berries and hops are introduced, to communicate flavour. The attenuation of forty-five pounds in the wort, to only fifteen in the wash, shews that the fermentation is here very imperfect and uneconomical; as, indeed, we might infer from the small proportion of yeast, and the precipitancy of the process of fermentation.

Malt Whisky.

In making malt whisky, one part of bruised malt, with from four to nine parts of barley-meal, and a proportion of seeds of oats, corresponding to that of the raw grain, are infused in a mash-tub of cast-iron, with from twelve to thirteen gallons of water, at one hundred and fifty degrees of Fahrenheit, for every bushel of the mixed farinaceous matter. The agitation then given by manual labour or machinery to break down, and equally diffuse the lumps of meal, constitutes the process of *mashing*. This operation continues two hours, or upwards, according to the proportion of unmalted barley; during which the temperature is kept up by the effusion of seven or eight additional gallons of water, a few degrees under the boiling temperature. The infusion, termed *wort*, having become progressively sweeter, is allowed to settle for two hours, and is run off from the top, to the amount of one-third of the bulk of the water employed. About eight gallons more water, a little under two hundred degrees Fahrenheit, are now admitted to the residuum, *infused* for nearly half an hour, with agitation, and then left to subside for nearly an hour and a half, when it is drawn off. Sometimes a third effusion of boiling water, equal to the first quantity, is made, and this infusion is generally reserved to be poured on the new *farinæ*; or it

is concentrated by boiling, and added to the former liquors.

To prevent acetification, it is necessary to cool the worts down to the proper fermenting temperature of seventy or sixty-five degrees, as rapidly as possible. Hence they are pumped immediately from the mash-tun into extensive wooden troughs, two or three inches deep, exposed in open sheds to the cool air; or they are made to traverse the convolutions of a pipe immersed in cold water. The wort now being run into a fermenting-tun, yeast is introduced, and added in nearly equal successive portions during three days, amounting, in all, to about one gallon for every two bushels of farinaceous matter. The temperature rises, in three or four, to its maximum of eighty degrees; and at the end of eight or twelve days, the fermentation is completed, the tuns being closed up during the last half of the period. The distillers do not collect the yeast from their fermenting tuns, but allow it to fall down, on the supposition that it enhances the quantity of alcohol.

Wine Spirit.

Spirit of wine is the name given to the common malt-spirit, when reduced to an alcohol, or totally inflammable state; but the phrase, *wine spirit*, is used to express a very clean and fine spirit, of the ordinary proof strength, and made in England from wines of foreign growth.

The way of producing it is by simple distillation; and it is never rectified any higher than common bubble proof.

The several wines of different natures, yield very different proportions of spirit; but, in general, the strongest yield one-fourth; the weakest in spirit, one-eighth part of proof of spirit; that is, they contain from a sixteenth to an eighth part of their quantity of pure alcohol.

Wines that are a little sour serve not at all the worse for the purposes of the distiller; they rather give a greater vinosity to the produce. This vinosity is a thing of great use in the wine spirit, whose principal use is to mix with another that is tartarized, or with a malt spirit, rendered alkaline by the common method of rectification. All the wine spirits made in England, even those from the French wines, appear very different from the common French brandy; and this has given our distillers a notion that there is some secret art practised in France for giving the agreeable flavour to that spirit; but this is without foundation.

When we distil Sicilian or Spanish wines, we do not produce Sicilian or Spanish brandies; and the true reason of this is, that the wines which they distil on the spot into brandy, are very different from those which they export as wines.

Those they distil are so poor and thin, that they will not keep many months, nor can possibly bear

exportation. If we had in England those poor wines they distil into brandy, near Bourdeaux, Cognac, or up the Loire, there is no doubt that the spirit we made from them would be universally allowed to be French brandy. We have proof of this from some of the Scotch distilleries, where they, with no peculiar art or secret method, procure from some of the poor pricked and damaged wines received here, brandy so nearly resembling that of France, that a good judge will scarcely be able to make the distinction. Wine spirits and brandies, therefore, are the same thing, only with this difference, that the former is the product of a rich wine, and the latter of a poor one; or, at the utmost, they differ only as our two home products, the cider spirit and the crab spirit, do.

The wine spirit distilled in England, is not easy to be had pure and unmixed at our distillers, nor under a price almost equal to that of French brandy; so that if it be required out of the trade, it is as well to use the French brandy, which will, in all cases, serve the same purposes, unless where a high flavour or a copious essential oil are required. All other spirits are carefully divested of their oil in the rectifications; but the wine spirit is coveted only for its oil; and all that can be obtained is preserved in this, its principal use being to give a flavour to a worse spirit, and to cover the taste of a disagreeable oil in it.

When a cask of wine chances to turn sour in private hands, it is worth while to distil it for the spirit, it is sold at a good price.

The less, also, if in any considerable quantity, will yield such a proportion of the same sort of spirit, as to render it worth while; and as the high flavour is not required in this intent, it will be best to draw off the spirit very gently, either by the cold or hot still; and afterwards it may be rectified without any addition, and reduced to the standard strength of proof. It thus makes a very clean and pleasant spirit, though very different from the brandy from the same country whence the wine came.

Oil of Wine

Is a very precious liquid, kept as a secret in the hands of some dealers in spirits, and used to give the brandy flavour to spirits of less price. It is certain that all the spirits we use take their flavour from the essential oil of the substance they are made from; that of malt is very nauseous and offensive, and renders the spirit horribly disagreeable, if not carefully kept back in the distillation of it; that of the grape, on the other hand, is extremely agreeable, and is what gives the delicious flavour to French brandy: this, therefore, is to be carefully brought over among the spirits in distillation.

This is that oil of wine so much celebrated among our distillers, and is for their use made sepa-

rate, and is of such effect, that half an ounce of it will determine a pale and clear malt spirit to be French brandy, so as to stand the test of the nicest palate, and all the trials that can be invented, provided the oil and the spirit have both been carefully made.

The manner of making the oil is this: take some cakes of dry wine lees, such as are used by our hatters; and dissolving them in six or eight times their weight in water, they distil the liquor with a slow fire, and separate the oil by the separating pot, reserving for this nice use only that which comes over first, the oil that follows being coarser and more resinous. To render this business perfectly successful, there must be several things observed: first, the ley must be of the right kind, that is, of the same nature with the French brandy proposed to be imitated; second, the malt spirit must be extremely pure; third, the dose of the oil must be very well proportioned; and, fourthly, the whole must be artificially united into one simple and homogeneous liquor. These cautions all regard only the taste; and besides these, in order to come up with a nice counterfeit, several other particulars must be attended to, such as the colour, proof, tenacity, softness, and the like; so that, in short, the operation has too much nicety in it to be hit off by every ordinary dealer. When this fine oil of wine is procured, it may be mixed into a quintessence, with pure distilled alcohol, or

the totally inflammable spirit of wine, to prevent its growing distasteful, rancid, or resinous; and thus it may be long preserved in full possession of its flavour and virtues.

The still bottoms, or remaining matter after the distillation of this oil, will yield many productions to advantage, particularly tartar, and salt of tartar; as also an empyreumatic oil, and a volatile salt, like that of animals. Some kinds of lees afford all these in much greater quantity than others; the lees of Canary and Mountain wines yield very little of them, and, indeed, scarce any tartar or fixed salt at all; but the white French lees of those thin wines that afford the ordinary brandies, yield them all very copiously, insomuch that sometimes a single hogshead of dry and close-pressed lees will afford, by this process, three gallons of brandy, forty pounds of clear tartar, a large proportion of empyreumatic oil, and volatile salt, besides full four pounds of good salt of tartar. It is not to be expected, however, that every parcel of this ley should yield fully in this proportion.

Sugar Spirit.

By a sugar spirit is meant that spirit extracted from the washings, skimmings, dross, and waste of the boiling-house.

The drossy parts of the sugar are to be diluted with water, fermented in the same manner as molasses or wash, and then distilled, in the common

method; and if the operation be carefully performed, and the spirit well rectified, it may be mixed with foreign brandies, and even Cognac, in a large proportion, to great advantage; for this spirit will be found superior to that extracted from treacle, and, consequently, more proper for these uses. In Barbadoes, a very good spirit of this kind is prepared from the cane juice, called cane spirit, resembling very pure rum.

Of Molasses Spirit.

Molasses spirit is obtained from molasses, by mixing two or three gallons of water with one gallon of molasses, and to every two hundred gallons of this mixture adding one gallon of yeast; once or twice a day the head as it rises is stirred in, and in three or four days two gallons more of water are added to each gallon of molasses originally used, and the same quantity of yeast as at first; five or six days after this there is added a third portion of yeast as before, and about an ounce and a half of jalap root, powdered, on which the fermentation proceeds with great violence; and in three or four days the wash is fit for the still. One hundred gallons of this wash is computed to yield twenty-two gallons of spirit, one to ten over proof.

Raisin Spirit.

By raisin spirit we understand that extracted from raisins, after a proper fermentation.

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

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

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

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

OF ESSENCES.

To increase the convenience of the retail dealer in particular, in preparing compounds, and to enable him at all times to make in one minute any quantity he may require, the following receipts are given for making essences of those kinds most in request, and which on the same principle may be extended to every article of that nature he can possibly require in his business. It will be necessary to pay particular attention to the following paragraph.

In preparing the essences, and the various compounds in which essential oils are used, it is of the utmost importance that they should be perfectly pure; as, if they contain any improper mixture, (which is too much the case,) those using them will be disappointed in producing the expected flavour, and consequently spoil the other materials used; it is therefore indispensably necessary to their success, that they should be procured genuine: it is particularly recommended to all persons using essential oils, to procure them from *Apothecaries' Hall*, where they may depend on being supplied with the best possible quality, free from adulteration.

Essence of Cinnamon.

Oil of cinnamon one drachm, rectified spirit of wine two ounces, mix together, and keep ready for use; where the cinnamon flavour is wanted, a few drops will give it.

Essence of Cloves.

Oil of cloves one ounce, rectified spirit of wine one pint; mix together, and keep ready for use.

Essence of Peppermint.

Oil of peppermint four ounces, rectified spirit of wine two pints, mix; it will be found very convenient in mixing the cordial, as, having the syrup ready as directed in page 174, it may be mixed in one minute

at any time ; the same observation will apply to all the essences, which it is particularly recommended should be kept ; the taste will be a sufficient guide to the quantity required, after one trial, adding it gradually at first.

Essence of Carraway.

Oil of carraway, one ounce ; rectified spirit of wine, half a pint ; mix for use.

Essence of Lemon.

Essential oil of lemon (commonly called essence of lemon) one ounce, rectified spirit of wine one pint ; mix. A few drops will communicate the true lemon flavour, if the oil is good.

Essence of Orange.

Essential oil of orange one ounce, rectified spirit of wine half a pint ; mix.

Essence of Cassia.

Oil of cassia one ounce, rectified spirit of wine, eight ounces ; mix. It may be used instead of the essence of cinnamon, where the fine flavour of cinnamon is not particularly required, being considerably cheaper.

Essence of Bitter Almonds.

Essential oil of bitter almonds one ounce, rec-

tified spirit of wine eight ounces; mix. This is particularly useful in making noyau, and in giving the nutty flavour whenever it may be required.

Be particular in putting labels on the bottles, as the essential oil of bitter almonds is *rank* poison; and for making noyau, one drachm will be quite sufficient for a gallon.

Essence of Juniper.

English oil of juniper berries one ounce, rectified spirit of wine one pint; mix. This and the essence of angelica, mixed to the taste, will imitate the flavour of the various kinds of gin, using the syrup as it may be thought necessary.

Essence of Aniseed.

English oil of aniseed one ounce, rectified spirit of wine one pint; mix, and keep ready for use. If it produces a milkiness in the liquor when used, a little alum will very soon fine it.

Essence of Nutmeg.

Essential oil of nutmeg one ounce, rectified spirit of wine half a pint; mix. Where the nutmeg flavour is required, a few drops will produce it very readily.

Essence for Gin.

English oil of juniper half an ounce, oil of sweet fennel half a drachm, essence of angelica two ounces,

rectified spirit of wine half a pint; mix. When gin has been lowered, add as much of this essence as may be necessary to bring up the flavour again; if not so bright as it may be desired, add alum, previously dissolved in water, in the proportion of one ounce to ten gallons, mixing it well. In two or three days it will be quite bright. Leave the bung or cork loose a few hours, otherwise the fining sometimes rises to the top, instead of falling to the bottom.

Essence of Angelica.

Dried angelica root, bruised, one pound (or angelica seeds, half a pound), rectified spirit of wine one quart; infuse together for fourteen days, pour off the clear liquor, and filter the rest through paper, and keep for use. Used principally to flavour gin.

CORDIALS, COMPOUNDS, ETC.

In fining those cordials, &c. that may require it, as the sugar in some of them prevents the usual finings producing that effect, where it is convenient, filter them through a thick flannel bag; if the liquor does not run bright at first, return it into the bag till it does; or, if it still continues milky, add a small portion of alum finings, mixing them well, then strain through the bag; or place the vessel containing the liquid, in hot sand or water, till it becomes bright.

*To prepare a Syrup to be used in the Preparation
of Cordials, Compounds, &c.*

Take lump sugar eight pounds, water nine pints, the whites of four eggs mixed well with the sugar and water while cold, boil gently for half an hour, skimming it carefully, pour it into a clean earthen pan, and when cold put it into a stone bottle for use; by keeping the syrup ready prepared, it will be found very convenient in preparing compounds according to the following receipts. Any quantity may be prepared, using the same proportions.

Gin. No. 1.

Take one hundred gallons of proof spirit, two pounds and a half of juniper berries; steep them in a portion of the spirit for a week; strain and press them out; then take three ounces of oil of turpentine, rectified, five ounces of oil of juniper berries, and two ounces of oil of sweet fennel seeds; rub them well in a mortar with two pounds of lump sugar, and add, gradually, three pints of spirit of wine; mix the whole well together, and the next day make it up to one in five under proof with lime water; then add twenty-eight pounds of clayed sugar, and fine with ten ounces of alum dissolved in lime water; it is then fit for use.

Gin. No. 2.

Take one hundred gallons of unsweetened gin, three pounds of coriander seed, four ounces of bitter almond cake, three ounces of orange peel, two ounces of angelica seeds, cassia one ounce, orris root and capsicum, of each half an ounce; steep the seeds, &c. (first bruised) in a portion of the gin for six days; strain and press them out, and add to the rest; then add eighteen pounds of lump sugar. Fine with one pound of alum and four ounces of salt of tartar dissolved in water.

Gin. No. 3.

For four gallons.—English oil of juniper half a quarter of an ounce, essence of angelica one ounce, rectified spirit of wine one gallon and two quarts; mix, and add syrup one pint, water two gallons and three pints; mix well together, and fine with half an ounce of alum dissolved in water. Using warm water to mix with, will cause it to fine sooner.

Gin. No. 4.

For one quart.—English oil of juniper two drops, essence of angelica twenty-four drops, rectified spirit of wine three quarters of a pint, mix; and add syrup one ounce, water one pint and half a quarter; mix all together, and fine with alum if necessary.

This may be lowered:—British or malt spirit, if

the flavour is preferred, may be used instead of spirit of wine, and in the same way.

Receipts in the proportion of four gallons.

The following receipts are formed in the proportion of four gallons, which affords a facility of increasing or diminishing them, to any extent that may be required.

Peppermint Cordial.

For four gallons.—Oil of peppermint half an ounce, rectified spirit of wine five quarts, mix well; then add two gallons of syrup, and three quarts of water.

Aniseed Cordial.

For four gallons.—English oil of aniseeds a quarter of an ounce, rectified spirit of wine five quarts, mix well; then add syrup two gallons, water three quarts.

Carraway Cordial.

For four gallons.—Oil of carraway half an ounce, rectified spirit of wine five quarts, mix well; then add syrup two gallons, water three quarts.

Clove Cordial. No. 1.

For four gallons.—Oil of cloves half an ounce, rectified spirit of wine five quarts, mix well; then add syrup two gallons, water three quarts.

Clove Cordial. No. 2.

For four gallons.—Oil of cloves half an ounce, rectified spirit of wine three quarts, mix well; then add cherry brandy two quarts, syrup one gallon and a half, water five quarts; mix all well together.

Orange Cordial.

For four gallons.—Oil of orange and essence of lemon, of each a quarter of an ounce, rectified spirit of wine five quarts, mix well; then add syrup two gallons, water three quarts.

Citron Cordial.

For four gallons.—Essence of lemon and bergamot, of each a quarter of an ounce, rectified spirit of wine five quarts, mix well; then add two gallons of syrup, and three quarts of water. If it is wished to be green, boil some spinach, press out the juice through a cloth, and add to the cordial sufficient to produce the colour desired.

Lovage.

For four gallons.—Oil of nutmegs and oil of cassia, of each a quarter of an ounce, oil of carraway one-eighth of an ounce, rectified spirit of wine five quarts, mix well; then add syrup two gallons, water three quarts. Colour with brandy colouring.

Cinnamon Cordial.

For four gallons.—Oil of cassia half an ounce, rectified spirit of wine five quarts, mix well; then add syrup two gallons, water three quarts.

Coriander Cordial.

For four gallons.—Coriander seeds bruised four pounds, rectified spirit of wine one gallon, water one gallon, infuse ten days, then strain, and add syrup one gallon, water one gallon.

King's Cordial.

For two gallons.—East-India Madeira two quarts, cherry brandy two quarts, essence of carraway, nutmegs, and cinnamon, of each twenty drops; mix well together, and add two quarts of syrup, and two quarts of water; colour with tincture of cudbear or red sanders.

Queen's Cordial. No. 1.

For three gallons.—Cherry brandy one gallon and a half, Sherry two quarts, essence of cassia, nutmegs, carraway, and lemons, of each twenty drops, lemon juice half a pint, syrup two quarts, water sufficient to make up the quantity.

Queen's Cordial. No. 2.

For four gallons.—Oil of mint, carraway, cassia,

and nutmegs, of each half a quarter of an ounce, rectified spirit of wine one gallon; mix together, add water one gallon and a half, and one gallon and a half of syrup. Mix for use.

Prince's Cordial.

For four gallons.—Three quarts of cherry brandy, one quart of raspberry brandy, two quarts of raisin wine, oil of carraway, and essence of lemon, of each fifteen drops, rectified spirit of wine three quarts, mix the oil and essence with the spirit, and add to the rest; mix well, and add three quarts of water and one gallon of syrup. Mix for use.

Usquebaugh.

For four gallons.—Oils of juniper, aniseed, nutmegs, cloves, and cassia, of each half a quarter of an ounce, rectified spirit of wine five quarts, mix well together; add three quarts of water, and two gallons of syrup. If it is wished of a yellow colour, use Spanish saffron; if green, use green sap, dissolved in a little water; if brown, use brandy colouring.

Punch Cordial.

For six gallons.—Proof rum three gallons, brandy five quarts, lemon juice two quarts, porter one quart, essential oils of orange and lemon, of each half an

ounce, dissolved in half a pint of rectified spirit of wine, essence of bitter almonds a quarter of an ounce, twelve pounds of loaf sugar, mix all well together; put it in a cask from whence it can be drawn when wanted; it will be found very convenient to make punch in large or small quantities, requiring only the addition of hot water and a few slices of fresh lemon peel.

Carraway Brandy.

For one gallon.—Three quarts of brandy, essence of carraway a quarter of an ounce, essence of cinnamon thirty drops; mix, and add one quart of syrup.

TO MAKE CORDIALS AND COMPOUNDS ON A SMALL
SCALE.

The following receipts are formed on the very small scale of one pint and a half, for the convenience of retail dealers, as they may be mixed at any time, in a few minutes; and if carefully prepared, will be fit for immediate use, which will be found of great importance, as it will prevent any material alteration in their stock;—they may also be very readily varied to suit the taste of their customers, either stronger and sweeter, or less so, as they may think proper.

Peppermint Cordial.

For one pint and a half.—Oil of peppermint

seven drops, rectified spirit of wine half a pint, mix ; add one pint of syrup, mix together, and it is ready for use.

Aniseed Cordial.

For one pint and a half.—English oil of aniseed eight drops, rectified spirit of wine half a pint, mix ; add a pint of syrup, mix together, and use.

Carraway Cordial.

For one pint and a half.—Oil of carraway ten drops, rectified spirit of wine half a pint, mix ; add a pint of syrup.

Clove Cordial. No. 1.

For one pint and a half.—Oil of cloves seven drops, rectified spirit of wine half a pint, mix ; add a pint of syrup.

Clove Cordial. No. 2.

For one quart.—Oil of cloves ten drops, rectified spirit of wine two ounces, mix ; British brandy one pint, cherry brandy a quarter of a pint, syrup a quarter of a pint, water half a pint ; mix for use.

Citron Cordial.

For one pint and a half.—Essential oil of lemon

twelve drops, oil of bergamot ten drops, rectified spirit of wine half a pint, syrup a pint.

Cinnamon Cordial.

For one pint and a half.—Essential oil of cassia eight drops, half a pint of rectified spirit of wine, one pint of syrup.

Ratafia.

For one pint and a half.—Essential oil of bitter almonds ten drops, two drops of oil of lemon, two drops of oil of bergamot, rectified spirit of wine half a pint, mix; add one pint of syrup, and as much tartaric acid as will cover a sixpence.

Queen's Cordial.

For one pint and a half.—Oil of mint two drops, oil of carraway eight drops, oil of cassia and oil of nutmegs eight drops, rectified spirit of wine one pint and a half, syrup one pint, and as much tartaric acid as will cover a sixpence.

Lozage.

For one pint and a half.—Oil of nutmegs ten drops, oil of cassia five drops, oil of carraway ten drops, rectified spirit of wine half a pint, mix; add one pint of syrup; mix for use.

Cherry Brandy.

For one quart.—Oil of cloves, oil of cassia, of each

five drops, spirit of wine half a pint, mix together; add one pint and a quarter of British brandy, the juice of equal parts of black and red cherries half a pint, syrup a quarter of a pint; mix well together.

Rum Shrub.

For one quart.—Essence of lemon twenty drops, spirit of wine half a pint, mix together; add one pint of rum, a quarter of a pint of raisin or white currant wine, shake well together, then take a quarter of an ounce of concrete acid of lemon, dissolve it in a quarter of a pint of water, and half a pint of syrup; mix all well together for immediate use.

Brandy Shrub

May be made in the same way, only using brandy instead of rum; if either of them require colour, use brandy colouring.

Usquebaugh.

For one pint and a half.—Oils of juniper, aniseed, nutmegs, cloves, and cassia, of each three drops, rectified spirit of wine half a pint, mix well; add one pint of syrup.

Crème de Noyau.

For one quart.—Blanch two ounces of bitter almonds, infuse them in proof spirit one pint and a

half, for ten days ; strain off the spirit, and add half a pint of syrup, it is then fit for use.

LIQUEURS, ETC.

Curaçoa.

Take dried orange peel eight ounces, mace one ounce, white rum one gallon, refined loaf sugar six pounds, boiling water six quarts ; manage it in the same way as French noyau (white).

Anisette de Bordeaux.

Take oil of aniseed twelve drops, loaf sugar one pound and a quarter, rub the oil with a part of the sugar in a mortar ; add gradually two quarts of rectified spirit of wine, and one gallon of water ; filter immediately through paper for use.

Ratafia de Cérises.

Take Morello cherries, with their kernels bruised, sixteen pounds, proof spirit two gallons ; digest together three weeks, press off the liquor, and add loaf sugar four pounds.

Ratafia de Cassis.

Take ripe black currants six pounds, cloves and cinnamon bruised, of each one drachm troy, proof spirit two gallons ; digest together fourteen days ;

strain, and press off the liquor; then add four pounds of loaf sugar.

Ratafia de Framboises.

Take ripe strawberries one gallon, proof spirit two quarts, loaf sugar one pound; digest ten days, and press off the liquor.

Ratafia de Noyau.

For one gallon.—Bruise the kernels of three hundred peaches or apricots, add three quarts of proof spirit, infuse for ten days, strain off the liquor, and add one quart of syrup.

Ratafia.

For four gallons.—Essential oil of bitter almonds a quarter of an ounce, rectified spirit of wine one gallon, mix together; add one gallon and a half of water, and one gallon and a half of syrup; mix for use.

French Noyau.

Take bitter almonds blanched, and cut in pieces, half a pound, white brandy, or clean proof spirit, one gallon; infuse together ten days, then pour off the spirit, dissolve six pounds of refined loaf sugar in six quarts of boiling water, carefully remove any scum that may arise, and when cold add the spirit; mix well together, allow it to stand a few days to fine; if necessary, filter through paper, this will be

white noyau ; if it is wished to be coloured, add to the almonds and spirit, two ounces of red sanders shavings, it will then be a beautiful pink colour ; or the sanders may be infused alone in proof spirit, and the tincture added to produce the colour desired.

Martinique Noyau.

Take bitter almonds blanched, and cut in pieces, half a pound, white rum, or proof spirit, one gallon, dried orange peel half a pound, refined loaf sugar six pounds, boiling water six quarts ; manage the whole in the same manner as French noyau.

Marasquin di Zara.

Take spirit of black cherries, or cherry brandy, one gallon, raspberry brandy two quarts, proof spirit, or rum, one gallon, refined loaf sugar twelve pounds, dissolve in twelve quarts of water ; mix all well together, allow it to stand a few days to fine, pour off the clear, and filter the remainder through paper.

Crème d'Orange.

Take oranges sliced three dozen, rectified spirit of wine two gallons, water four gallons and a half, loaf sugar eighteen pounds, orange-flower water two quarts, tincture of saffron one ounce and a half ; digest altogether fourteen days, and strain.

Crème de Noyau.

For four gallons.—Blanch two pounds of bitter almonds, infuse them in three gallons of proof spirit for ten or twelve days, strain off the spirit, and add one gallon of syrup, mix well together, it is then fit for use; if it is wished to be a pink colour, add a quarter of an ounce of powdered cochineal to the almonds, or colour after it is finished with tincture of cudbear.

Imperial Nectar.

For four gallons.—Essential oil of bitter almonds sixty drops, essence of lemon thirty drops, oil of cloves and cassia, of each sixty drops, oil of nutmegs thirty drops, spirit of wine half a pint, mix well together; then add two gallons of British brandy, one gallon of raisin wine, and one gallon of syrup; use brandy colouring to produce the colour you wish.

Brandy Shrub.

Oranges and lemons four each, loaf sugar two pounds, rub the sugar on the fruit till the whole of the yellow rind is taken off; then add one gallon of brandy, allow the sugar to dissolve in the spirit, mix and add one pint of orange juice, one pint of lemon juice, and two quarts of water that has been boiled and stood to cool.

Rum Shrub. No. 1.

May be prepared in a similar manner, using rum instead of brandy.

Rum Shrub. No. 2.

Concrete acid of lemons eight ounces, water five gallons, raisin wine four gallons, rum ten gallons, orange-flower water four pints, honey six pounds.

Rum Shrub. No. 3.

Orange juice two pints, rum one gallon, loaf-sugar one pound and a half.

Rum Shrub. No. 4.

For four gallons.—Essence of lemon half an ounce, rectified spirit of wine one pint; mix together; add two gallons of rum, and two quarts of raisin, or orange wine, shake well together; then take four ounces of concrete acid of lemon, dissolve it in three pints of water, and one gallon of syrup; mix all well together for immediate use.

Cherry Brandy.

For four gallons.—Oil of cloves, oil of cassia, of each forty drops, rectified spirit of wine half a pint, mix together; add two gallons and a half of British brandy, the juice of equal parts of black and red

cherries one gallon, syrup two quarts, mix well together; if it is wished to be of a deeper colour, add elder juice or brandy colouring.

Raspberry Brandy.

Pick fine dry fruit, put it into a stone jar, and the jar into a kettle of water, or on a hot hearth, till the juice will run; strain, and to every pint add half a pound of sugar, give one boil, and skim it; when cold, put equal quantities of juice and brandy, shake well, and bottle.

Punch.

Take two large fresh lemons, with rough skins, *quite ripe*; and some large lumps of double-refined sugar; rub the sugar over the lemons till it has absorbed all the yellow part of the skins. Then put into the bowl these lumps, and as much more as the juice of the lemons may require; for no certain weight can be mentioned, as the acidity of a lemon cannot be known till tried, and therefore this must be determined by the taste. Then squeeze the lemon-juice upon the sugar, and with a bruiser, press the sugar and the juice particularly well together, for a great deal of the richness and fine flavour of the punch depends on this rubbing and mixing process being thoroughly performed. Then mix this up *very well* with boiling water (soft water is

best), till the whole is rather cool. When this mixture (which is now called the sherbet) is to your taste, take brandy and rum in equal quantities, and put them to it, mixing the whole *well* together again. The quantity of liquor must be according to your taste. Two good lemons are generally enough to make four quarts of punch, including a quart of liquor, with half a pound of sugar; but this depends much on taste, and on the strength of the spirit. As the pulp is disagreeable to some persons, the sherbet may be strained before the liquor is put in. Some strain the lemon before they put it to the sugar, which is improper, as when the pulp and sugar are well mixed together, it adds much to the richness of the punch.

When only rum is used, about half a pint of porter will soften the punch; and even when both rum and brandy are used, the porter gives a richness, and, to some, a very pleasant flavour.

Milk Punch.

Pare six oranges and six lemons, as thin as you can, grate them after with sugar to get the flavour. Steep the peels in a bottle of rum or brandy, stopped close, twenty-four hours; squeeze the fruit on two pounds of sugar; add to it four quarts of water, and one of new milk, boiling hot; stir the rum into the above, and run it through a jelly-bag till perfectly clear. Bottle, and cork close immediately.

Norfolk Punch. No. 1.

In twenty quarts of French brandy, put the peels of thirty lemons and thirty oranges, pared so thin that not the least of the white is left; infuse twelve hours. Have ready thirty quarts of cold water that has been boiled; put to it fifteen pounds of double-refined sugar; and when well mixed, pour it upon the brandy and peels, adding the juice of the oranges and of twenty-four lemons; mix well. Then strain, through a very fine hair-sieve, into a very clean barrel that has held spirits, and put two quarts of new milk. Stir, and then bung it close; let it stand six weeks in a warm cellar; bottle the liquor for use, taking great care that the bottles are perfectly clean and dry, and the corks of the best quality and well put in. This liquor will keep many years, and improves by age.

Norfolk Punch. No. 2.

Pare six lemons, and three Seville oranges, very thin; squeeze the juice into a large jar; put to it two quarts of brandy, one of white wine, and one of milk, and one pound and a quarter of sugar. Let it be mixed, and then covered for twenty-four hours. Strain through a jelly-bag, till clear, then bottle it.

Ginger Beer. No. 1.

Take three pounds of lump sugar, bruised ginger

two ounces, cream of tartar one ounce, four lemons, sliced; pour on them four gallons of boiling water; add half a pint of yeast; ferment three or four days, according to the heat of the weather; then bottle in half-pints, and tie the corks down.

Ginger Beer. No. 2.

Take six pounds of moist sugar, five ounces of bruised ginger, two ounces of cream of tartar, six lemons sliced; pour on them seven gallons of boiling water; while warm, add half a pint of good yeast, and one pint of brandy; bung very close, and in fourteen days bottle it. This is very superior to the ginger beer usually sold.

White Spruce Beer.

To ten gallons of boiling water, add six pounds of good raw, or lump sugar, four ounces of essence of spruce, about half a pint of good yeast; ferment as in making ginger beer, and bottle in half-pints.

Brown Spruce Beer

Is prepared in the same manner as the white, using treacle instead of sugar.

Imperial Pop.

Take three ounces of cream of tartar, one ounce of bruised ginger, one pound and a half of lump-sugar, one ounce of lemon-juice; pour one gallon

of boiling water on them, stirring well; add one ounce of yeast, and treat it the same as ginger beer.

Excellent Lemonade.

To the rinds of ten lemons, pared very thin, put one pound of fine loaf-sugar, and two quarts of spring water, boiling hot; stir it to dissolve the sugar; let it stand twenty-four hours, covered close; then squeeze in the juice of the ten lemons; add one pint of white wine; boil a pint of new milk, pour it hot on the ingredients; when cold, run it through a close filtering bag, when it will be fit for immediate use.

To make Roman Purl.

This is a beverage held in high estimation in London; it is made from amber ale, with a mixture of gin-bitters; the amber ought to be heated by a very quick fire, the gin and bitters put into a pewter half-pint, and the ale added to it, at the exact warmth for a person to drink such portion at a single draught.

To make a Sixpenny Glass of Crank.

Make a good fourpenny glass full of warm gin and water, with sugar; add a slice of lemon, and half a wine-glass full of fine porter.

K.

PART IV.

OF CIDER, PERRY, MEAD, AND VINEGAR.

Of Cider.

CIDER is made from apples, which should be mellow ripe, and gathered when perfectly dry. It was formerly held as a general opinion, that "the worse the fruit, the better the cider;" but such an absurd opinion was in time, though slowly, refuted. The best pippins make the best flavoured and the wholesomest liquor; and such as are duly ripe will produce a proportionate increase, both of the quantity and of the flavour. Some persons are so curious in this particular, that they select their apples individually, and keep the juice barrell'd for several years, whence it acquires considerable strength and richness, equal, if not superior, to many of the inferior classes of foreign wines. When boiled, and kept in this way, it is called cider wine.

It is to be lamented that very large quantities of crude cider are made in some districts from unripe apples, especially from windfalls. This liquor is peculiarly unwholesome, and rarely fails, if drank

to excess, to induce violent cholics and spasms of long duration. The evil is increased by the incautious practice of drawing the expressed liquor into copper or leaden vessels, from which it receives a metallic solution that proves in most instances fatal. Even those who make cider with the utmost care and cleanliness, from unripe apples, should be particularly attentive to due fermentation, without which, though it may not immediately turn sour, it will neither be palatable or wholesome. Such should be aided, while fermenting, by the addition of a very large toast, made of good wheaten bread, well leavened; and if that should fail, the cider should not be used without the addition of about a quart of good spirits to two or three gallons of the liquor. This will prevent the acetous fermentation from taking place, and reduce the bad qualities of this crude beverage.

Exclusive of the state of the fruit when gathered, much depends on the care with which it is taken down and conveyed to the sweating room: such apples as are bruised should be rejected, or, at least, be made separately; for they will give a taint to the liquor; and, if numerous, will also occasion the fermentation to be unequal—a matter of great importance. Apples should be gathered by hand, and slipped into a basket by means of such a ladder and cloth funnel as represented in the Agricultural

Magazine for September or October 1807, whereby they are saved from injury.

The proper degree of ripeness is easily ascertained by those who are in the habit of gathering; such persons know by the touch, and by the mellow appearance, of proper fruits, when they are fit for the press: the shaking of the kernels is extremely uncertain, as is also the colour of the kernels. When a hard sort of apple bites crisp, and flakes without toughness, it is in proper condition. The softer fleshed apples may be tried by pressing the thumb on that side which has not been exposed to the sun. If the flesh pits easily, and soon assumes a bruised appearance, the juices are sufficiently prepared for expression. By trying the sun side of the apple, much deception is often experienced.

Those who are very curious in their cider, pick off all the stalks, and wipe each with a dry cloth; but this cannot be done on a large scale. However, all filth should be avoided as much as possible. The fruit, when first pulled, should be laid to air on a floor, and in a day or two should be piled. If the weather proves frosty, a blanket should be laid, at night, over each heap, that the whole may be kept in a very gentle sweat. This dissipates much of the aqueous fluid, and disposes the apples to break freely in the mill, without which there would be double labour and far less produce. When they appear

clammy, or begin to look shrivelled, they are in a state for milling. The mill and press are made upon different plans in various parts; those who make cider for sale, and can shew many hundred hogsheads, generally have a horse-walk, and grind the apples by means of a trough, wherein they are crushed by a large stone roller, about a foot broad and three or four feet high, which revolves on an axis fastened, at one end, to a central post, and at the other having a hook to which the horse is attached. The horse goes round at an easy pace, so as not to hurry the apples out of the trough, while the stone partakes of the circular motion, and mashes the apples, which are confined by the two concentric sides of the trough. The mills are usually made in a very negligent manner, whereby the apples are very insufficiently and unequally ground; besides, it is extremely difficult to keep the troughs clean, and to prevent the apples from jumping out when first acted upon by the stone, unless the walls or sides are inconveniently high, or that only a thin layer is bruised at a time.

The best and most commodious grinding mill for ordinary use consists of an oblong funnel, capable of containing about two bushels; this directs the apples down to two cylinders, placed horizontally at about half an inch or less asunder. Each cylinder is furnished with many rows of strong teeth; between each two or three is a mortice, so that as one is set

in motion by a crank, or winch handle, it locks mutually in with the other, and causes it to revolve with a counter-motion, thereby catching the apples, and forcing them through the rollers into a receiver below. The cylinders may be about a foot long, and, perhaps, four or five inches in diameter. Many use iron teeth, but those made of *lignum vitæ* are preferable. They should be about an inch square, and project nearly as much, their ends being cut in a wedge form. These teeth ought to be in regular bands, with intermediate mortices for the reception of those locking in from the other cylinder; the bands or rows to be about two or three inches asunder, and the teeth about two inches apart. The pulp is put into cloth receivers, made of horse-hair; and being piled in as many layers as the machine will contain, is compressed by the means of large levers turning a wooden pillar screw, the same as in the paper manufactories, &c. so that all the juice is forced out, and the pulp is rendered dry and thin. The liquor thus obtained is called *stum*, and the residuum is called *murk*. The latter is frequently broken up, and being infused in boiling water, is again pressed for the purpose of giving a small liquor called *ciderkin*, *purre*, or *perkin*. Some add hops thereto, which make it keep very well. If too much water be not put (say about one-third the quantity of expressed juice,) the *ciderkin* will prove good. It ought to remain forty-eight hours before

repressed. The best way is to grind the murk a second time, whereby much more liquor will be obtained. The cider should be put into very clean, sweet casks, which should not be filled, but a small space left for the working. The duration of the fermentation is uncertain, being from a week to a month, or more, according to the state of the atmosphere. If the fruit be in a proper state, and that no frost should intervene, it will generally be regular; but in the latter case artificial warmth, not exceeding sixty degrees, may be used, and a piece of well-toasted bread be put in. When the fermentation is declining, draw off the cider from its lees, by means of a cock at a few inches from the bottom of the cask, and put it into another vessel, which must, after the first effervescence, be well filled, and be bunged up very close.

It is proper to state, in this place, that very large quantities of good stum are annually spoiled by being placed either in too hot situations, where the fermentation proceeds unduly to the second, or acetous degree, or in too cold and damp a cellar, &c. as where the fermentation is tardy and imperfect. Cider left to work upon coarse foul lees, will ferment with great vigour, but is apt to expend itself, and leave either an insipid sub-acid liquor, or to burst the casks, if closed too soon. Spirits are the best preventive to both; on the Continent, and in America, we understand, that those few who make

good cider (which is extremely scarce in those parts, though apples of the finest quality abound,) invariably doctor the stum when the fermentation is either defective or excessive: having abundance of spirits, they can easily prevent that mischief which, in this country, could not be obviated at any moderate expense. When cider fails, and becomes acid, the acetous change should be encouraged: it makes excellent vinegar, worth at least two shillings and sixpence the gallon; whereas in cider countries, the same quantity, used as beverage, would not produce above two shillings; from which deduct the duty, which is about five-pence per gallon.

When cider has been well made, and is put into capacious vessels, it will keep sound for many years, becoming rich and mellow; in small quantities, it is more apt to become flat. When bottled for many years, it is common to find it taste of the cork; and if the straw in which it is packed be not thoroughly dry, the liquor will acquire a very unpleasant musty flavour. All preparations used for fining cider are highly injurious to its quality: racking from the lees into fresh vessels, after the fermentation has moderated, is the only proper mode of removing the impurities.

The best way of treating cider, when it is becoming sour, is to convert it at once into vinegar, which may be done very readily; (see Cider Vinegar,) as the price is nearly the same, there will be little loss;

the acidity may be corrected in the same manner as directed for wine, or stale beer; but all those corrections are but temporary stops to the article becoming vinegar, except it is used soon after the application of the neutralizing ingredient.

Of prime Cider.

In the common cider mill of Herefordshire, the fruit is reduced by a large circular stone, similar to those used for grinding corn, which is supported on its edge, and drawn round a circular stone trough by a horse. It is observed, by Mr. Knight, in his "Treatise on the Culture of the Apple and Pear," that in grinding, the fruit should be reduced, as nearly as possible, to an uniform mass, in which the rind and kernels are scarcely discernible. He says, "after the fruit has been thoroughly ground, the reduced pulp should remain twenty-four hours before it is taken to the press; or where very fine cider is expected, I would recommend, that the fruit be first ground and pressed imperfectly, and that the pulp be then exposed during twenty-four hours to the air, being spread as thin as convenient, and once or twice turned over to produce as large an absorption of the air as can be obtained. I would then recommend the pulp to be ground again, and the expressed liquor to be added to it; by which process, the liquor will be found to acquire an increased degree of strength and richness."

He observes, "if the fruit have been thoroughly ripe and mellow, a large quantity of the pulp will now pass through the hair cloth which is used in pressing; and as this will be thrown off in the first stages of fermentation, each cask in which the liquor is placed to ferment should want about a gallon of being full. Some advantages are found in the use of open vessels; but these can only be used under cover, and are therefore proper only where the quantity of liquor to be manufactured is small."

The progress of fermentation, if the weather be cool and settled, will generally become entirely suspended in a few days; and the liquor will then separate from its impurities.

Whatever is specifically lighter will rise to its surface, whilst the heavier lees will descend to the bottom, leaving the intermediate liquid perfectly clear and bright. This must instantly be drawn off, and not suffered, on any account, again to mingle with its lees; for these possess much the same properties as yeast, and would inevitably bring on a second fermentation. The best criterion to judge of the proper moment to rack off, will be the brightness of the liquor. The clear liquor being drawn off into another cask, the lees are put into small bags, similar to those used for jellies; through which whatever liquor the lees contain, gradually filtrates, and becomes perfectly bright. It is then returned to that in the cask, in which it has the effect, in some

measure, of preventing a second fermentation. But if a disposition to ferment with violence again appear, it will be necessary to rack off from one cask to another as often as a hissing is heard. The casks into which the liquor is put, whenever racked off, must always have been thoroughly scalded, and dried again; and each should want several gallons of being full, to expose a large surface to the air, as long as the liquor shews any considerable tendency to ferment. If the cider, after being racked off, remain bright and quiet, nothing more is to be done to it.

The casks are now to be filled entirely, and stopped as soon as all danger of further fermentation is over; which is supposed to be whenever a blue film begins to collect on the surface of the liquor. It will, however, be proper to put the bungs in somewhat earlier, to exclude the external air, and to prevent the rapid escape of fixed air, when a moderate quantity only is discharged; for it is by the union of this substance with a certain portion of water, that ardent spirit is generated: but the bungs should not be driven in firmly, lest fermentation should re-commence, and endanger the casks. Ciders which have been made from good fruit, and have been properly manufactured, will retain a considerable portion of sweetness in the cask, to the end of two or three years. Cider is generally in the best

state to be put into the bottle at two years odd, where it will soon become brisk and sparkling; and if it possess much richness, it will remain with scarcely any sensible change during ten or twenty years, or as long as the cork duly performs its office.

Good corks are highly necessary, and if soaked before used in scalding water, they will be the more pliant and serviceable; and laying the bottles so that the liquor may always keep the cork wet and swelled, will much preserve it.

Of Draught Cider.

In making cider for the common use of the farm house, few of the foregoing rules are or ought to be attended to. The flavour of the liquor is here a secondary consideration with the farmer, whose first object must be to obtain a large quantity at a small expense. The common practice of the country is sufficiently calculated to answer this purpose. The apples are usually ground as soon as they become moderately ripe, and the juice is either racked off at once, as soon as it becomes bright, or more frequently conveyed from the press directly to the cellar. A violent fermentation soon commences, and continues till nearly the whole of the saccharine part is decomposed. The casks are filled up and stopped early in the succeeding Spring, and no further atten-

tion is either paid or required. The liquor thus prepared, may be kept from one to four years in the cask, according to its strength.

Of inferior Cider.

An inferior kind of cider is made by macerating the reduced pulp, from which the cider has been pressed, in a small quantity of water, and re-grinding it. The residue of three hogsheads of the latter yield about one of the former, which may be kept till the next autumn, and usually supplies the place of cider in the farm house for all purposes, except for the labourers in the harvest. It is generally fit to be drank very soon after it is made; and though no attention is paid to it during fermentation, it often remains till the end of the succeeding summer more palatable than the cider pressed from the same fruit.

Of the use of Cider, when concentrated.

Take cider made from prime fruit; boil a hogshead of it till it is reduced to one-half, take it from the copper, and let it stand in an open vessel for twenty-four hours to cool and settle, then draw it off without disturbing the sediment, put the liquor into a clean cask, but not filled too full; after being there about two days, bung it down tight and let it remain. Cider so prepared is very useful to the experienced manufacturer, as it possesses the vinous quality in a concentrated form.

It exhibits a colour similar to that of brandy, it will improve other ciders in colour and richness, and tends to stop the fermentation of those that are fretting; in short, it may with a few ingredients be made an excellent cider wine. For home-made wines, particularly those that are deficient in strength and colour, a portion of it judiciously mixed would greatly improve them; and with the assistance of a suitable quantity of brandy, sugar, and water, will produce a pleasant-flavoured wine.

Of bottling Cider.

Select cider that has been made at least six months, possessing a soft pleasant taste, and brilliant colour. Let the bottles be quite clean and dry, the weather settled. Fill the bottles up to the middle of the neck, before you begin to cork; but the liquor should not touch the cork, to prevent bursting. Put into every bottle a small lump of fine sugar, and cork it immediately with the best corks that can be procured, secure them neatly with wire; then pack the bottles in the coldest part of your cellar in an upright position, as in that situation they will be less liable to burst. After it has been in bottles four or five months, bring it from the cellar to a place of warmer temperature prior to its being used, which will increase its transparency, and impart to it the flavour required in good bottled cider. If a wine glass full of brandy be added to every bottle, it will

keep longer ; but it will deprive it in some measure of that beautiful sparkling Champagne appearance, which it would otherwise have if the brandy were omitted.

Of Perry.

In the manufacture of perry, the pears are ground and pressed precisely as apples are for cider ; it is not, however, usual to suffer the reduced pulp to remain any time expressed. It has been a custom in Herefordshire, and the adjoining counties, to mingle the juice of different varieties of the pear, with a view to correct the defects of one kind by the opposite qualities of another ; it is certainly more easy to find the required portion of sugar, and of astringency and flavour, in three or four varieties than in one ; and hence a judicious mixture of fruits affords a prospect of considerable advantages. The juice of the pear, and of the apple, consists of the same component parts, but in different proportions. In the juice of the pear the tanning principle abounds, with a less proportion of sugar, of mucilage, and tinging matter. The management of perry during its fermentation is similar to that of cider, but it does not afford the same criterions by which the proper moment to rack off may be known. The thick scum which collects on the surface of the cider, rarely appears on the juice of the pear ; and during the suspension of its fermentation, the excessive brightness of the former liquor is seldom seen in this ; but

if the fruit has been regularly ripe, its produce will generally become moderately clear and quiet in a few days after it is made; and it must be then drawn off from its grosser lees.

Of Mead.

Mead is manufactured in the following manner, when it is made in a large quantity. To sixty gallons of pure water, the softer the better, put seven-gallons of purified honey. When the honey is well mixed with the water, put it into the copper used for brewing. Boil it an hour, taking care to skim it; then take it off by means of a jet, and put it into a tub, and let it remain till it is only as warm as milk; then tun it up, and suffer it to ferment in the vessels, where it will form a thick head. As soon as it has done fermenting, stop it very close, in order to keep the air from it as much as possible. Keep it in a cellar, or in a wine vault, very deep and cool, and the door shut so close, as to keep out the outward air; so that the liquor may always be in the same temperature.

Another proportion for making mead is, to allow forty pounds of purified honey to sixty gallons of soft water, which is managed, in the making, in all respects like the above mentioned; and it proves very pleasant, good, light drinking, and is by many preferred to the other, which is much richer, and has a fuller flavour; but at the same time it is more

inhabiting: The last, therefore, is thought, upon the whole, to be the proportion that makes the most wholesome liquor for common drink; the other being rather, when properly preserved, a richer cordial, something like old Malaga, which, when in perfection, is justly esteemed the best of the Spanish wines. It should never be bottled till it is half a year old; and take care to have it well corked, and keep it in the same vault or cellar-wherein it stood whilst in the cask.

Sack Mead.

To forty pounds of honey, add ten gallons of water, boil half an hour, carefully skimming it; then add half a pound of hops, and boil gently half an hour longer; put the liquor into a cask, and when cool, add half a pint of yeast, mixing it well, cover the bung-hole slightly; when the fermentation abates, bung it down close; in twelve months bottle it off.

Cowslip Mead.

Put thirty pounds of honey into fifteen gallons of water, and boil it an hour; skim it well, then take it off the fire, and have ready a dozen and a half of lemons, quartered; pour a gallon of the liquor boiling hot upon them; put the remainder of the liquor into a tub, with seven pecks of cowslip pips; let them remain there all night, and then put to the liquor and the lemons eight spoonfuls of new yeast, and a handful of sweet-briar; stir all well together,

and let it ferment for three or four days. Then strain and put it into the cask ; let it stand six months, and then bottle it off for keeping.

Of manufacturing Vinegar.

The varieties of vinegar known in commerce are four : 1st, Wine vinegar ; 2nd, Malt vinegar ; 3rd, Sugar vinegar ; 4th, Wood vinegar.

The following is the plan of making vinegar at present practised in Paris. The wine destined for vinegar is mixed in a large tun, with a quantity of wine lees ; and the whole being transferred into cloth sacks, placed within a large iron-bound vat, the liquid matter is extruded through the sacks by pressure. What passes through is put into large casks, set upright, having a small aperture in their top. In these it is exposed to the heat of the sun in summer, or to that of a stove in winter. Fermentation commences in a few days. If the heat should then rise too high, it is lowered by cool air, and the addition of fresh wine. In the skilful regulation of the fermentative temperature, consists the art of making good wine vinegar. In summer, the process is generally completed in a fortnight ; in winter, double the time is requisite. The vinegar is then run off into barrels, which contain several chips of birchwood. In about a fortnight it is found to be clarified, and is then fit for the market. It must be kept in close casks.

The manufacturers at Orleans prefer wine of a year old for making vinegar. But if, by age, the wine has lost its extractive matter, it does not readily undergo the acetous fermentation. In this case, acetification, as the French term the process, may be determined, by adding slips of vines, bunches of grapes, or green woods. It has been asserted, that alcohol, added to fermentable liquor, does not increase the product of vinegar; but this is a mistake. Stahl observed long ago, that if we moisten roses, or lilies, with alcohol, and place them in vessels, in which they are stirred from time to time, vinegar will be formed. He also informs us, if after abstracting the citric acid from lemon juice, by crab's eyes (carbonate of lime), we add a little alcohol to the supernatant liquid, and place the mixture in a proper temperature, vinegar will be formed.

Chaptal says, that two pounds of weak spirits, mixed with three hundred grains of beer yeast, and a little starch water, produced extremely strong vinegar. The acid was developed on the fifth day. The same quantity of starch and yeast, without the spirit, fermented more slowly, and yielded a weaker vinegar. A slight motion is found to favour the formation of vinegar, and to endanger its decomposition after it is made. Chaptal ascribes to agitation, the operation of thunder; though it is well known, that when the atmosphere is highly electrified, beer is apt to become suddenly sour, without the con-

cussion of a thunder storm. In cellars exposed to the vibrations occasioned by the rattling of carriages, vinegar does not keep well. The lees, which had been deposited by means of isinglass and repose, are thus jumbled into the liquor, and make the fermentation re-commence.

Almost all the vinegar of the north of France being prepared at Orleans, the manufactory of that place has acquired such celebrity, as to render their process worthy of a separate consideration.

The Orleans casks contain nearly four hundred pints of wine. Those which have already been used are preferred. They are placed in three rows, one over another, and in the top have an aperture of two inches diameter, kept always open. The wine for acetification is kept in adjoining casks, containing beech shavings, to which the lees adhere. The wine thus clarified is drawn off to make vinegar. One hundred pints of good vinegar, boiling hot, are first poured into each cask, and left there for eight days. Ten pints of wine are mixed in, every eight days, till the vessels are full. The vinegar is allowed to remain in this state fifteen days, before it is exposed to sale.

The used casks, called *mothers*, are never emptied more than half, but are successively filled again, to acetify new portions of wine. In order to judge if the *mother* works, the vinegar-makers plunge a spatula into the liquid; and according to the quantity

of froth which the spatula shews, they have more or less wine. In summer, the atmospheric heat is sufficient; in winter, stoves, heated to about seventy-five degrees of Fahrenheit, maintain the requisite temperature in the manufactory.

In some country districts, the people keep, in a place where the temperature is mild and equable, a *vinegar cask*, into which they pour such wine as they wish to acetify; and it is always preserved full, by replacing the vinegar drawn off, by new wine. To establish this household manufacture, it is only necessary to buy, at first, a small cask of good vinegar.

At Gand, a vinegar is made from beer, which in the following proportions of grain are found to be most advantageous:—

1880 Paris lbs.	malted barley,
700.....	wheat,
500.....	buck wheat.

These grains are ground, mixed, and boiled, along with twenty-seven casks full of river water, for three hours. Eighteen casks of good wine for vinegar are obtained. By a subsequent decoction, more fermentable liquid is extracted, which is mixed with the former. The whole brewing yields three thousand English quarts.

The following is the usual process in London: a mash of malt and hot water is made, which, after infusion for an hour and a half, is conveyed into

a cooler, a few inches deep, and thence, when sufficiently cooled, into large and deep fermenting tuns, where it is mixed with yeast, and kept in fermentation for four or five days. The liquor (which is now a strong ale without hops,) is then distributed into smaller barrels, set close together in a stoved chamber, and a moderate heat is kept up for about six weeks, during which the fermentation goes on equally and uniformly till the whole is soured. This is then emptied into common barrels, which are set in rows (often of many hundreds) in a field in the open air; the bung-hole being just covered with a tile, to keep off the wet, but to allow a free admission of air. Here the liquor remains for four or five months, according to the heat of the weather, a gentle fermentation being kept up till it becomes perfect vinegar. This is finished in the following way: large tuns are employed, with a false bottom, on which is put a quantity of the refuse of raisins, or other fruit, left by the makers of raisin and other home-made wines, called technically rape. These rape tuns are worked by pairs; one of them is quite filled with the vinegar from the barrels, and the other only three-quarters full, so that the fermentation is excited more easily in the latter than the former; and every day a portion of the vinegar is laded from one to the other, till the whole is completely finished, and fit for sale. Vinegar, as well as fruit wines, is often made in small quantity for domestic uses, and the process is by

no means difficult. The materials may be either brown sugar and water alone, or sugar with raisins, currants, and especially ripe gooseberries: these should be mixed in the proportions which would give a strong wine, put into a small barrel, which it should fill about three-fourths, and the bung-hole very loosely stopped. Some yeast, or what is better, a toast sopped in yeast, should be put in, and the barrel set in the sun in summer, or a little way from a fire in winter, and the fermentation will soon begin. This should be kept up constant, but very moderate, till the taste and smell indicate that the vinegar is complete. It should be poured off clear, and bottled carefully; and it will keep much better, if it is boiled for a minute, cooled, and strained before bottling.

Good vinegar may be made for a weak syrup, consisting of eighteen ounces of sugar to every gallon of water.

Cider Vinegar.

If you have a good barrel that has had vinegar in it before, it will always be desirable to keep it for the express purpose of containing it, and never to use it for any thing else. The advantage of this will be, that your cask will be well seasoned, which will materially increase the acidity, promote the quality, and accelerate the progress of the vinegar, so as to bring it to perfection, and give it a superior strength and flavour.

Take any quantity of cider that is old, strong, harsh, or of an inferior quality, and add to it the same quantity of cider from the wring, or press; rouse it up well, and fix it in a warm place, or in the sun, which is certainly the best for its progress; stir it well till the acetous or second fermentation be brought on, after which it should remain in that state till it becomes quite sour; then remove it to the cellar for use, leaving open the bung at the time of making, and when settling after the fermentation. Stop it only with a slate or tile afterwards; the vinegar will soon arrive at full flavour and perfection.

Sugar Vinegar.

To every gallon of water put one pound of brown sugar, and one pound of molasses; boil them in a copper, taking off the scum as clean as possible; remove it to a tub for the purpose of cooling the liquor to a tepid state; then put it into a barrel placed in the rays of the sun, in the temperature of seventy degrees; add to it some new yeast from ale, and let it ferment its proper time; cover the bung with a tile, and observe to fill the cask before it stand long in the sun to prevent the chance of warping; when it has stood long enough, remove it to your cellar; still continue to keep out the bung, and stop as before directed.

This vinegar should be made during some of the warm months, as the solar beams are evidently the

most calculated to produce a superior kind of vinegar from sugar.

Raisin Vinegar.

Take forty pounds of common Malaga or Lexia raisins, bruise them well with the stalks, and add sufficient water to cover them, until the liquor be well fermented, then fill up the hogshead with either new or old cider; stir it well, and place it in a warm situation, and when fine, it may be drawn from the cask.

Gooseberry or Currant Vinegar.

Procure a quantity of either of the above sorts of fruit, or a portion of each when nearly ripe, and bruise them to a pulp, and to every gallon of fruit put two gallons and a half of boiling water; let it stand three days, stirring it occasionally; strain it through a sieve, measure the quantity to be put in the cask, and to every gallon add two pounds of coarse sugar dissolved in boiling water, which will be sufficient to give it a fulness of flavour. Let the whole stand till it be milk warm, then add a portion of new yeast, when it will soon ferment; after which add a few handfuls of the spent fruit to every two gallons, and let it stand in a warm place, which will soon complete the proper acidity and render it an admired vinegar.

PART V.

OF CELLARING AND MANAGEMENT.

THE best and most perfect cellar is that where the thermometer is always between fifty-four and sixty-four degrees of heat, by the scale of Fahrenheit. The further the temperature deviates from this standard, the worse it is. If a cellar has not a sufficient depth, it is necessary to dig it deeper; if too much exposed to the air, surround it with walls, increase the doors, and diminish the air-holes; stop up those that are not well placed, and open fresh ones that will introduce a new current of air. A cellar ought to be, at least, about sixteen feet in depth from the surface of the earth, and the roof about twelve feet high. The entrance should always be within two doors, one of which should be at the top of the stairs, and the other at the bottom; and this is equal to a gallery. If the entrance should look towards the south, it is absolutely necessary to change it, and carry it to the north. In proportion as the heat of the atmosphere, after winter,

increases, a certain number of the air-holes must be closed, because the air of a cellar always endeavours to put itself in equilibrium with that of the atmosphere. On the contrary, during winter, it is proper to admit the external air to a certain point, to diminish the heat of the cellar.

Prudent conduct, with respect to the air-holes, will preserve the wine, and prevent its being injured whilst in the casks.

A good cellar for wine, spirits, or beer, ought to be at a proper distance from the passage of carts and carriages, shops, or forges of workmen who are in continual use of the hammer and anvil. Their blows affect the vessels, as well as the fluids they contain; they also facilitate the disengagement of the carbonic acid, the first connexion of bodies; the lees combine with the wine; insensible fermentation is augmented, and the liquor more promptly decomposed. A cellar cannot be too dry; humidity undermines the tuns, moulds and rots the hoops till they burst, and the wine is lost. Besides this, humidity penetrates the casks insensibly, and at length communicates a mouldy taste to the liquor.

Experience has proved in France, that wines preserved in vast tuns, built into the stone walls of good cellars, increase in spirit every year. These tuns are not subject to running, like the common casks, and also contribute very much in point of

economy, and in the end are less expensive than wood.

The floor of the cellar should be well covered with saw-dust, which must not be suffered to get too dry and dusty, but must receive occasionally an addition of new; lest, when bottling or racking wine, some of the old dust should fly into it. In some vaults it is necessary, during winter, to have a stove or chaffing-dish, to keep up a proper degree of warmth. In the summer, it is best to keep them as cool as possible. The thermometer should be fixed in that part of the vault where the wines for sale or bottling are kept, endeavouring to have it as low as temperate.

During the summer months, wash the beer-cellar out weekly, as it tends to keep it cool, and free from mustiness; in winter, sweep it clean every ten days at least, cleanliness contributing to the preservation of its contents.

Of cleaning and sweetening Casks.

If a cask, after the beer is drank out, be well stopped to keep out the air, and the lees be suffered to remain in it till you want to use it again, it will only be necessary to scald it well, taking care, before you fill it, that the hoops are well driven. But should the air get into an empty cask, it will become musty; and notwithstanding the scalding, will re-

main so: the surest way is to take out the head of the cask, that it may be shaved; then burn it a little, and scald it for use. If this cannot be done conveniently, get some quick-lime, put about three pounds into a barrel, and in the same proportion for larger or smaller vessels; put to it about ten gallons of cold water, bung it up, shake it about for some time, and afterwards scald it well; or, in place of lime, you may match it well and scald it; you will then find the mustiness entirely removed.

To prepare a Match.

Melt some brimstone, and dip into it a bit of coarse linen cloth, or brown paper, of which, when wanted, take a piece about an inch broad and five inches long, and set fire to it, putting it into the bung-hole, with one end fastened under the bung, which must be driven in very tight; let it remain so for a few hours.

To prepare Oyster-powder.

Get some fresh oyster-shells, wash them, and scrape off the yellow part from the outside; lay them on a clear fire till they become red-hot; when cold, take the softest part, powder it, and sift it through a fine sieve; after which you may use it immediately, or keep it in bottles well corked, and laid in a dry place.

To make Lime-water.

Take four pounds of unslacked lime, put it into a tub, sprinkle it with a sufficient quantity of water to slake it; add twelve gallons of water and stir it well; after it has settled, it is fit for use.

Filtering Bag.

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

The bag is made of a yard or ell of flannel, not too fine or close wrought, laid sloping, so as to have the bottom of it very narrow, and the top as broad as the cloth will allow, well sewed up the side, and the upper part of the bag folded about a broad wooden hoop, and well fastened to it; then boring the hoop in three or four places, it may be fastened to a cord.

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

Of Clarification.

Clarification is the separation, by chemical means, of any liquid from substances suspended in it, and rendering it turbid. If a difference can be made between clarification and filtration, it is, that the latter is effected by mere mechanical means, but the former, either by heat or by certain additions, the action of which may be considered as chiefly chemical. The liquors subjected to clarification are, almost without exception, those animal or vegetable juices in which the matter that renders them turbid is so nearly of the same specific gravity with the liquor itself, that mere rest will not effect a separation. In these, too, the liquid is generally rendered thicker than usual, by holding in solution much mucilage, which further entangles the turbid matter, and prevents it from sinking. Hence it is, that vinous fermentation has so powerful an effect as a clarifier, since this process always implies the destruction of a portion of saccharine mucilage, and the consequent production of a thin limpid spirit.

Coagulating substances are great clarifiers when mixed with any turbid liquor, the process of coagulation entangling with it all matters merely suspended and not dissolved, and carrying them either to the top, in the form of a scum, or to the bottom, in the form of a thick sediment, according to circumstances. Thus, to clarify muddy cider, the liquor is beaten up with a small quantity of fresh bullock's blood, and suffered to stand at rest for some hours; after which, the liquor above is as clear as water, and almost as colourless; and at the bottom is a thick tough cake, consisting of the coagulated blood, which has carried down with it all the opaque matter suspended in the liquor.

Albuminous and gelatinous substances act in the same manner. The effect of white of egg, in this way, is known to every one. It should first be mixed with the turbid liquor, without heat, and by agitation. Afterwards, on applying less than a boiling heat, the albumen of the egg coagulates, and carries up with it all the opaque particles, leaving the rest clear and limpid. Sometimes clarification takes place in a very unaccountable manner. Thus it is well known that a handful of marl or clay will clarify a large cistern of muddy water; and marl is also used with advantage in clarifying vinous liquors.

OF WINES.

Finings for Wine.

If wine does not become clear soon enough, for each forty gallons dissolve an ounce of isinglass in a quart of water. Strain and mix this with part of the liquor, beat it up to a froth, and pour it into the rest; stir the whole well, and bung it up, except there should be an appearance of fermentation; if so, leave the bung out till it has ceased. Instead of isinglass, some use hartshorn-shavings, in rather larger quantities; red wines are fined with eggs, twelve to the pipe, beaten up to a froth, mixed with the wine, *and well stirred in.*

Gypsum or alabaster is used to clear cloudy white wines; as also fresh slaked lime; and the size of a walnut of sugar of lead, with a table spoonful of sal enixum, is put to forty gallons of muddy wine, to clear it; and hence, as the sugar of lead is decomposed, and changed into an insoluble sulphate of lead, which falls to the bottom, the practice is not so dangerous as has been represented.

Manner of using Finings.

Put the finings, when ready, into a pail, with a little of what you are going to fine; whisk them together till they are perfectly mixed, and then nearly fill up the pail with the liquor, whisking it well.

about again, after which, if the cask be full, take out four or five gallons to make room; take a staff and stir it well; next whisk the finings up, and put them in, stirring well together for five minutes; then drive in the bung, leaving the vent-peg loose for three or four days, after which drive it in tight.

Of flavouring and colouring Wines.

The quality of roughness natural to those red wines in which the skins and a portion of the stems have been subjected to the process of fermentation, is readily communicated by astringent substances, and by none more easily or purely than by catechu and kino, substances free from injurious flavour; the sloe is also used; similar roughness, accompanied with flavour, is given by the chips of oak and beech; and if logwood and walnut peels are used, the astringency will also be united to a portion of colour and flavour. All these substances may be rendered highly useful in giving positive qualities to insipid wines. A simple infusion alone is necessary, in such proportion as the exigencies may require; care being taken to rack and fine the wine after the desired effect has been obtained.

Of bottling Porter, Ale, Cider, Wine, &c.

The bottles should be clean, sweet, and dry, the corks sound, white and good, and the ale, &c. fine; fill the bottles up into the neck, so that it very nearly

touches the cork when driven well in, taking care that it does not actually touch, or the bottle will burst, as it is desirable that as little air as possible should be retained in the bottle; when filled, allow them to stand twenty-four hours uncorked (except wine); soak the corks in boiling water previous to using them, they will fit more securely; pack the bottles on their sides in dry sand, in preference to saw-dust, as it prevents the access of air more effectually, and also secures the contents from acquiring the flavour of turpentine or mustiness, from saw-dust or straw, which frequently penetrates through the corks. Always choose a fine clear day to bottle on. If you are bottling any thing that requires to be brisk when opened, as porter, ale, or cider, add to each bottle a tea-spoonful of raw sugar, and two or three cloves. If wanted to ripen quickly, place the bottles in a warm situation a few days.

*Of the landing and cellaring of Wine in hot
Weather.*

Let your wines stay on the quay as short a time as possible; get them speedily to your vault, and to prevent their fretting, roll them to the coldest place in it; take out the bungs, and dip the bung-cloths in brandy, adding to each of the casks a quart of that liquor, stirring it about the surface with a stick; after which put the bungs on the holes; and after three days bung them up and stillage them. In a

week or ten days spile them at the head, to know if the fermentation has ceased, and if it has not, rack them off. If the wines have age, and are for sale or present use, they should be fined.

If the weather be cold when the wines are landed, get them as soon as you can to your vault; stillage them, and put as much saw-dust about them as you can, to keep them warm, and take off the chill. In two or three days put into each of them a quart or two of brandy; and, if they have sufficient age, in ten days or a fortnight you may fine them.

Of Racking Foreign Wine.

Take care, in the first place, that your vault or cellar be of a temperate heat, and that your casks be sweet and clean. Should they have an acid or musty smell, it may be remedied by matching, and if not clean, rince them well out with clean cold water; and after draining, rince again with a quart of brandy, putting the brandy into your ullage cask. Then place your empty cask on the stillage, and put in a large funnel. If the wine you are about to rack off is fined, you must rack it off with a large cock. Then give your full cask vent by taking the bung out, and have in readiness two cans, that when you are emptying one the other may be filling, by which means you will sooner accomplish the business. When it has ceased to run, put up your tilting jack, and get off all the fine that you can; afterwards

strain the lees or bottoms through a filtering bag. As much of it as runs fine, put to the rest of the wine: but the bottoms of Port are generally put into the ullage cask, without going through the filtering bag. In racking wine that is not on the stillage, a wine-pump is preferred, though a crane is generally used.

To recover pricked Wines.

Get a fresh emptied Port pipe, and rack half the wine into it; then take a match of five inches long, and an inch and a half broad, for each of the pipes, and set fire to them, putting them into the bung-holes, with one end made fast by driving in the bung very tight, after which roll them well about, and on the following day rack them both into one, adding half a pound of oyster-shell powder and a quarter of a pound of bay salt, together with a pint of tartarized spirit of wine. After which take a staff and stir it well; drive in the bung tight, and let it remain three or four weeks. Then get another fresh emptied pipe (or you may take the old one, after matching it again), and rack off the wine from the lees; filter them, and add to the rest. Then taste the wine, and if it be sound, take a good hogshead of new wine, mix them together, with two gallons of brandy, a quart of colouring, and two ounces of cochineal. This will make three hogsheads of good wine; after which you may fine it for bottling,

either for home use or exportation; when it has been six weeks in bottle, it will be fit for use.

All perfect wines have some acidity, and when this acidity prevails too much, the wine is said to be pricked, which is really the wine's tending to vinegar; but the use of an alkaline salt, or, still better, of fresh slaked lime, immediately corrects it.

To recover pricked Wine in Bottles.

Draw the corks, and add to each bottle two table-spoonfuls of the tincture of salt of tartar, and one tea-spoonful of dry-salt of tartar, mix well together: re-cork them, and in a few days they will be fit for use.

To manage and improve Red Port Wine, when poor and thin.

If your wines be sound, but wanting in body, colour, and flavour, draw out thirty or forty gallons, and return the same quantity of young and rich wines, such as are generally brought to this country for that purpose; to a can of which put a quart of colouring, with a bottle of wine or brandy, in which half an ounce of powdered cochineal has been previously mixed. Whisk it well together, and put it in your cask, stirring it well about with a staff; and if not bright in about a week or ten days, you may fine it for use; previous to which, put in at different times a gallon of good brandy. If Port wines are

short of body, put a gallon or two of brandy into each pipe, as you see necessary. If the wines be in your own stock, put it in by a quart or two at a time, as it feeds the wine better in this way than putting it in all at once; but, if your wines are in a bonded cellar, procure a funnel that will go down to the bottom of the cask, that the brandy may be completely incorporated with the wine. When your Port is thus made fine and pleasant, bottle it off; taking care to pack it in a temperate place with saw-dust or dry sand, after which it will not be proper to drink for at least two months. When laying your wines down in bottles, you should never use new deal saw-dust, as that causes it to fret too much, and often communicates a stong turpentine smell through the corks to the wine.

To fine a Pipe of Port Wine.

Take the whites and shells of twenty fresh eggs, beat them in a pail with a whisk, till it becomes a thick froth, then add a little wine and whisk it up again.

If the pipe is full, take out four or five gallons of the wine, to make room for the finings: then take a staff, and stir it well about; after which put in the finings, stirring it well again for five minutes. Afterwards, put in the can of wine that you took out, leaving the bung out for a few hours, that the

froth may fall. Bung it well up, and in eight or ten days it will be fine and fit for bottling.

If the weather be warmer than temperate, add a pint of fresh water sand, or marble powder, to the finings.

To fine White Port Wine.

White Port is a very stubborn wine, and requires to be fined and racked two or three times before it will become soft and pleasant.

When the wine has been for some time in the vault, take two ounces and a half of isinglass, beat it very small with a hammer, and put it into two quarts of stale cider or perry, for forty-eight hours; then whisk it up into a froth in a can with some of the wine, and if the weather be temperate, put into the finings a gill of marble sand, stirring it well about again for five minutes. Leave the bung loose for three days, afterwards bung it up for a fortnight, and rack it off into a Madeira pipe, using less of the finings than before. By this method the wine will be much improved.

To manage Sherry Wine.

The purest of Sherries are those that are pale, fine, aromatic, potent, soft, rich, and with a degree of bitterness; but, as they cannot always be acquired in that state, we must endeavour to manage them so as to bring them as near perfection as

possible. If the Sherry is not fine, take a pail and draw off about one gallon from the butt; dissolve two ounces of isinglass to a jelly, then add the whites of about ten eggs with the shells, and one ounce of alum, boiled in one pint of water; whisk the same for a considerable time, rummage the wine well, throw the contents of the pail into the cask, and ascertain whether any other improvement be wanted to promote the essential flavour. As some of those wines are often impregnated with too hot a stimulant, which predominates over that softness of taste peculiar to good Sherry, the following explicit instructions will enable you to meliorate such to a surprising degree; take of white sugar candy, or honey, six pounds, for a butt, and also two pounds of Jordan almonds, and one pound of bitter almonds, pounded; then draw off some Sherry from the cask, and add a suitable portion of any other soft pleasant wine, which will tend to temper the hot taste of the Sherry whenever it is required.

When these wines are first imported, or recently manufactured, some of them are found to be intolerably hot and harsh; this is in a great measure caused by so much Spanish brandy being used in them by the foreign manufacturers; but if they should at any time be found deficient in strength, mingle with them a discreet portion of the best Cognac brandy.

If a butt of Sherry is too high in colour, take

a quart of warm sheep or lamb's blood, and mix it with the wine; and when thoroughly fine, draw it off, when you will find the colour as pale as necessary.

The colour of other wines, if required, may be taken off in the same manner.

When any process or operation is to be performed for the improvement of quality or flavour in wines, let that have the first attention; afterwards refer to the rules recommended for fining, whenever required.

If the Sherry be new and fiery to the taste, rack it off into a sweet cask, add five gallons of mellow Lisbon, which will take off the fiery taste, and make it drink mild; and, to give it a head, take a quart of honey, mix it with a can of the wine, and put it into the cask when racking. By this method, Sherry, for present use, will be greatly improved, having much the same effect upon it as age. Sherry should always be fined, as that improves it greatly.

To fine Pale Sherry.

Pale Sherry is generally shipped from Spain, as such, and is not so fiery as common Sherry, but is often made from it in this country, by infusing three pints of skim milk with the whites of eggs. They must be beat well together in a can, and put in the finings in the same manner as you do with the common Sherry.

Of Madeira Wine.

Madeira is a wine universally admired ; and those in the highest state of perfection, are those which have been sent to the East Indies and back again ; the agitation of the sea, united with the peculiar influence of climate, renders such wine very superior to others.

This wine requires age ; it ought to be kept warmer than Port, and when bottled, it should be packed and covered with saw dust, and put into the warmest bins. If you think the Madeira wants strength, body, or flavour, the addition of a little of the best French brandy will greatly improve it at all times ; and, when not fine, dissolve two ounces of isinglass to a butt, whisk it up with a quart of new milk, and stir it will.

When Madeira wine has a pinkish hue, it is a proof of its having been adulterated with Teneriffe wines, as the genuine colour of pure Madeira is much paler than Sherry.

Of Teneriffe, or Vidonia Wine.

Teneriffe wine, if well managed, resembles Madeira, when its acrimonious qualities have been properly subdued, which can be effected by blending one fourth part of good Sherry with the Teneriffe ; this alone will make it mellow, and cause the flavour to be similar to that of Madeira. Much of

it has been actually sold under the name of Madeira, after it has been skilfully prepared, thereby affording an ample profit, as the Teneriffe is a much cheaper wine than Madeira. But the addition of half a pound of bitter almonds, and two pounds of sugar candy, the former bruised, and the latter dissolved to the proportion of every forty gallons, will render the flavour truly admirable.

Of Lisbon Wine.

There are two kinds of this wine, the mild and the dry; but if you have either of them, by the help of other wines you may make the other.

Thus, if the Lisbons are all dry, take out of the pipe thirty-five or forty gallons, and put in the same quantity of Calcavella, stir it well about, and this will make a pipe of good mild Lisbon. But if the wine be all mild, take out the same quantity as before mentioned, and fill up the pipe with Malaga Sherry, stirring it about as the other, and you will have a good dry Lisbon wine.

To fine a Pipe of Lisbon Wine.

The same kind of fining used for Vidonia will answer for Lisbon wine, or you may fine it with the whites and shells of sixteen eggs, and a small handful of salt; beat them together to a froth, and mix with it a little of the wine, then pour it into the pipe, stir

it about, and let it have vent for three days; after which bung it up, and in a few days it will be fine.

Lisbon, when bottled, should be packed in sawdust, or dry sand, in a temperate place.

Of Bucellas Wine.

There are two sorts of this wine, the one dry, and the other of a milder sort. It is a pleasant though thin summer wine, yet may, by fining and racking, be much improved. In fining it, proceed in the same way as with the Madeira; only observe, that if you do not wish it very pale you must not use milk.

This is a very tender wine; a little brandy should be added to it, for if kept in too warm a place, it will be in danger of becoming foul; it should also be very well corked. This wine, when bottled, should be packed in dry sand, in a temperate place.

Of managing Claret.

Claret is not a wine of strong body (though it requires to be of a good age before it be used), therefore it should be well managed. The best method is to keep it in a vault or cellar that is always nearly of the same temperature, and every two or three weeks a pint or two of the best French brandy should be added. Taste it frequently, to know what state it is in, and use your brandy accordingly; taking care never to put much in at a time, especially to that you intend for imme-

tiate sale, as that would destroy the flavour of the wine, and make it taste fiery; but when mixed by a little at a time, it incorporates with the wine, and mellows it.

If Claret be faint, and has lost its colour, rack it into a fresh emptied hogshead, upon the lees of good Claret; then bung it up, putting the bung downwards for two or three days, that the lees may run through it; after which, lay it, bung up, till it be fine; and if the colour be not yet perfect, rack it off again into a hogshead that has been newly run off with the lees. Then take an ounce of cochineal (beat in a mortar, and infused for some time in a bottle of wine); shake it up, and put it into the hogshead, and the wine will by this method acquire both a good colour and body: or, take a pound of turnsole, and put it into a gallon or two of wine; let it steep a day or two, and then put it into the hogshead; after which, lay the bung downwards for a night, and the next day roll it about; then lay it up, and it will have a perfect colour.

• *To colour Claret.*

Take as many as you please of damsons or black sloes, and stew them with some dark-coloured wine, and as much sugar as will make it into a syrup. A pint of this will colour a hogshead of Claret. It is also suitable for red Port wines, and may be kept ready for use.

To improve Claret that drinks foul.

Rack the Claret from the dregs on some fresh lees of its own kind, and then take a dozen of new pippins, pare them, and take away the cores; put them into the hogshead, and if that is not sufficient, take a handful of the oak of Jerusalem, and bruise it; put it into the wine, and stir it very well. This not only takes away the foulness, but also gives it an agreeable flavour.

Claret requires to be kept warm in saw-dust, when bottled.

Hermitage, Red and White.

Red Hermitage must be managed in the same way as Claret, and the white likewise; except the colouring, which it does not require.

Burgundy.

Burgundy should be managed in the same manner as red Hermitage.

Malmsey, &c.

Malmsey is a sweet and full-bodied wine, but bears a high price, and is rather scarce. When you choose it, see that it is full, pleasant, fine, and of a good colour. In fining, you may proceed as in the Madeira; or, take twenty fresh eggs, beat the whites and shells together, and manage it as you do other finings.

*Calcevela, Sweet Mountain, Paccretta,
and Malaga*

Should be managed and fined in the same manner as Lisbon Wine.

Tent Wine, Muscadine, Sack, and Bastard

Should be managed the same as Malmseys, and fined with sixteen or twenty fresh eggs, and a quart or three pints of skim milk; in managing which, proceed as you do in other finings.

Old Hock and Vin de Grave

Are thin, but pleasant wines, and should be strengthened with a little good brandy, and fined, if necessary, with the whites and shells of six or eight eggs. Old Hock is a Rhenish, and Vin de Grave a French wine; they are much drank at meals.

To make Claret or Port Wine taste rougher.

Put two quarts of Claret, or Port, to a gallon of sloes; bake them in a gentle oven till they become soft; then pour off the liquor, and squeeze out the rest. A pint of this will be sufficient for thirty or forty gallons.

A Fining for Wine.

Take a pint of wheat, and boil it in two quarts of water, till it becomes soft; then squeeze it through a linen cloth, and put a pint of the liquor into

a hogshead of unsettled white wine; stir it well about, and in a short time it will become fine.

To improve White Wine.

If the wine has an unpleasant taste, rack one half off, and to the remaining half, add a gallon of new milk, a handful of bay salt, and as much rice; after which, take a staff, beat them well together for half an hour; then fill up the cask, and when you have rolled it well about, stillage it, and in a few days it will be much improved. If the wine has become foul, and lost its colour; for a butt or pipe, take a gallon of milk, put it into the cask, and stir it well about with a staff; then set the bung upwards, and when it has settled well, put in three ounces of isinglass, made into a jelly, with a quarter of a pound of loaf sugar, powdered; stir it well about, and on the following day bung it up: in a few days more it will be fine, and have a good colour.

OF PORTER, ALE, ETC.

Essence for making up Porter.

Boil one pound of Spanish liquorice in one gallon of water, till it is dissolved; add one pound of extract of gentian root, and four ounces of black extract, soften them along with the liquorice; boil an ounce of capsicum in a quart of water a quarter of an hour, strain it off, and add the liquor to the

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other ingredients; then take ten pounds of treacle, and a table spoonful of heading, mix all well together, and make up to two gallons with stale beer. This quantity will convert a butt of weak beer into good porter, and in proportion, any smaller quantity; to give it age, add one pound of sulphuric acid, carefully mixed in two quarts of water, in which four ounces of alum has been dissolved, stirring it well in.

If the black extract cannot be obtained, get one pound of good cocculus indicus in powder, and boil it an hour in two gallons of water, strain it off clear, and add the liquor to the other ingredients, instead of the black extract.

Should the beer appear to want body, boil half a pound of linseed in two gallons of water half an hour, strain it off through a cloth, and add to the butt, mixing it well. In drawing, manage it as your judgment directs.

To restore Ale or Beer when flat.

Take out of a hogshead three gallons, and add to it four pounds of honey; boil them half an hour, taking off the scum; pour it back into the hogshead and stir well together; bung it down close; a slight degree of fermentation will be excited, which will cause the beer to drink brisk.

Finings for Ale, Porter, &c.

Beer, porter, or ale finings, are composed of

isinglass dissolved in stale beer, till the whole becomes of a thin gluey consistence, like size, and must be used discretionally; one pint is the usual proportion to a barrel, but sometimes two, and even three are found necessary. Particular care must be taken that the stale beer in which the isinglass is dissolved be perfectly clear and stale.

To correct stale Beer.

If the beer, &c. is becoming stale, add to the fining about half a pound of fresh slaked lime to a butt, stirring it well, and leave the bung out a few hours, having first drawn out five or six gallons, to be returned when you bung it down, still leaving the spile peg out as long as any air escapes.

When ale or beer is on draught, and becoming rather stale, add a tea-spoonful of salt of tartar or carbonate of soda, in powder, to a quart, putting it into the pot or jug, and drawing the ale upon it; a fine creaming head will be produced, and the staleness completely removed.

To prevent Ale, Beer, &c. becoming stale.

Take oyster-shell powder two pounds, make it into a paste with treacle, pull it to pieces and put it into a butt of beer, and in proportion to smaller casks; and the beer will be preserved a considerable time.

To bring Beer forward.

Take sulphuric acid (oil of vitriol), mix it carefully with about eight parts of water, to one of acid; add it gradually to the new beer, mixing it well, till the requisite degree of hardness is produced; if judiciously managed, it will give to new beer the taste of beer twelve months old; a little alum dissolved and added will improve it, about four ounces to a butt.

A list of Articles, said to be used in beer, but prohibited by law.

By the present law of this country, nothing is allowed to enter into the composition of beer, except malt and hops. As long ago as the reign of Queen Anne, brewers were forbid to mix sugar, honey, Guinea pepper, *essentia bina*, *cocculus indicus*, or any other unwholesome ingredient in beer, under a certain penalty; from which we may infer, that such at least was the practice of some; and writers, who profess to discuss the secrets of the trade, mention most of these, and some other articles, as essentially necessary. The *essentia bina* is sugar boiled down to a dark colour, and empyreumatic flavour. Broom tops, wormwood, and other bitter plants, were formerly used to render beer fit for keeping, before hops were introduced into this country; but are now prohibited to be used in beer made for sale.

Capsicum and grains of paradise are used to give a pungent taste to weak beer, but concentrated tinctures are mostly used; and ginger, coriander seed, and orange peel are used to flavour it; besides these, opium, cocculus indicus, nux vomica, tobacco, and extract of poppies, are used to increase the intoxicating quality. Quasia is employed instead of hops as a bitter, but as this does not precipitate the mucilage, the beer soon grows muddy, unless kept very cool.

Of reducing Spirits.

It is a custom among some gentlemen of the trade, to put one-third or one-fourth part of proof molasses brandy, proportionably to what rum they dispose of, which cannot be distinguished but by an extraordinary palate, and does not at all lessen the body or proof of the goods, but makes them about two shillings a gallon cheaper.

To recover any goods to a better body or strength, when too low or weak, whether brandies, rums, or fine cordial waters, a proper quantity must be put, by little and little at a time, of spirit of wine to the goods, mixing or stirring them very well together. They may be perfectly restored to the desired strength with little or no loss, because the spirit of wine stands at about the same price with the cordials, and costs less than some of the brandies.

To recover or amend any common waters, or Genevas, will take such a quantity of proof or double goods of the same kind or denomination to the other, as the price will bear, or will answer the intentions, by such composition or mixture. If by putting proof and weak goods together, the colour or face of the goods be spoiled, which before their being mixed together were fine, (as it frequently happens,) they must be cleared or fined as when newly distilled: some persons throw about a pound of alabaster powder into their mixed goods, to stop up the porous parts of the flannel sleeve, which fines them immediately.

If by chance or accident any goods happen to be spoiled in their complexion, especially Genevas, which may be turned as black as ink, even by an iron nail dropping into the cask, they must be distilled over again, by putting in half the quantity of the ingredients as usual; and they will come perfectly fine from the still, and must be dulcified according to their quantity, just as they were at their first being made. But the goods, notwithstanding the misfortune they met with, will be much better than they were when first made; for by every distillation they are weakened near one in twenty, though improved in goodness, as before observed.

To fine any goods speedily for present use or sale, (especially white or pale goods,) add about one

ounce of alum, finely powdered, to twelve gallons of goods; stir them well, and they will soon become clear and transparent.

Alum Fining.

Put any quantity of alum, in proportion to what you are likely to use, into any convenient vessel, pour water upon it at the rate of one quart to a pound of alum; let it stand, occasionally stirring with a clean stick, keeping some alum undissolved at the bottom; it will then always be of the same strength. Put a pound of salt of tartar in a bottle, with two pints of water; when you use them together put the alum in first, stirring or shaking well; then add the salt of tartar, in the proportion of one part to eight parts of alum, mixing the whole well together; it will require to one gallon, about half a quarter of a pint of the solution of alum, and one table spoonful of the solution of salt of tartar. In fining compounds, they will fine much sooner before the syrup is added; and if the syrup is carefully prepared it will be quite clear, and may be mixed by merely shaking together after the other is fined.

To colour and flavour Brandy.

All brandies, when first made, are as clear as water, but become higher coloured by long keeping. They may, however, be made any colour by the use of proper ingredients.

First,—To make a light-straw colour, use turmeric or a little treacle ; but the best way to colour it is with a little burnt sugar or the syrup of elder berries. It may be made deeper or lighter, according to the quantity you put in. Wood colouring is also much in use.

As brandies are clear and transparent when first distilled, it may be proper to inquire how they acquire their colour where no art has been used. If we examine brandies when first imported into this country, we shall perceive, that the mellowier they are the deeper the colour : it is therefore obvious, that they acquire their colour by lying long in the cask ; and of course it would appear, that the source from whence this colour is derived is no other than the wood of the cask.

The following receipt is therefore given to make up-a colouring in imitation of this tincture :—

Take a sufficient quantity of oak shavings, and digest them in spirit of wine ; take also some other oak shavings, and digest them in water ; and when the liquors have acquired a strong tincture from the oak, let both be poured through a sieve into different vessels, then place them over a gentle fire till reduced to the consistence of treacle. Let the two extracts be now intimately mixed together, which may be done by adding a small quantity of loaf sugar, in fine powder, and rubbing the whole well together. By this means a wood colouring may be

procured, and always ready for use. The best colouring next to that of wood is burnt sugar, or common treacle. The treacle gives the spirit a fine colour, yet as its colour is but weak, it will take a large quantity: this, however, is not attended with any bad consequences; for notwithstanding the spirit is weakened by it, yet the bubble proof is improved by the treacle, and the spirit also acquires from this a sweetish taste, and a fulness in the mouth, both which properties render it agreeable to the palate of some persons. A smaller quantity of burnt sugar than of treacle will be sufficient for colouring the same quantity of spirits; the taste also is different, for instead of being made sweet by the treacle, the spirit acquires from the burnt sugar an agreeable bitterness, and by that means recommends itself to nicer palates, which do not like a luscious spirit. Therefore, by observing the above directions, you may please your various customers.

The best criterion for the selection of brandies, is to choose those that are not fiery, but of a mild taste; with a small degree of bitterness, and of a yellowish colour, which is generally acquired by age.

Of the Bubble, or Bead-strength of Spirits.

The strength of brandies, in commerce, is judged by the phial or by burning. The phial-proof consists in agitating the spirit in a bottle, and observing

the form and magnitude of the bubbles that collect round the edge of the liquor, technically termed the bead, which are larger the stronger the spirit. These, probably, depend on the solution of resinous matter from the cask, which is taken up in greater quantities, the stronger the spirit. It is not difficult, however, to produce this appearance by various simple additions to weak spirit. The proof by burning is also fallacious, because the magnitude of the flame, and quantity of residue, in the same spirit, vary greatly with the form of the vessel it is burned in. If the vessel be kept cool, or suffered to become hot; if it be deeper or shallower, the results will not be the same in each case. It does not follow, however, but that manufacturers and others may in many instances receive considerable information from these signs, in circumstances exactly alike, and in the course of operations wherein it would be inconvenient to recur continually to experiments of specific gravity. Special care should be taken that no grease, tallow, soap, or any other such like unctuous matter, get into the pieces, tubs, rundlets, or cans, because they quite take off the proof of the spirit; and, although the strength be very high, yet it will apparently fall as flat as water, and then its strength can only be ascertained by the hydrometer.

Some are in the habit of using a handful of grains of paradise, to make the goods feel hot upon the palate, as if they bore a better body; yet this

conduces nothing towards the advancement of the proof.

To improve the Flavour of Wine Brandy.

A quarter of an ounce of English saffron, and half an ounce of mace, steeped in a pint of brandy for ten days, shaking it once or twice a day; then strain it through a linen cloth, and add one ounce of terra japonica, finely powdered, and three ounces of spirits of sweet nitre; put it to ten gallons of brandy, adding, at the same time, ten pounds of prunes bruised.

To give to new Brandy all the Qualities of old.

To one gallon of new brandy add thirty drops of aqua ammonia, (to be had at the chemist's), shaking it well that it may combine with the acid, on which the taste and other qualities of the new liquor depend.

Of Rum.

Rum, of which there are various sorts, is imported to this country from the West India islands: that from Jamaica is the best, and its consumption is greater than all the others. The casks in which it is brought to this country generally give it the colour we see it have; for among a hundred puncheons you will rarely see ten of the same colour, which may be owing to the newness of the casks,

and from some of them having been fired in the inside more than others.

In purchasing rum, the dealer should always make choice of the strongest over-proof rum he can get. For instance, if you purchase a puncheon of rum which is thirty gallons over proof, you must pay duty for the said over-proof, and add thirty gallons of water, which will reduce the same to saleable proof; you will thus have an additional thirty gallons of rum for only paying the duty.

Rum is more easily lowered with British spirits than brandy; and it is not so readily discovered.

When imported into this country, it is frequently as high as forty per cent. over proof; but that of the finest flavour, is from fourteen to twenty over proof.

Of lowering Rum.

When a dealer has purchased his rum, his first object is to reduce it to proof, by adding so many gallons of water as it is over proof; but if he adds two-thirds of water, and one-third of fine strong beer, it will make the rum softer and stronger; and admit of a still further addition of water to bring it to hydrometer proof; it will also cause it to carry a better head; let it be well stirred, and in two or three days it will be perfectly fine, and fit to be sent out; and in order to reduce it further, you cannot do better than by adding pure spring water.

Rum is preferable when of a pale colour, but sometimes publicans, to suit their customers, want it coloured. The same colouring that is used for brandy will do for rum.

To lower and improve a Puncheon of Rum.

Suppose your puncheon contains one hundred gallons, and is twenty gallons over proof, add twenty gallons of good old pale porter; stir it well about with a staff, and leave the bung slack for a day or two: after which bung it up, and in three or four days it will become bright without finings. On trying it with the hydrometer, you will find it to be five gallons over proof; you may therefore let it down to what strength you please with water, observing that the water you use in reducing foreign spirits, should always be that which has been boiled. You may manage this rum, to serve those of your customers who may require rum of a low price, by mixing with sugar or molasses spirit, spirit of wine and water. If the rum wants a bead, which will be the natural consequence of lowering it, take three pounds of clarified honey, and whisk it up in a can with some of the rum, after which pour it into the puncheon, and stir it well about: this will both improve the flavour of the liquor, and give it a bead. Should your rum require a deeper colour, you may regulate it according to your wishes with burnt sugar, putting a little into your

cask at a time, stirring it about, and trying the colour in a glass, that you may discover when it is deep enough. The grounds or sediments of beer or porter are excellent for improving the flavour of rum. The casks of porter sent to the West Indies are often returned with rum; and this is the best flavoured, for its age, of any that comes to this country.

To remove the blackness of Rum, occasioned by the touch of Iron.

Should rum become black by touching iron, for one puncheon take a quart or three pints of skimmed milk; mix in a can, with a gallon or two of rum, then put it into the puncheon, and stir it well about with a staff; put the bung in, and in ten or twelve days it will become bright.

The puncheon should be on a stillage, that you may rack it off when fine.

Brandy and Geneva may be managed in the same manner.

Of managing Holland Geneva.

This spirit is generally one to ten over proof, when imported, and is one of the most difficult to manage.

Take care, when you lower or mix British spirits with it, to get good, clean, bright spirits, for the purpose; and, in lowering, use lime-water: stir it

well about with a clean staff for five or six minutes, that it may be well incorporated. Should it be *ropy*, run it through a filtering bag; and if the whole runs through, and is not improved, repeat the operation till it comes through bright; or, if it be tainted, use alum finings, stirring it well. One pound of alum, and two ounces of salt of tartar, will be sufficient for a piece that is much tainted.

The whites and shells of ten or twelve fresh eggs, broken small and well beaten together, may be used to fine Geneva; but if it has become black through the touch of iron, take a quart of skimmed milk, with two ounces of isinglass dissolved in water, and put them into the liquor; this will carry the blackness down: after which, make use of the above ingredients, if necessary.

To improve the flavour of gin, put a small quantity of rose-water, or elder-flower water, into a piece of liquor, and give it a good stirring.

Gin Bitters.

Take gentian root, sliced, four ounces, dried orange peel two ounces, dried lemon peel one ounce, cloves bruised, half an ounce, gin two gallons; put the whole into a jar close stopped, or a small keg from whence it can be drawn, then the ingredients may remain in it to the last. Shake it occasionally during fourteen days, then allow it to settle and become fine; or, if wanted, filter through paper for use.

Wine Bitters.

Take one ounce of gentian root, one ounce of orange peel, half an ounce of lemon peel dried, one quart of raisin wine; infuse for ten days, and filter through paper.

Spirit Bitters.

Take one ounce of gentian root, one ounce of dried orange peel, half an ounce of cardamom seeds bruised, malt spirit or brandy one quart; infuse fourteen days, and strain off.

Purl Bitters.

Four ounces of gentian root sliced, four ounces of dried orange peel, the rind of two lemons, one ounce of cloves bruised; put them in a stone-ware jar, and pour on them one gallon of boiling water; cover up close, and let it stand twenty-four hours; pour off the clear liquor, and add one gallon of malt spirit or common brandy. A quart of boiling water may be added, after the first is poured off; it will still be very bitter, and may be added to the first.

Ale Bitters.

Take gentian root sliced two ounces, fresh lemon peel four ounces; digest them in one gallon of ale, occasionally stirring, fourteen days; then strain off for use.

Tincture of Salt of Tartar.

Melt six ounces of salt of tartar in a crucible; powder it while hot, and immediately pour upon the

powder a quart of spirit of wine; digest for several days, and decant. One table-spoonful added to a bottle of pricked wine, restores it in a very short time. See *Pricked Wine*.

Tincture of Capsicum.

Take capsicum pods, or chillies, two ounces, proof spirit one pint; infuse twelve days, occasionally shaking the bottle; then filter for use.

Tincture of Turmeric.

Take turmeric root well bruised two ounces, rectified spirit of wine one pint; infuse fourteen days, occasionally shaking the bottle, then filter through paper for use. This will produce a beautiful yellow colour, when added to cordials and compounds requiring such.

Tincture of Cudbear.

Take cudbear four ounces, rectified spirit of wine two pints; infuse six days, shaking the bottle two or three times; filter for use. This produces a very rich colour for clove cordial, pink noyau, and any other of a similar kind, according to the quantity used.

Tincture of Red Sanders.

Take raspings of red sanders six ounces, spirit of wine one quart; infuse fourteen days, and filter through paper for use. It produces a beautiful red colour, for Port wine, or any of the cordials requiring it.

Syrup of Elderberries.

The juice of elderberries one gallon, lump sugar twelve pounds; boil together for half an hour, taking off the scum as it rises; strain through a flannel bag, and keep for use. It produces a beautiful colour for imitation wines; also, a quarter of a pint of it, heated with a pint of cider and a few cloves, makes an excellent substitute for elder wine.

To remove the Colour from Spirits.

Charcoal made from bones makes an excellent strainer for any spirit, or other liquid, that is wished to be perfectly free from colour; reduce it to a moderately fine powder, and put it at the bottom of the filter, or bag, through which the liquor is passed. If not bright and clear, on passing through once, repeat the operation till it is.

To correct Acidity in Wines, Beer, Ale, &c.

Fresh slaked lime is the most effective article for destroying acidity in all fermented liquors, perfectly neutralizing the acid, and producing only a harmless sediment, which soon falls to the bottom of the vessel.

Of doctoring Wines.

Wines are usually doctored, as it is called, in order

to give them peculiar flavours, and render them similar to some celebrated grape wines. Thus, bitter almonds are added to give a nutty flavour; sweet briar, orris root, clary, cherry, laurel water, and elder-flowers, to form the bouquet of high-flavoured wines; alum, to render young and meagre red wines bright; Brazil wood, cake of pressed elderberries and bilberries, to render pale, faint Port of a rich deep purple colour; oak saw-dust and the husks of filberts, to give additional astringency to unripe red wines; and a tincture of the seeds of raisins to flavour factitious Port wine. Wine is coloured with red beet; but in this case it is rendered colourless by lime-water. Genuine red wines yield a greenish grey precipitate, with a solution of sugar of lead; but those coloured with bilberries, or logwood, give deep blue precipitates; and those coloured by Brazil wood, red sanders, and red beet, red precipitates.

Capillaire.

Take twenty-four pounds of lump sugar, two gallons of water, the whites of ten eggs, well beat up, and mixed with the sugar and water; boil gently for half an hour, carefully taking off the scum; strain through a flannel bag, and while hot, add half an ounce of essence of lemon, or a pint of orange-flower water, mixing it well. This is very convenient for sweetening grog, punch, negus, &c.

Artificial Yeast.

Boil a peck of malt in one gallon and a half of water, for half an hour, pour off the liquid and keep warm for twenty-four hours; collect the yeast: boil more malt, and add to the first decoction; keep repeating the process till a sufficient quantity of yeast has been procured. In using this yeast, there is more certainty of its producing the intended effect than in the use of any other.

Heading. No. 1.

There is a heading for beer which is seldom allowed to be sent to the publican; it consists of a composition of sweet wort, molasses, cocculus indicus, and copperas, boiled up together; known by the name of colouring matter. When beer is pale, it becomes necessary to use this or other articles, which assist in colouring, and in giving a fine head to it.

Heading. No. 2.

Alum and green vitriol, in equal parts, are used to produce a fine head to beer; for this purpose, powder them separately, then mix, and dissolve a table spoonful of it in a pint of beer, stir it well into a butt; it will cause a beautiful white head to form on the beer, when drawn. It is not at all prejudicial, even if ten times the quantity were used.

Brandy Colouring.

Boil fourteen pounds of raw sugar, and one pint of water, until it becomes apparently black; then add, gradually, as much lime-water as will make it into a syrup. A very small quantity produces a rich brandy colour, when added to spirits or pale beer.

Imitation of East India Arrack.

Dissolve two scruples of the flowers of benjamin in two quarts of white rum, and the peculiar flavour of arrack will be produced.

PART VI.

DESCRIPTION AND USE OF THE VARIOUS HYDROMETERS AND SACCHAROMETERS.

Clarke's Hydrometer.

THIS hydrometer has one fixed balance-weight at the bottom ; the upper stem is square, on which is engraved twenty divisions, numbered from one to twenty ; each principal division is divided in half, for greater accuracy. There are four weights, which are dropped over the stem, as the strength of spirits may require ; on these weights are engraved, A. B. C. D. : on the weight A. is engraved 20 ; on the weight B. 40 ; on the weight C. 60 ; on the weight D. 80. By the use of these four weights, the length of the stem is repeated five times, and the numbers continued from 1 to 100, which will shew the strength of spirits, from the strongest down to water.

Description of the Sliding Rule.

On the first side of the rule, on the right hand, is the thermometer-scale, from 30 degrees to 80, over which, on the slide, is a line with a star, which is moved and set to any degree of heat the thermometer describes. Then the slide is divided progressively, on both sides, from 1 to 100. Each division sub-

divided into half, these numbers correspond with the upper stem of the hydrometer, as will be seen by the following examples. The division on the rule, close to the side, is the spirit line, or the strength of the spirits, divided into gallons, over and under proof, from eighty gallons to one hundred over proof, down to water. The figures on the next line, are the strengths, as they appear by Clarke's hydrometer, over and under proof, with the first weights.

The thermometer being so well known needs no description.

*Directions for using the Hydrometer, with
Examples for every Weight.*

Example 1st.—Nearly fill the cylinder with the spirits to be tried, then immerse the thermometer therein; observe where the mercury fixes, suppose at 63; then set the star of the slide-rule, before described, at 63 of the thermometer-scale; then lay the rule before you, and dip the hydrometer into the cylinder of spirits, to the bottom; if the hydrometer floats therein, with part of the upper stem immersed in the liquor, without any weight over the stem, then look what figure of the stem is even with the surface of the spirit; suppose it to be 16, then look at 16 on the slide of the rule, and you will find 62 on the spirit-line beneath it, which shews the spirit is 62 gallons to the 100, over proof,

and will admit of 62 gallons of water being added to every 100 gallons thereof, to bring it to hydrometer proof.

Example 2nd.—Suppose, when you have dipped the thermometer in the spirit, as before, and the temperature indicated should be 70, then set the star of the sliding-rule at 70 of the thermometer-scale; then immerse the hydrometer as before; suppose it should be up to the ball, and require the weight engraved A. numbered 20, to float it in the spirit, with part of the upper stem immersed therein, look what figure is even with the surface of the liquor; suppose it to be $13\frac{1}{2}$; then, if you reckon 20 on the weights, and $13\frac{1}{2}$ on the stem, together $33\frac{1}{2}$, look on the slide of the rule for $33\frac{1}{2}$, and you will find it even with $37\frac{1}{2}$ on the spirit-line above it, which shews the spirit is $37\frac{1}{2}$ gallons to the 100 over proof, and will admit of $37\frac{1}{2}$ gallons of water to reduce it to proof; this strength is between one to two and one to three over proof, as may be seen on the outer line of the rule.

Example 3rd.—Suppose the temperature of the spirit be 51, set the rule at 51; and the hydrometer should require the weight B., numbered 40, to float it as before, and 9 should be even with the surface; 40 on the weight and 9 on the stem, make 49; look for 49 on the slide of the rule, and on the spirit-line even with it, you will find 21, which shews the spirit is 21 gallons to the 100 over proof; this

strength is between one to
over proof. The letters P.
of the rule signify proof.

Example 4th.—Suppose t
the rule at 45, and if the hyd
the weight C. numbered 60,
with the surface of the lic
weight and 12 on the stem, n
with 72 you find $14\frac{1}{2}$ beyon
 $14\frac{1}{2}$ gallons in 100 under p
value to $87\frac{1}{2}$ gallons of proo
is between 1 in 6 and 1 in 7

Example 5th.—Suppose t
the rule at 65, and if the hyd
the weight D. numbered 80,
with the surface; then, 80 on
the stem, together make 88, w
second side of the rule; and ev
spirit is 68 gallons in the 100
and therefore 100 gallons are
32 gallons of proof spirit.

Directions for using Qu

By the use of Quin's hydr
vered how much spirits of any
below proof, with so much ex
effect of a single pint of w
gallons.

The hydrometer has seven

the strengths under and over proof, of seven pounds twelve ounces to the gallon, that being the weight allowed, and to which the instrument is adjusted.

The weights are numbered,—1, 2, 3, 4, 5, 6, 7; and are used on the top of the instrument in the following order.

Note.—After filling a glass vessel with about a pint of spirits (the temperature being first tried by the thermometer), gently immerse the instrument therein.

Over Proof.		Under Proof*.	
Number of the Weights.	Gallons to 90, over proof.	Number of the Weights.	Gallons in 90, under proof.
1	.... 16	4	.... 1
4	.... 15	2, 4	.... 2
1, 4	.... 14	3, 4	.... 3
5	.... 13	5	.... 4
1, 5	.... 12	2, 5	.... 5
4, 5	.... 11	3, 5	.... 6
1, 4, 5	.... 10	4, 5	.... 7
6	.... 9	2, 4, 5	.... 8
1, 6	.... 8	3, 4, 5	.... 9
4, 6	.... 7	6	.... 10
1, 4, 6	.... 6	2, 6	.... 11
5, 6	.... 5	3, 6	.... 12
1, 5, 6	.... 4	4, 6	.... 13
4, 5, 6	.... 3	2, 4, 6	.... 14
1, 4, 5, 6	.... 2	3, 4, 6	.... 15
7	.... 1	5, 6	.... 16
1, 7	.... proof.	2, 5, 6	.... 17
		3, 5, 6	.... 18
		4, 5, 6	.... 19

* The weight No. 7, must be on the instrument in all under-proof spirits.

The use of the preceding Table is so very simple, that a few examples will be sufficient to illustrate it:

Let the weight No. 1 be put on the instrument immersed in the spirit; if it sinks to the bead on the stem, it shews every twenty gallons of such spirit is sixteen gallons over proof. If the weight No. 4 is put on the instrument, and it sinks to the bead, it shews twenty gallons is fifteen gallons over proof; but if the weights 1 and 4 are put on, and it sinks to the bead, it shews twenty gallons is fourteen gallons over proof. And so of the rest of the over-proofs. The weights Nos. 1 and 7 are put on for proof; but if the weights 4 and 7 are put on the instrument, immersed in the spirit, and it sinks to the stem, it shews twenty gallons of such spirit to be one gallon under proof; if the three weights 2, 4, 7, are put on, and it sinks as usual, it shews twenty gallons to be two gallons under proof, and is worth no more than eighteen gallons of proof-spirit. And so of the under-proofs, as low as nineteen gallons of water to one of spirit, as may be seen by the Table. This Hydrometer is adjusted to temperate, or fifty-five degrees of Fahrenheit's scale; but when the spirit is not at that heat, for every four degrees warmer, allow twenty gallons to be one quart weaker; and for every four degrees colder, allow twenty gallons to be one quart stronger.

Note.—One degree on the stem is one pint in one hundred gallons; and that any quantity of spirit, not

less than half a pint, may be tried with this instrument.

Description of Dicas's Hydrometer.

The strength of spirits, Dr. Ure observes, is determined, according to the existing laws, by Sykes's hydrometer; but as many dealers use Dicas's, he thus describes the latter.

It consists of a light copper ball, terminating below with a ballast bottom, and above with a thin stem, divided into ten parts. The upper extremity of the stem is pointed, to receive the little brass poises, or discs, having each a hole in its centre. These poises are numbered 0, 10, 20, 30, &c. up to 350, which is the lightest of the series. The intermediate units are given by the subdivisions on the stem. A graduated ivory scale, with a sliding rule and thermometer, accompanies the hydrometer, to make the correction for temperature. The first thing in using this instrument is to plunge the thermometer into a glass cylinder containing the spirits to be tried. The sliding rule has then the degree of temperature indicated moved opposite to zero. The hydrometer is now placed in the liquid, and such a poise is put on as to submerge a portion of the stem. The weight, added to the number on the stem, gives a sum, opposite to which on the scale we find a quantity, by which the particular spirit may exceed or fall short of proof. Thus, if

it mark 20 under proof, it signifies that every 100 gallons of that spirit would require to have 20 gallons of water abstracted from it to bring it up to proof. If it mark 10 over proof, we learn that every 100 gallons contain too little water by 10 gallons. When the thermometric degree of 60° is put opposite to zero, then the weights and value of the spirits have the following relations on the scale.

102.5	denotes 20 under proof.
122.0	10
143.5	proof.
167	10 over proof.
193	20
221	30
251	40
284.5	50
322.5	60
350.5	Alcohol.

There is, besides, an upper line on the scale, which exhibits the relation of spirit to water reckoned unity. Thus, above 10 per cent. over proof in the second line, we find in the upper line 8; from which we learn, that 8 of that spirit by bulk, will take 1 of water to bring it down to proof.

Description of Sykes's Hydrometer.

Sykes's hydrometer consists of a flat stem, 3.4 inches long, which is divided on both sides into eleven equal parts, each of which is subdivided into two, the scale being from 0 to 11. This stem is soldered into a brass ball, 1.6 inch in diameter, into

the under part of which is fixed a small conical stem, 1.13 inch long, at whose end is a pear-shaped loaded bulb, half an inch in diameter. The whole instrument, which is made of brass, is 6.7 inches long. The instrument is accompanied with eight circular weights, numbered 10, 20, 30, 40, 50, 60, 70, 80, and another weight of the form of a parallelopiped. Each of the circular weights is cut into its centre, so that it can be placed on the inferior conical stem, and slid down to the bulb; but, in consequence of the enlargement of the cone, they cannot slip off at the bottom, but must be drawn up to the thin part for this purpose. The square weight, of the form of a parallelopiped, has a square notch in one of its sides, by which it can be placed on the summit of the stem. In using this instrument, it is immersed in the spirit, and pressed down by the hand to 0, till the whole divided part of the stem be wet. The force of the hand required to sink it, will be a guide in selecting the proper weight. Having taken one of the circular weights which are necessary for this purpose, it is slipped on the conical stem; the instrument is again immersed, and pressed down as before to 0, and is then allowed to rise and settle at any point of the scale. The eye is then brought to the level of the surface of the spirit, and the part of the stem cut by the surface, *as seen from below*, is marked. The number thus indicated by the stem, is added to the number of

the weight employed; and with this sum at the side, and the temperature of the spirits at the top, the strength *per cent.* is found in a table of six quarto pages. The strength is expressed in numbers denoting the excess or deficiency per cent. of proof spirit, in any sample; and the number itself (having its decimal point removed two places to the left) becomes a factor, whereby the gauged contents of a cask or vessel of such spirit being multiplied, and the product being added to the gauged contents, if over proof, or deducted from it, if under proof, the result will be the actual quantity of proof spirit contained in such cask or vessel.

Description of Bate's Saccharometer,

The saccharometer of Mr. Allan, (the one mentioned in the Act of 4 Geo. IV. cap. 94, has been laid aside, and a new one substituted in its place, by an order of the Lords of the Treasury, dated 17th October, 1823. It is called Bate's saccharometer, from the name of the maker, Robert Brettel Bate, of London, and appears to be an instrument well calculated to answer all the purposes intended.

The use of the saccharometer was known for many years by distillers, but its adoption by the officers of the excise is of a recent date. It is a simple machine, and is nothing more or less than what its name imports, *a measure of sweetness*; it was constructed to ascertain the sweetness of worts, to

compare their weight with that of equal quantities of the water employed. In fact, it may be said to be an *hydrometer*, calculated to shew the specific gravity of wash instead of spirits: for, as spirituous liquors are strong in proportion to their levity, or weak in proportion to their gravity, hence, as the hydrometer will sink deeper in strong than in weak spirits, so the saccharometer will sink deeper in weak than in strong worts.

The newly improved Saccharometer.

Designed principally for brewers, to enable them to brew ale and beer at all times, uniformly the same; also, to ascertain the comparative value of malt, regulate their lengths, and obtain standard strengths for different beers, &c. &c.; and equally useful to the malt distillers, and West-India planters, to regulate their wash for distillation; likewise to the vinegar maker, soap boiler, and maker of British wines: together with tables of expansion and comparison of the old ale, and the new imperial measure, and other tables equally useful to the brewers.

This instrument is truly of the greatest importance to every publican who brews his own ale and beer; also to private families, who are in the habit of brewing, making sweet wines, &c.

The method of using the saccharometer is rendered simple and easy to every capacity, as may be seen in the book of instructions, where tables cor-

respondent with the instrument are subjoined; shewing, at once, from any given quantity of wort or malt liquor, &c. the specific gravity, and real extract of the malt; thereby pointing out, in the most accurate way, the comparative difference between good and 'bad malt.

The most confident proof can always be effected by the above instrument, except in consequence of unskilful or bad management in brewing.

The ingenuity displayed by Mr. Long, in the construction of his new saccharometer, deserves to be particularly noticed. It has only one weight, and that only requisite for a wort exceeding 25lbs. of gravity, or 65lbs. of extract per barrel; and the thermometer is constructed so as to act in unison with the saccharometer, by which the use of rules and tables are rendered altogether unnecessary in practical business, and is the only instrument that will shew the strength of worts per barrel of the new imperial measure.

Many of the spirit trade, who are in possession of hydrometers, are perhaps not aware that, by reason of the corrosive nature of spirits, and the frequent use of the instrument, it wears lighter; when spirits are tried by such worn hydrometers, they appear lighter than they really are, and consequently do not correspond with the strength agreed upon at the time of purchase. It is therefore thought necessary to give this information, in order to prevent the too

frequent misunderstanding between the vendor and purchaser; and at the same time, to induce those who may have such damaged instruments in their possession, to have them examined and re-adjusted.

It may be necessary to observe, for the information of all persons using hydrometers or saccharometers, that none but those made by Mr. R. B. Bate, of Cheapside, London, will support them in any suit at law, on any matter in dispute relative to the strength of spirits, &c.; they being the only ones recognised by law, and used by the officers of excise.

It has been observed, that spirits of wine have the greatest strength of any; and though these may be raised by using salt of tartar, yet, when they are exposed to the air, they almost immediately fall down to their first and general strength of spirits of wine; water, then, is naturally to be supposed to be of the lowest temperature and quality; and the term called hydrometer strength, is exactly the half between the two; so that if one gallon of spirits of wine and one gallon of water are mixed together, the result will be, two gallons of spirits at hydrometer proof. The trade, when speaking about the strength of their goods, use the expression, one in five, one in three, one in eight, &c.; or else, one to five, one to three, &c.: thus, all spirits *under* the said hydrometer strength, are called *in*; but, if *above*, they are called *to*: for instance, if certain goods are said to,

be one in eight, it means, that to every eight gallons of spirits, at hydrometer strength, one gallon of water is added; or what the distillers and rectifiers call *liquor*. One in five, shews, that to every five gallons, of hydrometer strength, one of water is added; and to one in four, one of water; and so of every degree under hydrometer proof. The characters of these to the trade are H. P. One to ten, shews, that one gallon put to ten gallons of spirits, will make it of hydrometer strength. One to three, means, that to every three gallons of spirits, one of water may be added. The mark to express what is above hydrometer strength, is O. P.; and, under the same, U. P. To make a proper use of the hydrometer, the distiller or chemist is directed to fill the glass tube with the spirits intended for trial; then immerse the thermometer in them for the space of two minutes; this will cause the mercury in the tube to stand at the degree equal to the temperature of the spirits. Whatever the weight of the air may be, above where the mercury stands, must be applied: if the quicksilver stands above very cold, the weight colder must be added; and so of the rest.

Each degree of the thermometer is about two degrees on the spindle of the hydrometer; and each degree of the hydrometer, when at or near proof, is about a quart in a hundred gallons, stronger or weaker, as the hydrometer shews, under or over the

silver speck or sight on the index or top spindle ; and at the intermediate or strong over-proof, is about a pint in ditto ; and at the low under-proof, is about three pints in ditto : and it should be further observed, that it would be better to immerge or wholly to wet the hydrometer in the liquor to be tried, that it may adhere with more facility to the instrument while it is in a state of vibration, or floating.

PART VII.

Selections from the Excise Laws, relating to Spirits.

DEALERS cannot, by virtue of one licence, carry on business in any other place than that for which they are licensed; but being partners, and carrying on business in one house, one licence is sufficient.

—24 *Geo. III. c. 81, sec. 8.*

If any distiller, rectifier, compounder, or retailer of British or foreign spirits, or any dealer, shall be convicted of fraudulently making, or having in his possession, any spirits, British or foreign, without having received a legal permit, and it shall have appeared in proof, to the satisfaction of the Commissioners of Excise, or Justices of the Peace, the offender, over and besides all other penalties, shall forfeit all future benefit of his licence for making, rectifying, or vending spirits or other liquors.—26 *Geo. III. c. 73, sec. 45.*

No distillers shall be allowed to remove wash or low wines, or to conceal wash or low wines; nor to possess spirits for which the duties have not been paid, under forfeiture of 500*l.* Where goods shall be

forfeited under any Act of the excise, the packages, and every vessel, boat, cart, carriage, and cattle, used in the removal, may be seized by the officer of excise.—42 *Geo. III. c. 93.*

Wholesale dealers in spirits are those who sell spirituous liquors in quantities of two gallons or upwards. Such dealers, not being rectifiers or distillers, are to take out and pay duty for licences annually, on penalty of 100*l.*—24 *Geo. III. c. 63, sec. 7.*

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

Every dealer in foreign spirits must cause the words, “Dealer in foreign spirituous Liquors,” and every importer for sale must cause the words, “Importer of foreign spirituous Liquors,” to be painted over his outer door, or in front of his house, shop, &c. on penalty of 50*l.*—19 *Geo. III. c. 69, sec. 18.*

Any dealer in, or importer for sale, or other, not having made due entry at the excise office, having the words, “Dealer in, or Importer of foreign spirituous Liquors,” painted over his door, &c. incurs a penalty of 50*l.*—19 *Geo. III. c. 69, sec. 21.*

A dealer in, or importer for sale, buying of any person other than an importer and dealer, having

the words, "Importer of, or Dealer in foreign spirituous Liquors," painted over his door, or on the front of his house, forfeits 100*l.*; unless purchased on ship board, or on the quays, or at salvage sales, or rum in the bonded warehouses, or arrack in the India Company's warehouses.—19 *Geo. III. c. 69, sec. 19, 20.*

Foreign spirits bought by any person not being an importer or dealer, or any person not having the words, "Importer of, or Dealer in spirituous Liquors," painted over his door, &c. subject the buyer to the penalty of ten pounds; and the seller, within twenty days, and before information laid, discovering the buyer, exonerates himself of such penalty.—19 *Geo. III. c. 69, sec. 22.*

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

Dealers are to keep foreign spirits in separate places from British, on forfeiture of 10*s.* for every gallon of the latter.—8 *Geo. I. c. 18, sec. 11.*

Dealers are to permit the officer to enter by day (and by night with a constable), and to take account by tasting, gauging, or otherwise; for obstructing, penalty 50*l.*—6 *Geo. I. c. 21, sec. 14.*

Dealers in British spirits, (not being rectifiers or

compounders) are to permit the officer to take account of their raw unrectified spirits, once in three months, or oftener if occasion require, or if directed by a superior; for obstructing, penalty 200*l.*—26 *Geo. III. c. 75, sec. 27. 71.*

Dealers are to permit the officer to take a sample, not exceeding four gallons, of any foreign or British spirits, paying for the former thirteen shillings, and for the latter seven shillings a gallon; for obstructing, penalty 100*l.*—26 *Geo. III. c. 73, sec. 36.*

Dealers are not to use any standing or fixed cask for British brandy, compounds, or other spirits, until entered at the proper office of excise, and gauged and inched to the satisfaction of the officers, on forfeiture of the cask and liquor, and penalty of 100*l.*—26 *Geo. III. c. 75, sec. 38.*

Dealers in British spirits must paint or cut on some conspicuous part of every moveable cask, used by them for sending out or keeping British brandy, compounds, or other spirits, the full measure in gallons, on penalty of 50*l.*—26 *Geo. III. c. 73, sec. 38.*

Dealers in British spirits must, on twelve hours' notice, in writing, from the officer, of his intention to take stock, fill up all their moveable casks of British spirituous liquors, leaving only one ullage of each sort; and must set apart and keep separate for six hours, after the expiration of the twelve hours, one sort of

such liquor from another, on penalty of 100*l.*—*26 Geo. III. c. 73, sec. 39.*

Dealers are not to receive British brandy, rectified British spirits, British compounds, or spirits of wine, except between the hours of five in the morning and seven in the evening in summer, and between seven in the morning and six in the evening in winter, on forfeiture of the goods, and penalty of 50*l.*—*26 Geo. III. c. 73, sec. 46.*

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

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

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

Dealers in British spirits, (not being rectifiers or compounders) having an increase in stock of raw or

unrectified spirits (the stock being settled and cast at one to ten over hydrometer proof,) forfeit the increase and 50*l.*—26 *Geo. III. c. 73, sec. 27.*

Dealers are not to sell or send out British spirits mixed with foreign, in any greater quantity than four gallons, on forfeiture of 50*l.*—26 *Geo. III. c. 73, sec. 57.*

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

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

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

person by one permit. If more than one cask or package, under sixty gallons, be found removed or removing by one conveyance, to one and the same person, the liquor is forfeited, with the vessels containing it, and ships, boats, carriages, horses, or other cattle employed in removing it.—*23 Geo. III. c. 70, sec. 3, 4, 5.*

Dealers demanding a permit must specify, in the request note, their trades or callings, and the quantity of spirits; distinguishing British brandy, rectified British spirits, raw British spirits, spirits of wine, or British compounds; and of raw spirits, whether made from corn, molasses, or other materials; the mode of conveyance, and whether by land or water, to which the permit must correspond in all respects.—*26 Geo. III. c. 73, sec. 40, 41, 42.*

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

Dealers taking out a permit, and not sending away the goods, nor returning the permit within the time of its limitation, forfeit treble the value of the goods; and the goods also, if on taking stock

there shall not appear a sufficient decrease to answer such permit.—21 *Geo. III. c. 55, sec. 27.*

Dealers being convicted before the commissioners or justices, of knowingly, wilfully, and fraudulently making spirits, or having British or foreign spirits in their custody without having received a legal permit therewith, (the fact of knowingly and wilfully being set forth in the record of conviction,) over and above other penalties, their entries and licences become void, and no fresh licence is to be granted them for a month.—36 *Geo. III. c. 73, sec. 45.*

Dealers, or others, counterfeiting, or forging; or fraudulently altering, or erasing any permit; or knowingly receiving, publishing, or using any counterfeited, forged, false, untrue, altered, or erased permit, incur a penalty of 500*l.*—23 *Geo. III. c. 70, sec. 10.*

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

A brandy dealer having in his custody above six pounds of coffee, tea, cocoa-nuts, or chocolate, is deemed a seller of these commodities, and thereby his licence to retail spirits is void.—11 *Geo. I. c. 30, sec. 4*; and 17 *Geo. II. c. 17, sec. 18.*

Dealers obstructing an officer in the execution of

his duty, incur a penalty of 200*l.*—28 *Geo. III. c. 46, sec. 78.*

Retailers.

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

Retailers in any part of London where there are no parish rates, are to occupy a tenement of twelve pounds per annum.—26 *Geo. II. c. 13, sec. 10.*

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

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

Being a distiller, grocer, or chandler, a retailer forfeits his licence and 10*l.*—17 *Geo. II. c. 17, sec. 81.*

Retailers are not to be proprietors of, nor have any share in a distillery or rectifying house, on forfeiture of 200*l.*—26 *Geo. III. c. 73, sec. 54.*

Retailers are to take out and pay duty for an excise licence annually, which licence is to terminate

on the 10th of October in each year: for neglect, penalty 50*l.*; but it may be mitigated to any sum not under 5*l.*—30 *Geo. III. c. 38, sec. 6. 9*; and 13 *Geo. III. c. 56, sec. 4.*

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

Being partners, and carrying on business in one house, one excise licence is sufficient for them; but a retailer cannot, by virtue of one licence, carry on business in any other place than that for which he is licensed.—13 *Geo. III. c. 5, 6. sec. 10.*

On retailers dying or removing, their executors, administrators, wife, child, or assignee, may, by authority of the commissioners of excise in London, or the collectors and supervisors in the country, carry on the business for the unexpired term of the licence. 13 *Geo. III. c. 56, sec. 10.*

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

Retailers are to make entries, in writing, at the nearest office of excise, of all their warehouses, shops, cellars, and other places for keeping spirits, on forfeiture of the spirits otherwise kept, and 20*l.*—6 *Geo. I. c. 21, sec. —*; and 9 *Geo. II. c. 23, sec. 6.*

Retailers are to permit the officers at all times, by

day (or by night, with a constable, and on oath of suspicion), to enter and take account : for obstructing, penalty 50*l.*—9 *Geo. II. c. 23, sec. 9.*

Retailers are not to bring any spirits into their entered places, without giving notice, and producing an authentic permit, on forfeiture of such spirits and 20*l.*—6 *Geo. I. c. 21, sec. 31* ; and 9 *Geo. II. c. 23, sec. 7.*

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

Retailers concealing spirits, forfeit the same, and 40*s.* per gallon ; (9 *Geo. II. c. 23, sec. 6.*) but by discovering and prosecuting the distiller who supplied them with spirits to retail unlawfully, they indemnify themselves against all penalties and forfeitures ; and the distiller, knowingly selling to be unlawfully retailed, forfeits 10*l.*, and treble the value of such spirits.—24 *Geo. II. c. 40, sec. 11.*

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

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

If spirits be sold in any house, &c. in less quan-

tities than two gallons, the occupiers of such house being privy thereto, is deemed a retailer.—11 *Geo. II. c. 26, sec. 1.*

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

Spirits are not to be delivered to journeymen or servants, in payment of their wages, on forfeiture of 20*l.* by the master, and his being deemed a retailer of spirits.—9 *Geo. II. c. 23, sec. 11.*

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

Spirits used by physicians, apothecaries, surgeons, or chemists, in medicines, for sick, lame, or distempered persons, are not within the meaning of the laws relative to retailing spirits.

No distiller shall have any private pipe, stop-cock, or any conveyance, by which wash, or other liquors fit for distillation, may be conveyed from one vessel to another, or from any back or other vessel to his still, on pain of forfeiting 100*l.*—10 and 11 *William III. c. 4, sec. 3.*

It shall be lawful for the officer in the day-time, and in the presence of a constable, on request first made, and cause declared, to break up the ground in or adjoining to any distilling-house, to search for any private pipe or conveyance; but if none such be found, reasonable satisfaction shall be made to

the owner, to be adjudged by the two next justices of the peace.

Throughout Great Britain and Ireland, all spirits shall be taken to be of the degree of strength denoted by Sykes's hydrometer; except any spirits which shall be sweetened so as to defeat that operation, or to deceive the officer; in every such case, they may be forfeited or seized; and every penalty specified in certain Acts relating to spirits of stated strengths by Clarke's hydrometer, shall be applied to spirits of the aforesaid strengths by Sykes's hydrometer.

No retailer of spirituous liquors shall make any increase of such liquors after the same have been taken account of by the officer, by any clandestine addition thereto of water or other liquors, on pain of forfeiting 40s. for every gallon so mixed; all which may be seized by the officer, with the casks and packages containing the same.—58 *Geo. III. c. 28, sec. 2.*

Abstract of an Act, passed in the fifth year of the reign of King George IV. bearing date June 4, and entitled,

“An Act to repeal the duties on licences to brew and retail beer, spirituous liquors, and foreign wine, and to grant other duties in lieu thereof; and to amend the laws of excise relating to such duties, and to brewers and retailers of beer.”

After stating that it is expedient to repeal the then

existing several licence duties, and to grant other duties,

The *first clause* enacts, That from and after the 10th of October, 1824, all those respective duties previously paid for excise licences, taken out respectively by common brewers, or by retail vendors of beer, ale, cider, and perry, to be consumed on the premises, or by retailers of beer under the sanction of the Act passed in the fourth year of the present reign, for encouraging the consumption of beer, and better securing the duties thereon; and also the duties paid by those persons authorised by licence to sell, retail, spirits or foreign wine, but have no licence for selling beer; and by those persons who, under any Act or Acts of Parliament now in force, shall have an excise licence for selling spirits by retail alone, shall no longer be paid or payable. Excepting the recovery of arrears due on the above day, and all penalties, fines, &c. &c. incurred before that day, and unpaid then.

The *second clause* enacts, That in lieu of the duties so repealed, new duties, as follows, shall be paid from and after the 10th of October, 1824:—

A brewer of beer (for sale) in Great Britain, shall take out an annual licence for that purpose, and shall pay for it in proportion to the quantity of beer brewed by him within the year ending the 10th day of October, previous to taking out such licence, thus:

		£.	s.	d.
Not exceeding	20 Barrels,	0	10	0
Above 20 and not above	50	1	0	0
50	100	1	10	0
100	1000	2	0	0
1000	2000	3	0	0
2000	5000	7	10	0
5000	7500	11	5	0
7500	10,000	15	0	0
10,000	20,000	30	0	0
20,000	30,000	45	0	0
30,000	40,000	60	0	0
If 40,000 Barrels be exceeded		75	0	0

And further, That every person who shall, from and after the 10th of October, first become a brewer of beer for sale, shall, on taking out such licence, pay 10*s.*; and within ten days after the 10th day of October, pay such a sum as, added to the 10*s.*, shall amount to the duty on the licence, according to the above scale.

And further, That every person who brews beer in Great Britain, for sale, and who shall retail such beer from the brewery, to be consumed elsewhere than in the house or premises, shall, from and after the 10th of October, 1824, take out an excise licence for that purpose, and shall pay for it 5*l.* 5*s.*

And further, That every person duly authorised by the magistrates, or justices of the peace, to keep a common inn, &c. and who shall sell beer, cider, or perry, by retail, to be consumed in the house or premises, shall, from and after the 10th day of

October, 1824, take out an annual licence for such sale. And if the dwelling-house in which the person shall reside, or retail such beer, shall not, together with the offices, &c. therewith occupied, be rated, under any statute for granting duties on inhabited houses, at the rent of 20*l.* per annum, or upwards, pay the sum of 21*s.* And if the said house, &c. be rated at 20*l.* per annum, or upwards, 3*l.* 3*s.*

And further, That every person in Great Britain, who shall sell strong beer, *only*, brewed by another brewer, in casks containing not less than five gallons, or in not less than two dozen reputed quart bottles, to be drank or consumed off the premises where they are sold, shall take out an annual excise licence for that purpose, and shall pay for it the sum of 3*l.* 3*s.*

And further, That every retailer of spirituous liquors, and strong waters (except plain aqua vitæ, distilled in Scotland, from British materials, commonly called Scotch whisky) shall, from and after the 10th of October, 1824, take out an annual licence for that purpose, and shall pay for it as follows:—If the dwelling-house in which he shall dwell or retail, at the time the licence is taken out, shall not, with the offices, &c. therewith occupied, be rated under any statute as above mentioned, at a rent of

	£.	s.	d.
20 <i>l.</i> per annum, or upwards	4	14	0
At or above 20 <i>l.</i> and under 25 <i>l.</i>	6	6	0
. 25 <i>l.</i> 30 <i>l.</i>	7	7	0

	£.	s.	d.
At or above 30 <i>l.</i> and under 40 <i>l.</i>	8	8	0
. 40 <i>l.</i> 50 <i>l.</i>	9	9	0
. 50 <i>l.</i>	10	10	0

And further, That every person in Scotland, within the limits of any Royal Burgh, &c. other than in the Highlands of Scotland, (limited and described by especial Acts,) who shall retail that which is commonly called or known by the name of aqua vitæ, made from corn, malt, grain, &c. British materials, shall, from and after October 10, 1824, take out an annual excise licence for that purpose; and shall, for every such licence to retail aqua vitæ *only*, pay the sum of 4*l.* And every person retailing such spirits within the counties and districts of the Highlands of Scotland, excepting the Royal Burghs, &c. shall, for every such licence, pay the sum of 2*l.*

And further, That every retailer of foreign wine, in Great Britain, licensed to retail beer, and other exciseable liquors, but not to retail spirits, &c. shall, from and after the 10th of October, 1824, take out an annual excise licence for that purpose; and for every such licence to retail foreign wine, pay the sum of 4*l.* 4*s.* And that every retailer of foreign wine, in Great Britain, who shall have an excise licence for retailing spirituous liquors, &c. shall pay for his wine licence 2*l.* 4*s.*

The *third clause* is provisionary; and it enacts, That the barrels of beer brewed by any brewer, and charged with duty as table beer, shall not be

included in the account of beer brewed by such brewer for the purpose of increasing the rate of licence-duty to be paid by him over the sum of 2*l*.

The *fourth clause* enacts, That the money and duties above mentioned and granted, &c. shall be under the commissioners of excise for the time being, and may be respectively regulated in the same manner as the licence duties of excise, hereby repealed, are, or may be regulated (excepting so far as is expressly altered by this Act). And the goods and licences, brewers, retailers, and persons before mentioned, shall be, and are, made subject and liable to the conditions, regulations, forfeitures, &c. to which licences for retailing beer, spirits, wine, brewers, dealers in beer, spirits, or wine, are liable (excepting as aforesaid), *by an Act or Acts of Parliament in force, at or immediately before the passing of this Act*; and all pains, penalties, fines, or forfeitures, (except as aforesaid,) for any offence committed in breach of any statute made for securing the revenue of excise on beer, or for its regulation and improvement, or the licensing of sellers of beer, spirits, or wine, or the clauses, &c. therein contained, (except as aforesaid,) are hereby declared to extend to, and shall be applied, practised, and put in execution to all intents and purposes, as if the acts, clauses, provisions, &c. were particularly re-enacted in the body of this Act.

The *fifth clause* enacts, That the money arising from the duties imposed by this Act, and made

payable, as aforesaid, (the expenses of raising and accounting for the same excepted,) shall be paid into the receipt of the Exchequer; and when so paid, shall be carried to, and made part of, the Consolidated Fund.

The *sixth clause* enacts in substance, That brewers may retail strong beer only from the premises in which it is brewed; and that any brewer, not being a brewer of strong beer, either for private purposes, or for sale, may sell strong beer, brewed by any other person, in quantities not exceeding five gallons when in cask, or in two dozen quart bottles, to be consumed elsewhere.

Upon the retail brewer, or any other person respectively, taking out such excise licence for that purpose, as is by this Act provided for, the licence to be granted as follows:—If taken out within the limits of the Chief Excise Office, in London, it must be under the hands and seals of two or more of the commissioners, or of certain parties legally authorised by the commissioners; if taken out without the limits, it must be granted by the proper collectors and supervisors; if in Edinburgh, the licence must be signed, &c. by two or more of the commissioners, or assistant-commissioners of excise in Scotland, or by persons properly appointed. And if the licence be out of the limits of Edinburgh, then the licence must be signed and sealed by the proper respective collectors and supervisors. And the commissioners and assistant-commissioners of England and Scot-

land are empowered and required to grant licences to such persons as aforesaid, who shall apply, on such persons paying the sums of money hereinbefore mentioned, to be applied as herein provided for.

Each licence will expire on the 10th of October next, after its date, but does not authorise the sale of beer on the premises.

Within the limits of the Universities of Cambridge and Oxford, the licence is to be granted as heretofore.

The seventh clause.—In cases where brewers have their breweries out of a market town, they may make entry of a place within some town, from which they may vend their beer; subject, nevertheless, to pains, provisions, and penalties hereafter mentioned, relating to brewers *retailing* beer at the *breweries*.

No brewer shall be authorised (unless licensed as a victualler or inn-keeper, &c.) to deal or sell any table or other beer, than the strong beer which he shall brew, and be charged duty on; nor shall he ever use less than sixteen bushels of malt at one brewing, without incurring, for each and every offence, the sum of 100*l.*

The eighth clause.—Licences must be renewed every year. Any person not conforming to the regulations respecting the retailing and selling beer, and as to the quantity and place of selling, &c. shall be liable to severe penalties.

The ninth clause enacts, That no brewer shall be *entitled* to renew his licence, unless he shall have been charged with duty upon or for 100 barrels of

strong beer, at the least, in the year preceding the day on which the former licence terminated; and so in proportion for any portion of the year his licence may have been valid for.

The *tenth clause* relieves those brewers from penalties, who have retailed beer from their premises before July 5, 1824.

Eleventh clause.—Retail brewers are not to retail beer before six in the morning, or after nine at night, or during the usual hours of Divine service on *Sundays*, under a penalty of 20*l.* for each offence.

The *twelfth clause* extends the powers of former licensing Acts to this Act, unless hereby altered.

The *thirteenth clause.*—Licences taken out under this Act, shall expire on the 10th day of October, in each year; and any common brewer, who may have been licensed for a *part* of the preceding year only, shall pay for his licence in proportion to that time, and shall renew his licence on the 10th of October, 1825; and so forth.

The *fourteenth clause.*—If common inns be licensed at other times than September, the spirit licence shall expire on the succeeding quarter-day.

The *fifteenth clause.*—No person, deemed by *conviction* unfit to have a licence for a common inn; shall be allowed to have a retail brewer's licence; and if, after conviction, such person shall sell beer by retail, there is a penalty for each offence—50*l.*

The *sixteenth clause.*—Licensed brewers of strong and table beer, charged with duties thereon, within

three months before the passing of this Act, may take out a licence to retail beer, on compliance with the regulation of this Act. There are certain offences in this clause which impose a penalty of 100*l.* for each.

The *seventeenth clause*.—Duties on beer to be charged by the same measure, reckoning the barrel at 36 gallons.

The *eighteenth clause*.—The 22nd and 23rd of *Charles II.* 5th *sec. chap.* 10th, prohibiting the loan of brewing utensils, are by this clause repealed.

The *nineteenth clause*.—Any person obstructing a revenue officer in the discharge of his duty, is liable to a penalty of 200*l.* for each offence.

The *twentieth clause*.—Penalties may be recovered in the Record Courts at Westminster, or Exchequer in Scotland. One half to go to the informer.

The *twenty-first clause*.—This Act becomes in force October 10th, 1824.

The *twenty-second clause*.—But the regulations as to retail brewers, to take effect from the 5th of July, 1824, and a proportionate part of licence duty to be taken.

The *twenty-third clause* enacts, That this Bill may be altered by any Act passed in this session of Parliament.

Extracts from the Act, 6th Geo. IV. cap. 80, relating to the Sale of Spirits, commencing Jan. 5th, 1826.

All spirits of wine shall be made and kept of the

strength of forty-three per cent. over hydrometer proof, at the least; and the actual and true strength of all spirits of wine shall be expressed and specified in the request-note for a permit, and in the permit granted for the removal thereof; and shall be taken account of by the officer, in the respective stocks of every rectifier or compounder of, and dealer in and retailer of spirits respectively, according to the actual strength thereof. Every dealer in and retailer of spirits, shall keep all spirits of wine in a separate and distinct cellar or place, entered for that purpose, in which no other spirits, or foreign wine, or sweets, shall be kept; and if any spirits of wine shall be kept or removed, of less strength than as aforesaid, or be mixed or mingled with any foreign wine, foreign or colonial spirits, or *British* spirits, or by any means be by such dealer or retailer reduced lower, or weakened in the strength thereof, or shall be removed without a permit, when required by law, expressing the strength thereof, or shall be found in or upon the premises, or in the custody or possession of any such dealer or retailer as aforesaid, otherwise than in such separate entered cellar or place as aforesaid; all such spirits of wine, and all wine or spirits with which any spirits of wine shall be so mixed or mingled or found, shall be forfeited; and the rectifier or compounder of, and dealer and retailer as aforesaid, offending therein, shall respectively forfeit and lose the sum of 200*l.*—*Sec. 114.*

No retailer of spirits or other person, licensed or not licensed, shall sell or send out, deliver or remove, or shall knowingly suffer to be sent out of, delivered or removed from, his or her stock, custody, or possession, any spirits exceeding *one gallon*, without the same being accompanied by a true and lawful permit, to be requested and granted as aforesaid; or if any rectifier or compounder of, and dealer in or retailer of spirits shall receive or knowingly suffer to be received into his or her stock, custody, or possession; or shall suffer any other person, for his or her use or account, to receive any spirits, without the same being accompanied by a true and lawful permit, so granted as aforesaid; or if any carrier, boatman, or other person shall knowingly carry, remove, or transport, or by means of his horse, cattle, cart, vessel, boat, or other conveyance, shall knowingly suffer to be carried, removed, or transported, or shall be aiding or assisting in carrying, removing, or transporting, from any part of England to another part thereof, any spirits which by law ought and are required to be accompanied with a permit, granted as aforesaid in that behalf, every such rectifier or compounder, dealer, retailer, carrier, boatman, or other person whomsoever, shall, for each and every such offence, forfeit and lose the sum of 200*l.* over and above any other penalty and forfeiture to which he or she is or may be liable by virtue of this Act; and all such spirits, and the

package and packages in which the same shall be contained, and every such horse, cart, vessel, boat, and other conveyance, and all such cattle, shall be forfeited, and shall and may be seized by any officer or officers of excise.—*Sec. 116.*

If any permit granted for spirits shall not be sent and delivered with such spirits unto the buyer thereof, such spirits shall, if the same be not seized in the transit for want of a lawful permit accompanying the same, be forfeited to the buyer thereof; and the seller shall be rendered incapable of recovering the same, or the value or price thereof, in any court of law or equity; and also, that the seller in such case shall, over and besides the loss of the said spirits, forfeit and lose double the value of, or price agreed to be paid for the same, including the duties; and that the evidence of the buyer or person receiving the said spirits shall, on any trial as to such spirits, be admitted to prove that the same were delivered without a lawful permit.—*Sec. 119.*

Every person or persons whomsoever, who shall have in his, her, or their custody any spirits exceeding the quantity of eighty gallons, and not being an entered and licensed distiller, rectifier, or compounder or retailer of spirits, shall be deemed and taken to be a dealer in spirits, and subject to the survey of the officers of excise, and to all regulations, penalties, and forfeitures to which such dealers are subject and liable.—*Sec. 122.*

No dealer in *British* spirits shall sell or send out or receive, or have or keep in his or her stock, custody, or possession, any plain *British* spirits, except spirits of wine, of any strength exceeding the strength of 25 *per cent.* above hydrometer proof, or of any strength below 17 *per cent.* under hydrometer proof; or any compounded spirit, except shrub, of any greater strength than 17 *per cent.* under hydrometer proof, on pain of forfeiting all such spirits as shall be sold, sent out, had, or kept by any such dealer contrary hereto, with the casks or other packages containing the same, which shall and may be seized by any officer or officers of excise.—*Sec. 124.*

Every dealer in spirits, who shall have or receive into his custody or possession any foreign or colonial spirits (not being compounded colonial spirits), and also any *British* spirits, shall keep the same separate and apart, and in separate cellars, vaults, or other places, specially entered for that purpose respectively, upon pain of forfeiting the sum of 100*l.* or 20*s.* for every gallon of *British* spirits, or compounded spirits, which shall be discovered or found in his custody or possession, in any vault, cellar, or other place, not specially entered for that purpose, or where any foreign or colonial spirits (not being compounded colonial spirits) shall be found or kept; and for every gallon of foreign or colonial spirits (not being compounded colonial spirits) which shall

be discovered or found in his custody or possession, in any vault, cellar, or place, not specially entered for that purpose, or where any *British* spirits or compounded spirits shall be found or kept, together with all such spirits so discovered and found, and the casks and packages containing the same, which shall and may be seized by any officer or officers of excise; and that no person or persons whomsoever shall mix or keep, sell, or send out any *British* spirits mixed with foreign or colonial spirits, upon pain of forfeiting for every such offence, the sum of 100*l.*; and all such spirits so mixed or sold, or sent out, contrary to the true intent and meaning hereof, together with the casks and packages containing the same, shall also be forfeited and lost, and shall and may be seized by any officer or officers of excise: Provided always, that every dealer in and retailer of spirits shall be allowed, on all foreign or colonial spirits (not being compounded colonial spirits) lawfully brought into his or her stock, additional credit, over and above credit for the number of gallons expressed in the permit accompanying such spirits, and delivered to the officer for such further number of gallons as shall be equal to the number of gallons of water added to and mixed with such spirits in the presence of the officer, in order to reduce the strength thereof to the strength of 17 *per cent.* under proof.—*Sec. 126.*

No retailer of spirits, not taking out or having a

licence as a *dealer in spirits*, shall be entitled to rerequest, or shall have any permit granted for the removal of spirits, except to a private person not being a rectifier or compounder, or dealer in or retailer of spirits; and that every retailer, not taking out or having such dealer's licence, who shall send out or deliver any spirits to any distiller, rectifier, or compounder of, or dealer in or retailer of spirits, shall forfeit the sum of 50*l.*; and all such spirits so sold, sent out, or delivered by such retailer, shall, together with the package containing the same, be forfeited, and shall and may be seized by any officer or officers of excise; and every permit drawn or granted for that purpose, shall be wholly null and void.—*Sec. 129.*

No retailer of *British* spirits shall sell, or send out, or receive, or have, or keep, in his or their stock, custody, or possession, any spirits of wine, exceeding, at one time, ten gallons; or any plain *British* spirits, of any strength exceeding the strength of twenty-five *per cent.* above hydrometer proof, or lower than seventeen *per cent.* under hydrometer proof; or any compounded spirits, not being shrub, of greater strength than seventeen *per cent.* under hydrometer proof; or any foreign or colonial spirits (not being compounded colonial spirits) of less strength than seventeen *per cent.* under hydrometer proof, on pain of forfeiting all such spirits as shall be sold, sent out, had, or kept,

contrary hereto, with the casks, or other packages, containing the same; which shall, and may be seized by any officer or officers of excise: and no allowance whatever shall be granted to any such retailer for any increase in stock of spirits of wine, or plain *British* spirits, or compounds, by water, sugar, syrup, or fruit: any thing contained in any Act or Acts of Parliament to the contrary in any wise notwithstanding.—*Sec. 130.*

Every officer of excise shall, as often and at such times as he may think fit, take an accurate and true account of the quantity of all spirits in the stock, custody, or possession of every retailer of spirits; and if, after making allowance for the spirits for which permits shall have been granted since the last account taken of the stock of such retailer, it shall be found that the quantity of spirits remaining in the stock, custody, or possession of such retailer, shall exceed the quantity for which such retailer shall have credit in the books of the proper officer (whether such credit shall have arisen from what was on hand at the last preceding account taken, or from what may have been lawfully received subsequent thereto,) such excess shall be deemed and taken to be spirits illegally received; and a quantity of spirits of the like kinds, equal to such excess, shall and may be seized out of any part of the stock of such retailer, by any officer or officers of excise; and the retailer, in whose stock, custody,

or possession such excess shall be found, shall forfeit and lose the sum of twenty shillings per gallon for every gallon of such excess.—*Sec. 131.*

The excise of England, Scotland, and Ireland, being consolidated under one general Board, the following Act applies to the whole of the United Kingdom :—

Abstract of the Act 6 Geo. IV. cap. 81.

This Act repeals the several duties payable upon excise licences in Great Britain and Ireland, and imposes other duties in lieu thereof; amends the general laws of the excise for granting such licences; and enacts, that from and after the 5th of July, 1825, all the respective duties payable upon any excise licences in England, Scotland, or Ireland, shall cease and determine, with the usual exceptions as to the recovery of arrears.

And it is further enacted, That from and after the 5th of July, 1825, in lieu and instead of the duties by this Act repealed, there shall be paid, throughout the United Kingdom of Great Britain and Ireland, the several duties of excise or rates, and sums of money, hereinafter following, that is to say:—

Upon every excise licence to be taken out by any maker, manufacturer, trader, dealer, retailer, or person hereinafter mentioned, within the United Kingdom of Great Britain and Ireland, to be paid

by such persons respectively, the following annual sum or duty of excise, in British currency, namely :—

	<i>£.</i>	<i>s.</i>	<i>d.</i>
Brewers of table beer only, for sale, if the quantity brewed within the year, ending the 10th of October, shall not exceed 20 barrels	0	10	0
Exceeding 20 and not above 50	1	0	0
. 50 100	1	10	0
. 100	2	0	0

There is no alteration in the other classes of brewers (*see the preceding Act, 6th Geo. IV.*), except to persons, not brewers, selling strong beer only in casks, limiting it to $4\frac{1}{2}$ instead of 5 gallons

Every distiller, or maker of low wines or spirits	10	0	0
Rectifier or compounder of spirits	10	0	0
Dealer in spirits, not being a retailer thereof	10	0	0

Every retailer of spirits (except retailers of spirits in Ireland), if the dwelling-house in which such retailer shall reside, or retail such spirits, shall not, together with the offices, &c. be rated at a rent of £10. per annum, or shall not be rented or valued at such rent or annual value

	2	2	0
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At a rent of £.10 and under £.20 per annum	4	4	0
. 20 25	6	6	0
. 25 30	7	7	0
. 30 40	8	8	0
. 40 50	9	9	0
. 50 and upwards	10	10	0

Every retailer of spirits in Ireland, being duly licensed to trade in, vend, and sell coffee, tea, cocoa nuts, chocolate, or pepper, and not selling spirits in any greater quantity, at one time, than two quarts, or any spirits to be consumed in the house or pre-

	<i>£. s. d.</i>
mises of such retailer, if the dwelling-house in which such retailer shall reside or retail such spirits as aforesaid, at the time of taking out such licence, shall not, together with the offices, courts, yards, and gardens, therewith occupied, be rated, under the authority of any Act or Acts of Parliament for granting duties on inhabited houses, at a rent of 25 <i>l.</i> per annum, or upwards, or shall not be rented or valued at such a rent or annual value, or upwards	9 9 0
£.25 and under £.30 per annum	10 10 0
30 40	11 11 0
40 50	12 12 0
50 and upwards	13 13 0
Every maker of any kind of sweets or made wines, or of mead, or metheglin, for sale	2 2 0
Every retailer of sweets or made wines, or mead, or metheglin	1 1 0
Every maker of vinegar, or other acetous acid, for sale	5 0 0
Every dealer in foreign wine, who shall not have an excise licence for retailing spirits, and a licence for retailing beer	10 0 0
Every retailer of foreign wine, who shall have taken out a licence for retailing beer to be drank or consumed on his, her, or their premises, but shall not have taken out an excise licence for retailing spirits to be so drank or consumed	4 4 0
Every retailer of foreign wine, who shall have taken out excise licences for retailing beer and spirits respectively, to be so drank or consumed	2 2 0

The duty imposed by this Act on every licence taken out by any brewer of beer for sale, being rated according to the quantity of beer brewed by

the person taking out such licence; and no account being taken by the officers of excise in *Ireland* of the *quantity* of beer brewed there for sale, but of the *malt only*, it is enacted, That every brewer of beer for sale in Ireland shall, for the purpose of fixing and regulating the rate and amount of duty to be paid for the licence, under this Act, be deemed to have brewed one barrel of beer for every two bushels of malt used or employed in brewing.

And it is also enacted, That from and after the 5th of July, 1825, all persons duly licensed, under this Act, to deal in coffee, tea, &c. in Ireland, shall be deemed grocers, and be entitled to take out the licence before mentioned, to retail spirits, not exceeding two quarts at any one time, to be consumed elsewhere than in the house or on the premises, subject to all the regulations in respect of grocers retailing spirits.

The duty upon certain licences required to be taken out by this Act, being imposed according to the rent at which the premises used for the purpose are rated to the duty on inhabited houses; and as many houses in different parts of the United Kingdom may not be so rated, it is therefore enacted, That in such case, in order to ascertain the rent or annual value of such house or premises, the person being the tenant or occupier, who shall apply for the licence, must produce a certificate, signed by himself, and by the owner or landlord of the said house,

stating the true rent paid by him, or for which such house is let.

And it is further enacted, That every excise licence, required to be taken out by this Act, shall be granted throughout the United Kingdom in manner and form following: if within the limits of the chief office of excise in London, such licence shall be granted under the hands and seals of such persons as the commissioners shall employ for that purpose, and the duty imposed shall be paid at such chief office; if within the limits of the cities of Edinburgh or Dublin, such licence shall be granted under the hands and seals of such persons as the commissioner or commissioners, and assistant-commissioners of excise, acting for Scotland or Ireland, shall employ for that purpose; and the duty imposed shall be paid at the chief office of excise in Edinburgh or Dublin, respectively; or if such licence is taken out in any part of the United Kingdom, without such limits, the same shall be granted under the hands and seals of the collector and supervisor of excise within the collection; and the duty imposed shall be paid to the collector at the time of granting the licence, free from all poundage, fee, gratuity, or any other payment whatsoever.

That every licence taken out under this Act, shall contain the purpose, trade, or business, for which such licence is granted, and the name and place of abode of the person taking out the same,

the true date of granting such licence, and (except in the case of auctioneers) the place at which the trade or business is carried on ; but persons in partnership, and carrying on their trade in one place and set of premises only, shall not be obliged to take out more than one licence in any one year. That nothing in this Act shall tend to prohibit any person, duly licensed to sell beer, cider, or perry, by retail, to be drank or consumed in the house or premises, or any retailer of spirits, (not being a retailer of spirits in Ireland, licensed as a grocer,) or any retailer of foreign wine, or retailer of sweets, or made wines, to carry on his business in booths, tents, or other places, at the time or place of any accustomed fair, by virtue of any statute ; or at any public races.

That in all cases in which the house, or premises, in respect of which any excise licence is or shall be granted, shall be burnt down, or destroyed, or rendered uninhabitable, the commissioners of excise, or other persons duly authorised to grant licences, may, by indorsement on such licence, empower the person to carry on such trade at any other different house in the same district, of which due entry shall be made by the person at the time of removal ; and also that, where such persons shall be required to be duly authorised by the justices of the peace, to keep a common inn, alehouse, &c. it shall not be lawful for the commissioners of excise, or other

persons authorised to grant licences, to empower such licensed person, unless such person shall produce an authority from the justices of the peace, as by law required in that behalf.

That it shall not be necessary for any person to take out an excise licence for the sale of any excisable commodity; whilst such commodity is in the import warehouse.

That no excise licence shall be granted, under this Act, for the sale of any beer, cider, or perry, by retail, to be drank upon the premises, to any person who shall not produce an authority from the justices of the peace, or other competent persons, for such person, applying for such licence as aforesaid, to keep a common inn, alehouse, &c.; and if such licence shall be granted, other than the aforesaid, the same be null and void, to all intents and purposes; and the person taking out the same shall be subject to all penalties to which he or she would have been subject, had no such licence been granted.

That no licence for the sale of any spirits or foreign wines, or sweets or made wines, by retail, to be drank upon the premises where sold, shall be granted to any person, who shall not have and produce a licence for the sale of beer, cider, and perry, by retail; and if any such licence shall be granted to any person other than as aforesaid, such licence shall be absolutely null and void, to all intents and purposes; and every person as aforesaid shall be

liable to every penalty imposed upon persons selling spirits or foreign wines, or sweets or made wines, by retail, without licence.

That the spirits called *aqua vitæ* in Scotland, shall be deemed British spirits; and all persons retailing such spirits in Scotland, or elsewhere, shall first take out a licence to retail beer, and also a licence to retail spirits; and shall, in all respects, be subject to the rules, regulations, &c. to which retailers of spirits are liable.

That from and after the 5th of July, 1825, every excise licence taken out in the United Kingdom by any *brewer*, or *distiller*, or by any *publican*, as a retailer of beer, spirits, and foreign wine, or sweets or made wine (except any excise licence theretofore granted and then in force), shall continue from the date of such licence until the 10th of October following, on which day, in each year, every such excise licence (except as aforesaid) shall expire.

That every person taking out any licence, and who shall intend to continue the trade or business for which the licence is granted, for any longer space of time, shall take out a fresh licence for the year following, to expire as before mentioned, according to the nature of the licence; and every such person shall give notice, in writing, at least twenty-one days before the expiration of the current licence, of such intention to continue the trade or business for which such licence was granted, to the person or

persons authorised to grant licences ; and in cases where the excise licence is so renewed, and such notice given, the new licence shall bear date from the day of expiration of the current licence before granted ; but in cases *where such notice shall not have been given*, the licence shall bear date from the day of the application made for such licence ; notwithstanding, any such licence may be delivered at any day subsequent to the date of such application.

That any person who shall commence or begin any trade or business, for which an excise licence is required, not having before taken out any such licence, shall pay a proportional part of the duty for such licence, for the *remainder of the current year* in which such licence shall be taken, ending on the *5th of July, 1825, or 10th of October, 1825* ; according to the nature of such licence.

That no person who shall have taken out an excise licence to carry on any trade or business, and who shall, in any subsequent year after such licence shall have expired, take out a new licence for the same trade or business, whether on the same or other premises, shall be deemed a person commencing or beginning business ; but every such person shall pay the whole duty, unless the period of time between the expiration of the former licence and the taking out of the new, shall, at the least, be a period of two years. That where any licence taken out by any brewer, distiller, or publican, under any Act of

Parliament, shall expire between the 5th of July, 1825, and the 10th of October, 1825, such licence, as aforesaid, shall be renewed for a proportional part of the year, for such person to exercise his or her trade for the remainder of the year, ending the 10th of October, 1825, upon payment of *one-fourth part* of the duty imposed upon such licence; and where any licence, as aforesaid, shall expire between the 10th of October, 1825, and the 5th of January, 1826, such licence, as aforesaid, shall be renewed for the remainder of the current year, ending 10th of October, 1826, upon payment of the *whole duty* imposed upon such licence; and where any licence, as aforesaid, shall expire between the 5th of January, 1826, and the 5th of April, 1826, such licence, as aforesaid, shall be renewed for the remainder of the current year, ending the 10th of October, 1826, upon payment of *three-fourth parts* of the duty imposed upon such licence; and where any licence, as aforesaid, shall expire between the 5th of April, 1826, and the 5th of July, 1826, such licence, as aforesaid, shall be renewed for the remainder of the current year, ending the 10th of October, 1826, upon payment of *one-half part* of the duty imposed upon such licence; and every such licence, as aforesaid, granted between the 10th of October, 1825, and the 5th of July, 1826, shall expire on the 10th of October, 1826, and then be renewed for the whole

year ensuing, to expire on the 10th of October following.

That upon the death of any person licensed under this Act, or upon his or her removal from the house or premises at which he or she was authorised by such licence to exercise his or her trade or business, the commissioners of excise may authorise and empower, by indorsement on such licence, the executor, widow, or child of the deceased person, or the assignee or assigns of such person so removing, who shall be possessed of and occupy the house before used for such purpose, to exercise the same trade or business, mentioned in such licence, for the residue of the term for which the licence was granted, without any duty or fee thereupon; provided that fresh entry of the premises shall be made by the person to whom such authority shall be granted; but that no such authority, as aforesaid, shall be granted for the sale of beer, cider, or perry, or sweets, by retail, to be drank upon the premises, unless a proper certificate, granted and given by a justice of the peace, or other competent person, made after the death or removal of the former occupier of the premises, (approving of the person to whom such certificate shall be granted,) shall be produced.

That every person disabled, by conviction, from holding or having a licence to keep a common inn, alehouse, &c. shall also, by such conviction, be

disabled from having any excise licence to sell, and from selling beer, cider, or perry, by retail, in any manner whatsoever, under any excise licence obtained for such purpose ; and if any such person shall, after such conviction, take out or have any excise licence for such purpose as aforesaid, such licence shall be absolutely null and void, and such person shall incur the penalty for so doing without licence ; and where the licence for the sale of beer, cider, or perry, by retail, shall become void, and the person disabled in such manner as before mentioned, the licence for the sale of any spirits, foreign wine, or sweets, by retail, to be consumed upon the premises, shall become void also ; and if, after such conviction, such person shall sell any such spirits, &c. he or she shall incur the penalty for selling without licence.

That, as the periods at which justices of the peace, or other competent persons, are in the practice of granting certificates or authorities to persons to keep common inns, alehouses, &c. are various, and the same do not, in any manner, correspond with the period at which excise licences are granted, or for which the same continue in force ; and as, upon the expiration of such certificates, the excise licences to sell beer, cider, or perry, by retail, granted upon such certificates, expire, and the excise licences to sell spirits, foreign wine, or sweets, which are granted upon such retail beer excise licences do also expire, it is enacted, That, if the term for which any such

certificate is granted, shall expire (no conviction having taken place,) within the *first quarter* of the current year for which the excise licence was granted, and if no such certificate shall be renewed for the succeeding year, *three-fourth parts* of the duties thereupon paid by the person shall be returned; and if such certificate, as aforesaid, shall expire within the *second quarter* of the current year, and shall not be renewed for the succeeding year, *one-half part* of the duties paid thereon shall be returned; and if such certificate shall so expire at any time within the *third quarter* of the current year, and shall not be renewed as aforesaid, *one-fourth part* of the duties paid thereon shall be returned.

That every person in the United Kingdom, required by any law of excise to make entry of his or her premises, to carry on any trade or business for which an excise licence is required, shall place, in letters visible and legible, at least one inch long, upon the entered premises, his or her name, at full length; and after such name, the word "Licensed," adding thereto, the trade or business for which the licence has been granted; and if any such person shall not paint or fix such letters, as aforesaid, or shall not preserve and keep the same so painted as often as necessity shall require, he or she shall forfeit for every such offence the sum of 20*l.*; and if any person, not being licensed to carry on any trade required by this Act, shall put any such letters, as

aforesaid, upon his or her premises, importing that he or she doth exercise such trade or business, and is licensed so to do, every such person shall forfeit the sum of 20*l*.

That any person who shall make or manufacture, deal in, retail, or sell, any goods or commodities, or shall exercise or carry on any trade or business, for which a licence is required by this Act, without taking out such licence, shall, for every offence, respectively forfeit the sum thereupon imposed, as follows:—

	£.
Distiller, or maker of low wines or spirits, rectifier, or com- pounder	500
Brewer of table beer only, for sale	100
Brewer of beer (other than table beer) for sale	100
Brewer of beer for sale, retalling such beer to be consumed elsewhere than on the premises	100
Dealer in beer, selling strong beer only, in casks containing not less than 4½ gallons, or in not less than two dozen re- puted quart bottles, to be consumed elsewhere than on the premises	100
Dealer in spirits, not being a retailer	100
Retailer of spirits in Ireland, (being a licensed grocer).	100
Sweets or made wine, mead, or metheglin maker	100
Vinegar or acetous acid maker	100
Foreign wine dealer	100
Retailer of beer, cider, or perry	50
Retailer of spirits, (not being a retailer of spirits in Ireland).	50
Retailer of foreign wine	50
Retailer of sweets or made wines, mead or metheglin	50

That if any spirits shall be sold or delivered i

any quantity less than two gallons, or if any beer, wine, cider, perry, sweet, mead, or metheglin, or vinegar, or any other goods, for the retail of which a licence is required by this Act, shall be sold by retail, in any house, by any person unknown, or who shall not be licensed for that purpose according to this Act, the occupier of such house where such spirits, or other goods, shall be sold as aforesaid, shall be deemed to be the retailer of such spirits or goods, and as such, liable to the penalties imposed upon persons for the sale of spirits without licence.

That if any person licensed to carry on the trade or business for which an excise licence is required, shall not produce and deliver such licence to be read and examined by any officer of excise, within a reasonable time after the officer shall demand the production thereof, such person shall, for each such offence, forfeit the sum of 20*l*.

That any person giving information against an unlicensed trader, shall, upon conviction, be paid such sum as the commissioners shall direct, not exceeding 10*l*.

ALE AND BEER LICENCES, AND LAWS RELATING TO INNKEEPERS AND PUBLICANS.

A Licence, necessary to keep an Inn or Alehouse.

No person can keep an inn or alehouse, without a licence, which is granted only once a year, (in September,) on the party applying for the same

entering into recognizance of 80*l.* with one surety in 20*l.* and two in 10*l.* each, (3 *Geo.* IV. c. 77.) And by the second section of the same statute, no licence can be granted to a person not licensed the preceding year, without a certificate from the minister of the parish, and the majority of the parish officers, or four substantial housekeepers of the place where the party inhabited the last six months, setting forth the number, or the true description of the house, the name of the street; and also, whether he or she was there a housekeeper or an inmate; whether such person in such last-mentioned parish or place, kept a public-house, and if so, the sign thereof: and also, that such person is of good fame, sober life and conversation, and a proper person to be intrusted with a licence; and it shall be mentioned in every such licence or authority, to be granted to any person not licensed at the last general licensing day, that such certificate was produced; and in case such certificate shall not be produced, or the licence to be granted shall omit to state that such certificate was so produced, such licence or authority shall be null and void.—3 *Geo.* IV. c. 79.

Limitation of Licences—how to proceed.

The seventeenth section of the preceding Act provides, that after the 10th of October, 1823, no licence shall be granted to any person to retail beer, ale, or exciseable liquors, in any house or place

which shall not have been used for such purpose, by virtue of a licence granted at a preceding general annual meeting of the justices; unless the person intending to apply for such licence, give notice in writing, to the clerk of the justices at such meeting, three calendar months prior to such general annual meeting; and shall fix three copies of such notice, written in a legible hand, on the principal door, or most conspicuous part of the house for which such licence is intended to be applied for, and on the doors of the church of the parish in which such house shall be situated, on three several days within the month of May or June, between the hours of ten in the forenoon and four in the afternoon, at intervals of seven days; which notice, and the copies thereof affixed, shall be signed by the party interested in such house, and intending to make such application as aforesaid, or his or her authorised agent; and every such notice shall set forth the situation of such house, in a true and particular manner, together with the rate of building thereof (when any such rate of building exists or is prescribed,) and the name and place of abode of the person proposed to be licensed therein; and every licence to be granted to sell ale, &c. by retail, in such new house, or other place, not having been used for any of the purposes aforesaid, by virtue of a licence granted the preceding year, without such previous notice having been given, shall be void.

Reservatory Clauses.

In case persons applying for licences shall be prevented by sickness, infirmity, or other reasonable cause, from attending, the justices may grant the same, on two sureties entering into such recognizance, in 30*l.* each, for the performance of the conditions thereof.—3 *Geo.* IV. c. 77, sec. 1.

If a publican die, or remove from a house to which he has been licensed, or if such licensed house become unoccupied, his executors, administrators, or assigns, or the new tenant or occupier, may, on obtaining, within thirty days after such death or removal, or after his entering on the possession of such house, a similar certificate, and entering into a like recognizance, as is required from the person so dying, &c. be continued in possession of such licence until the 10th of October then ensuing.—3 *Geo.* IV. c. 79; 48 *Geo.* III. c. 143; 53 *Geo.* III. c. 103.

*If a house be not rated at 15*l.* per annum, or upwards.*

Every person selling beer or ale by retail, or cider or perry to be drank in his house or premises, is to pay for a licence; if the dwelling-house in which he resides or retails beer or ale, at the time of taking out such licence, shall not, together with offices or gardens therewith occupied, be rated at a rent of 15*l.*, 2*l.* 2*s.*; if rated at 15*l.* and under 20*l.*, 3*l.* 3*s.*;

if at 20*l.* or upwards, 4*l.* 4*s.*; on forfeiture of 50*l.*
—56 *Geo.* III. c. 113; 48 *Geo.* III. c. 143.

Penalties for selling without being duly licensed.

Selling ale or other exciseable liquors by retail, without being duly licensed, incurs a penalty, for the first offence, of 20*l.*; and for the second, being rendered incapable of keeping a public-house.—
85 *Geo.* III. c. 113.

No person is to sell beer or ale by retail, or cider or perry to be drank in his house or premises, after the expiration of his licence, unless he takes out a fresh licence within ten days after the expiration of such former licence; and so in like manner renew such licence from year to year, on forfeiture of 50*l.*
—48 *Geo.* III. c. 143.

Small Beer.

No person, not being a common brewer, is to retail small beer at a greater price than one penny half-penny per quart, without first obtaining a licence as an alehouse-keeper, on forfeiture of 50*l.* over and above the penalty for selling beer or ale without a licence; and no dealer in table beer is to sell a gallon at one time without making entry at the excise, on a like forfeiture.—42 *Geo.* III. c. 38.

Selling Ale or Beer in booths or other places in Fairs.

No licence is necessary for selling ale or beer in booths or other places in fairs, at the time and place of holding such fairs, if legally chartered.—(35 Geo. III. c. 13). And no person is liable to the penalty for selling beer by retail, without licence, in casks containing not less than five gallons, or in bottles not less than two quarts, not to be drunk in his house, out-house, yard, garden, orchard, or other place.—58 Geo. III. c. 54.

Licences may be stopped.

Licenses may be stopped instantly for *improper conduct* on the part of the publican, who is, on the demand of any officer employed in the collection of the stamp duty, to produce his licence, and permit such officer to take a copy of it, on forfeiture of 40s.—5 Geo. III. c. 46.

And no licence shall entitle any person to keep an alehouse in any other place than that in which it was first kept by virtue of such licence.—26 Geo. II. c. 31.

Publicans and retailers of Beer or Ale, to make Entry.

Every publican or retailer of beer or ale, who shall receive into his custody any beer or ale, or

spirituous liquors, to sell by retail, is, three days before he begins to dispose of the same, to make an entry in writing at the next office of excise, of all rooms, storehouses, cellars, or places in which he intends to keep such beer, &c. on forfeiture of 50*l.*—35 *Geo.* III. c. 113.

If the publican deals in tobacco, he must take out a licence for the same, and cause the words—“Dealer in Tobacco,” to be painted over his door, on penalty of 50*l.*—29 *Geo.* III. c. 68.

If any dealer in beer or ale mixes, or causes to be mixed, any strong beer or ale, or strong worts, with any small beer or small worts, or with water, he incurs a penalty of 50*l.* (2 *Geo.* III. c. 14.); and if any publican shall mix, prepare, or suffer to be mixed, &c. from beer-grounds, stale beer, &c. or any other material whatever (except malt and hops), and liquor to imitate, or to be mixed with or used as beer or ale, he forfeits 200*l.* together with such beer-grounds, &c. and also the vessels.—42 *Geo.* III. c. 39.

The Duties and Obligations of Inn or Alehouse Keepers—Consequences, &c.

He is bound to receive all guests, and to provide them with necessary food and lodging, or dress any victuals which they may require, unless he can shew a reasonable excuse for his refusal, such as that his house was already full, or the like. (*Dyer*, 158 *b.* ;

1 *Roll. Abr.* 3. (F.), pl. 1; 6 *T. R.* 17.) And innkeepers are also compellable to receive a horse, though the owner should not be a guest. (1 *Salk.* 288.) But they are not obliged to allow their guests a particular room (1 *Dick. Just.* 57.); nor are they obliged, though licensed to let post-horses, to furnish them to travellers. (1 *Stark N. P.* 247; 1 *Holt* 247.)

If a publican refuses to provide or lodge a guest, the constable of the place, on complaint made to him, is to present such publican at the leet (*Crompt. Just. Peace*, 201), and the party grieved may also commence an action against the publican for damages. (2 *Roll. Rep.* 345; *Dyer*, 158, pl. 33; 1 *Hawk. P. C.* 78; 5 *T. R.* 273.)

But in order to create this obligation on the part of the innkeeper, it is obligatory on the guest to pay ready money for the necessaries he requires, if it should be demanded by the innkeeper. (*Bro. Action sur Case*, 76; 9 *Co.* 876). If the guest should refuse payment, the innkeeper may detain his person or goods until he is paid, (1 *Salk.* 388; 3 *Barnew & Alders*, 285; *Shaw*, 269); so he may detain a horse for his keep, (*Skin.* 648); and by the special custom of London and Exeter, he may sell the horse or goods of his guest. (3 *Bac. Abr.* 668). But an innkeeper cannot use a horse detained, (*Ibid.*); nor does his right of lien exist after he has once allowed the party to go without payment (*Bull. N. P.*).

And it is expressly provided by the statute 11 & 12 *Will. III. c. 15*, that an innkeeper cannot detain the goods of his guest, unless he furnishes him with an account, in writing, of the particular items of his reckoning, or unless he sells his liquors, &c. in measures properly marked.

Of unwholesome Wine or Victuals sold.

If a publican or his servants sell unwholesome wine or victuals, they are liable to an action, (*Roll. Abr. 95.*); and they may be fined and indicted for extorting unreasonable rates and prices for their commodities.—*Carth. 150*; *Skin. 191*; *Cro. Jac. 609*; *Hawk. P. C. 235*; *21 Jac. I. c. 21.*

Pledges not to be taken in Payment for Money owing.

By the statute 24 *Geo. II. c. 40*, all persons are disqualified from recovering any debt or demand for spirituous liquors, unless such debt has been, *bonâ fidè*, contracted at one time, to the amount of 20*s.* or upwards; nor is any particular article in an account for spirituous liquors to be allowed, where the liquors delivered at one time did not amount to 20*s.*; and it has been held that this statute extends to spirits mixed with water.—3 *Taunt.*; 1 *Selv. N. P. 61*; 3 *Campb. 9.*

Credit to Servants or Day-labourers, above one Shilling, not recoverable.

Retailers of strong beer, ale, brandy, or other spirituous liquor, selling, on trust or credit, the same to any servant or day-labourer, or to any other person usually working or plying for hire or wages, to the amount of above 1s. cannot recover the same; and all promissory notes, bonds, or other writings obligatory, given as a security for the payment of such debts so contracted, are void.—9 *Geo. II. c. 8.*

Victuallers or publicans concerned or interested, directly or indirectly, either in their own names, or in the name of any other person receiving any emoluments or profits of a coal-undertaker, or providing any coal-heaver with any coal-shovel, baskets, or other implements for unloading any ship or vessel within the port of London, forfeit 10l.—47 *Geo. III. c. 56.*

Liability of Innkeepers.

There is also in law an implied contract with every innkeeper to secure his guest's goods which are within his inn, although they are not delivered to him to keep, and that he was not acquainted that the guest had brought his goods to his inn, (8 *Co. 33; Domat. part I. b. 1. t. 16. s. 1.*); and he cannot exonerate himself from this obligation under presence of sickness, absence from home, or the like, (1 *Roll. 4. l. 25, 30; Bro. Action sur le case, 41;*

Dyer, 266 *b*; 8 *Co.* 33 *a*; *Cro. Eliz.* 622.); and the innkeeper's liability will continue to protect his guest's goods during his temporary absence, provided he derives a benefit from them; as from the keep of a horse, or the rent for lodging, &c. (*Cro. Jac.* 189; 1 *Salk.* 888; 2 *Ld. Raym.* 866.). And in order to create this common-law liability, the goods need not be in the special keeping of the innkeeper; he will be responsible for them if lost while the guest is taking refreshment.—5 *T. R.* 273.

Innkeepers—how relieved from the preceding Law of Liability.

But innkeepers are relieved from this common-law liability to answer for the loss of their guest's property, or for any damage which may happen to it while within their inns, where the party sustaining the loss or damage is not in the light of a guest, but of a lodger, friend, or neighbour, (8 *Co.* 32 *b*; 1 *Roll. Abr.* 3; (*E*), *pl.* 4, 1; 1 *Latch*, 127; 12 *Mod.* 254; *Moor*, 877); or where the goods are not *infra hospitium* of the inn, as where a horse is put to pasture by the direction of the owner, (*Bull. N. P.* 73; 8 *Co.* 32;) or if the guest leave the goods in an outer court, and they are stolen, (*Noy's Max.* 93.). So, where the guest takes the goods out of the innkeeper's charge into his own, or where the innkeeper stipulates with his guest that he shall take charge of his goods, and he

consents, the innkeeper is released from his responsibility, (4 *Maule & Selw.* 306.); nor will an innkeeper be liable for any loss arising from the default or gross neglect of his guest (8 *Rep.* 23; *Dyer*, 266); or where he has the exclusive possession of a room, for the purpose of keeping or exhibiting his goods.—1 *Starkie*, *N. P.* 249; 1 *Holt*, 209.) See *Cases in Point*.

Nature of the Recognizance entered into by every Publican, Innkeeper, &c. for one whole Year, in the Form prescribed by the Schedule (A.) annexed to the Statute of 3 Geo. IV. c. 77.

On taking out his licence, every publican is to enter into a recognizance * for one whole year, in the form prescribed by the Schedule (A.) annexed to the statute, (3 *Geo. IV. c. 77.*) which specifies that the cognizee will keep the true assize in selling bread and other victuals, beer, ale, and other liquors, in his or her house, and will not fraudulently dilute or adulterate the same; and will not use, in selling thereof, any pots or other measures that are not of full size; and will not wilfully or knowingly permit drunkenness, or tippling, nor getting drunk in his

* The recognizance required to be entered into and produced by persons not licensed to keep alehouses, &c. the preceding year, is to be entered into and produced before justices at special meetings to be held for that purpose, pursuant to the statute 32 *Geo. III. c. 59*; 3 *Geo. IV. c. 79, s. 3.*

or her house or other premises; nor knowingly suffer any gaming with cards, draughts, dice, bagatelle, or any other sedentary game, in his or her house, or any of the outhouses thereto belonging, by journeymen, labourers, servants, or apprentices; nor knowingly introduce or suffer any bull, bear, or badger baiting, cock-fighting, or other such sport or amusement, on any part of his or her premises; nor shall knowingly or designedly, and with a view to harbour or entertain such, permit or suffer men or women of notoriously bad fame, or dissolute girls and boys, to assemble and meet together in his or her house, or any of the premises thereunto belonging; nor shall keep open his or her house, nor suffer any drinking or tipping in any part of his or her premises, during the usual hours of Divine service on Sundays; nor shall keep open his or her house or other premises during late hours of the night, or early in the morning, for any other purpose than the reception of travellers; but to keep good rule and order therein, according to the purport of a licence granted for selling ale, beer, or other liquors by retail in the said house or premises. And the ninth section of the Act enacts, that every publican who shall be convicted of any offence against the condition of his recognizance, or against the tenor of his licence, shall forfeit, for the first offence, a sum not exceeding 5*l.*, with the expenses of the conviction; and if the same be not paid within fourteen days after

conviction, the offender shall be imprisoned for one month, or until he pay the same; for the second offence, 10*l.* with costs, &c.; and if the same be not paid within seven days after conviction, the offender shall be imprisoned two months, or until he pay the same; and for a third offence, the party offending shall, on conviction at the general or quarter sessions of the peace, forfeit a sum not exceeding 100*l.*, or, at the discretion of the said court, he shall forfeit his recognizance and licence; and every licence then held by such offender to sell spirituous liquors, cider, perry, or British sweets, shall be void; and he shall, moreover, be disabled to sell ale, beer, cider, perry, spirituous liquors, or strong waters, for the space of three years, to be computed from the time of the offence committed.

But the fourteenth section of the statute provides, that persons considering themselves aggrieved by such judgment or conviction, may, on giving security for the payment of the penalty, costs, and expenses, within twenty-four hours after conviction, appeal to the next general or quarter sessions, unless such sessions shall be held within six days, or less, next after such conviction; and in that case, to the next sessions after such first-mentioned sessions, and not afterwards.

Publicans' Measures—how regulated.

By the 20th section of the 3d Geo. IV. c. 77, all

persons keeping common inns, alehouses, or victualling-houses, and retailing ale and beer, are to sell the same in and from their houses, by a full ale-quart, pint, or half-pint, made of pewter, sized to the standard, and stamped or marked to be of due size, according to the standard, either from the Exchequer, or from some city, town corporate, borough, or market-town, where an ale-quart, pint, or half-pint, made from the said standard, shall be kept for that purpose; and shall not retail any ale or beer in any other vessels than such stamped pewter ale-quarts, pints, and half-pints, unless such ale or beer shall have been first measured in and by such stamped pewter ale-quart, &c. in the presence of the guest or customer purchasing the same; under pain of forfeiting, for every offence, a sum not less than 40s., together with the costs of conviction, to be recovered before two justices within thirty days after the commission of the offence.

Publicans' Prohibitions.

By the statute 39 Geo. III. c. 79, persons licensed to sell ale, beer, wine, or spirits, suffering any meeting of any society for any seditious purposes to be held in any room or place of their houses, forfeit their licences; and if they continue to sell ale, beer, &c are liable to every penalty and forfeiture as they would have been subject to if such licence had

expired on that day. And by 57 *Geo. III. c. 19*, any person knowingly suffering any meeting of any society or club for any unlawful combination or confederacy, or for any seditious purpose, to be held in any apartment or other place in his possession or occupation, shall forfeit for the first offence 5*l.*; for any subsequent offence, be deemed guilty of an unlawful combination and confederacy; and every publican, moreover, forfeits his licence, and if he continues to sell ale, beer, &c. is liable to every penalty as he would have been subject to if such licence had expired on the day it was adjudged by the justices to be forfeited.

And if any victualler or innkeeper, being a retailer of wine, beer, or other exciseable liquors, suffer any stage-play, interlude, show, opera, or any other theatrical or dramatic performance, to be played in his house or grounds, for gain or hire, he forfeits 50*l.*—10 *Geo. II. c. 28*.

Duties of Innkeepers, Landlords, &c.

1st. With respect to the duty incumbent on publicans and innkeepers, it extends principally to the entertaining and harbouring of travellers, finding them victuals and lodging, and securing the goods and effects of their guests. If, therefore, any one who keeps an inn or public-house, or common inn, refuse to receive a traveller, as guest, into his house, or to find him victuals or lodging, upon his tendering

a reasonable price for the same, he not only renders himself liable to an action of damages at the suit of the party aggrieved, but he may also be indicted and fined at the suit of the king, (9 Co. 87. *Dyer* 158); upon the plain principle, that he who takes upon himself a public employment, is in duty bound to serve the public as far as his employment extends; an innkeeper, therefore, shall not only answer for his own neglect, but also for the neglect of those who act under him, though even he should expressly caution against them.—1 *Salk.* 18.

2nd. The duty, however, of an innkeeper does not extend to the finding of clothes, or wearing apparel, for his guests (2 *Roll. Rep.* 79). And if a guest be assaulted and beat within the inn, or public-house, he shall have no action against his host; for the charge of the host extends to the *moveables* only, and not the person of the guest.—8 Co. 32, *Calye's case*.

Refusing to entertain Guests.

It has already been observed, that a person keeping a common inn, who refuses, without a reasonable excuse, either to receive a traveller as a guest into his house, or to find him victuals or lodging, upon his tendering him a reasonable price for the same, is not only liable to render damages for the injury, in an action on the case, at the suit of the party aggrieved, but may also be indicted and fined at the

suit of the King (1 *Salk.* 388; *Carth.* 150). It is also said, that an innkeeper may be compelled by the constable of the town to receive and entertain a person as his guest (1 *Shaw* 268). And therefore if he refuse, under pretence that his house is already full of guests, if this be false, an action on the case lies.—*Dyer* 158; *Rol. Abr.* 3.

Livery Stables, &c.

An innkeeper, or a person keeping a livery stable, is also obliged to receive a horse, though the owner does not lodge in his house; for the same reason that he takes upon himself a public employment, he is obliged to serve the public as far as that employment extends (*Moor* 867). In 2 *Brownl.* 284, it is said by Coke, C. J. that an innkeeper is not bound to receive a horse unless the master is lodged there. And herewith, in *Salk* 388, Holt, Chief Justice, agrees; but the other three judges differ from him, because, by keeping of the horse, the innkeeper has gain, though it would be otherwise if he had left a trunk or dead thing.

When Innkeepers, or Publicans, are chargeable for Things lost or stolen.

Innkeepers and publicans are clearly chargeable for the goods of guests, stolen or lost out of their inns or houses; and this too without any contract or agreement for that purpose, for the law makes them

liable in respect of the reward, as also in respect of their being places appointed and allowed of by law, for the benefit and security of traders and dealers.—*Dyer* 266; 8 Co. 32.

If an innkeeper goes abroad, he must answer for the goods of his guests, for he ought to leave a servant to take care of them in his absence. (1 *Roll. Abr.* 4.) But if an inn be broken open, and the goods of guests taken away by the king's enemies, the innkeeper is not answerable. (*Plow*). And if a person comes to an innkeeper, and desires to be entertained by him, which the innkeeper refuses, because his house is already full, whereupon the party says, we will shift among the rest of his guests, and there he is robbed, the host shall not be charged.—*Bendl.* 60.

It is reported in *Dyer*, p. 266, that if the host require his guests to put his goods in such a chamber, under lock and key, and that then he will warrant their safety; or else not, and notwithstanding the guest suffer them to remain in an outer court, whence they are stolen, no action lies against the host; for they are not lost through the neglect of the host, but of the guest;—in the case of *Spenser*. But in *Moor*, 78, the same point seems to be holden otherwise; and that the host cannot discharge himself of this branch of his duty by such a declaration as this.

If the host deliver the key of the chamber,

where the goods are, to the guest, and he leaves the door open, and the goods are stolen, yet the action lies against the host; for, at his peril, he ought to keep safely the goods of his guests. (8 Co. 33.) But it is said, if an host demand of his guest what money or goods he has, and he tell him none, or less in truth than he actually possesses, if afterwards they are lost, the host is not answerable.

CASES IN POINT.

Who is such a Guest as may charge an Innkeeper.

1. If a man comes to an inn with a hamper, or basket, in which he hath several goods, and goes away, leaving this with the host, and two days after comes again; but if in the time of his absence the basket or hamper is stolen, he shall have no action against the host; for, at the time of its being stolen, he was not his guest, and by keeping the hamper the host had no benefit, and therefore shall not be charged with the loss of it in his absence.—*Cro. Jac.* 188; *Noy.* 126.

2. If A. comes with goods to an inn, in London, and stays there for a week, a month, or longer, and is there robbed of them, he shall have an action against his host, though, perhaps, being at the end of the journey, he cannot then be said *transcurs*, or passing, according to the writ in the register. If a man, upon a special agreement, boards or sojourns

in an inn, and is robbed, the host shall not answer for it. (*Latch. 127.*) And so if the guest delivers the goods to the host upon another account, he shall not be charged, if lost or stolen.—1 *Rol. Abr. 3.*

3. If a man comes to an inn with a horse, which he rides, and leaves it with the host, and goes away from the inn for several days, and in his absence the horse is stolen, then shall the host be charged for it, because he had benefit by the continuance of the horse with him, inasmuch as he is to be paid for it, and as the owner is a sufficient guest to maintain an action.—1 *Rol. Abr. 3.*

4. If a man, travelling on his master's business, comes to an inn with his master's horse, which is there stolen, the master may have an action against the host, because the absolute property is in him.—*Cro. Ja. 224.*

But if a person takes another's horse, and rides him to an inn, where he is stolen, the owner shall not have an action against the host, but must seek his remedy against the taker. (1 *Rol. Abr. 3.*) If one joint tenant of goods is robbed at an inn, both may have an action.—*Latch. 127.*

But a livery stable keeper seems to differ widely from an innkeeper; for, from the agreement in the case of Francis and Wyat, reported in 3 *Burrows*, 1500, it appears that a livery stable keeper cannot detain horses as an innkeeper may, because he is not obliged by law to receive them, as an innkeeper is,

and stands only on the foot of a special agreement, whereby he gives credit to the person sending, not the thing received; that, therefore, a chariot put up at a livery stable keeper's, may be distrained by the landlord of the premises for rent in arrear; for the privilege of exemption of cattle or goods from being liable to distress in inns, rests upon their being in the place, by authority of law, and because the law gives liberty to put them there; but a chariot at a livery stable keeper's is not there by authority of law, but on a mere private contract; and the owner of it appears to be no more than an ordinary under-tenant, and can have no reasonable pretence to be exempt from the general law of distresses.

Innkeepers' Remedies against their Guests.

1. They may detain the person of the guest, who eats, or the horse which eats, till payment; and this they may do without any agreement for that purpose; for it would be hard to oblige him to sue for every little debt, and a greater hardship that he might not be able to find him who was his guest.—1 *Show.* 269.

Since innkeepers are bound by the law to receive guests, for that reason they may detain their goods till they are paid (1 *Salk*, 338.). And by statute (11 and 12 *William III. c. 15, sec. 2*) it is enacted, that if any innkeeper, alehouse-keeper, victualler, or sutler, in giving any account or reckoning in writing, or otherwise, shall refuse or deny to give in the

particular number of quarts, or pints, or shall sell in measures unmarked, it shall not be lawful for him, for default of payment of such reckoning, to detain any goods, or other things, belonging to the person or persons from whom such reckoning shall be due, but he shall be left to his action at law for the same, any custom or usage to the contrary notwithstanding; for men that get their livelihood by entertainment of others, cannot annex such disobliging conditions, that they shall retain the parties' property in case of non-payment, nor make such disadvantageous and impudent a supposition, that they shall not be paid; and therefore the law annexes such a condition, without the express agreement of the parties.—2 *Roll. Abr.* 8, 5; *Cro. Car.* 271.

If A. injuriously takes away the horse of B., and put him into an inn to be kept, and B. comes and demands him, he shall not have him until he has satisfied him for his meat; for when an innkeeper takes a horse into his keeping, he is not bound to inquire who is the owner of the horse, which he is obliged to keep, let it belong to whom it may; and therefore no reason that the innkeeper should be obliged to deliver him until he is satisfied.—2 *Roll. Abr. Yelv.* 97.

8. An innkeeper that detains a horse for his meat, cannot use him, because he detains him as in the custody of the law; and by consequence, the detention must be in the name of a distress

which cannot be used by the distrainers.—2 *Roll Rep.* 438.

4. But by the custom of *London* and *Exeter*, if a man commit a horse to an ostler, and he eat out the price of his head, the ostler may take him as his own, upon the reasonable appraisement of four of his neighbours; which was, it seems, a custom arising from the abundance of traffic with strangers, who could not be known to charge them with the action; but the innkeeper hath no power to sell the horse, by the general custom of the whole kingdom.—3 *Bulst.* 271; *Yelv.* 67.

If A. commit a horse of B. to an ostler, in London, and he eat out his head, yet the ostler cannot sell him. For all customs being derogatory to the common law, are to be taken strictly; and there is no custom of London that hath gone so far in this case, as to authorise one man to sell and convey the property of another.—2 *Roll. Abr.* 85.

5. In trover for three horses, the defendant pleaded that he kept a public inn at Glastonbury; that the plaintiff was a carrier, and used to set up his horses there; and 36*l.* being due to him for keeping the horses, which was more than they were worth, he detained and sold them, as well as he might. But on demurrer, judgment was given for the plaintiff; an innkeeper having no power to sell horses, except within the city of London. And besides, when the horses had been once out, the power of detaining

them for what was due before, did not subsist at their coming in again.—*Strange*, 557; *East*, *Geo. I. Jones and Pearle*.

6. If a horse be committed to an innkeeper, he may detain for the meat of the horse, but not for the meat of the guest; for the chattels are only in the custody of the law for the debt that arises from the thing itself, and not from the same party; for the law is open for all such debts, and doth not admit private persons to take reprisals.—*2 Rol. Rep.* 438.

7. If a horse be committed to an innkeeper, and be detained by him for his meat, and the owner take him away, the innkeeper must make fresh pursuit after him and retake him, otherwise the custody of him is lost; for he cannot retake him at any other time. For if a distress be rescued, and the party upon fresh pursuit do not retake it, the distress is lost; for no man that has only a naked custody, can make a reprisal when the thing is out of his custody; for it is the power of an owner and a proprietor, and of him only, to retake such his property, wherever he finds it.—*2 Rol. Rep.* 438.

8. But if a horse be committed to an ostler, and he detains him for his meat, and after the owner comes to an agreement that the ostler shall retain him till he is satisfied, here he hath not only the custody of him as a distress, but also the property in him as a pledge; and if the owner take him from

him, he shall not only retake it upon fresh pursuit, but wherever he meets it; because he had a property by such a contract; and a man that hath a property, may retake his own wherever he meets with it.—2 *Rol. Rep.* 438.

9. Upon evidence, the case was, a man had a horse in an inn, and came thither, and directed that the innkeeper should not give him any more food, for he would not be responsible for it; and the question was, whether for the food, after this direction given to the innkeeper, he who brought the horse thither shall be charged, or not? and Holt, C. J. at first inclined that this is a discharge, and that the horse (though he might be retained by the innkeeper) yet is but in the nature of a distress; and it being in the custody of the innkeeper in his inn, this is a pound covert, and the horse afterwards ought to be found and maintained at the peril of the innkeeper; but after *mutata opinione*, he directed that this was not a discharge; for then any innkeeper might be deceived, and it is the lessening of the security of an innkeeper, who may detain, and, by the custom of London, sell the horse for his keeping.

10. If a man commit his horse to an innkeeper, and he put him to pasture, he may detain the horse until he is satisfied for the meat; for the pasture of such persons, set up by the law for entertainment, hath the same privilege with the stables.—2 *Rol. Abr.* 86.

11. If a person comes to an inn, and makes a previous contract for lodging for a set time, and does not eat and drink there, he is no guest, but a lodger, and as such, is not under the innkeeper's protection; but if he eats and drinks there, it is otherwise, or if he pays for his diet there, though he does not eat it there.—*12 Mod. Rep. 254.*

12. If a man's servant, travelling on his master's business, comes to an inn with his master's horse, which is there stolen, the master may have an action against the host, because the absolute property is in him.—*Croke Jack, 224.*

So if A. sends money by his friend, and he is robbed in an inn, A. shall have the action.

But in all these actions the plaintiff must prove that the defendant kept a common inn, and that he, his son, or servants was a guest at the time; and that the goods were brought within the inn, and remained under the care of the defendant.—*Buller's Nisi Prius, 8vo. edit. 73.*

REGULATIONS OF SOLDIERS QUARTERED.

Directions and Cautions.

By an Act passed 25th day of March, 1800, cap. 27, it is ordered, that in case any person shall find himself aggrieved, in that any constable, tything-man, or headborough, chief officer, or magistrate, (such

chief officer or magistrate not being a justice of the peace) has quartered or billeted in his house a greater number of soldiers than he ought to bear, in proportion to his neighbours, and shall complain thereof to one or more justices of the peace of the division, city, or liberty, where such soldiers are quartered; or in case such chief officer or magistrate shall be a justice of the peace; then, on complaint made to two or more justices of the peace of such division, city, or liberty, such justices respectively shall have, and have hereby a power to relieve such person, by ordering such and so many of the soldiers to be removed and quartered upon such other person or persons as they shall see cause; and such other person or persons shall be obliged to receive such soldiers accordingly. No justice having any military office, to be concerned in billeting his soldiers.

The high constables, headboroughs, and tythingmen, are authorised to billet the soldiers in Westminster, &c.

Petty constables, &c. can quarter soldiers in their respective divisions.

The constables in Westminster must deliver lists upon oath, at every quarter sessions, of every person obliged to receive soldiers; and such lists the clerk of the peace must shew to any housekeeper, without any fee; copies of the same may be had at two pence a sheet of one hundred and fifty words.

Officers, men, and horses, belonging to the horse or dragoons, are to be quartered, &c. Dragoons, &c. quartered on persons who have no stables, may be removed to those who have stables.

Dragoons and their horses are to be billeted in the same houses.

Commanding officers may exchange any men or horses quartered in any town or place, with another man or horse quartered in the same place, for the benefit of the service.

Any justice of the peace may order constables to give an account of the number of soldiers quartered.

If innholders furnish the men quartered on them with candles, vinegar, and salt, gratis, (except when on a march,) by giving the soldiers use of the fire, and other utensils, for dressing and eating their meat, such soldiers shall provide their victuals and small beer.

Officers must give notice to innkeepers of subsistence money in their hands; which shall be within four days, at the furthest, after the receipt of the same, as aforesaid; and the said innkeepers and others shall then and there acquaint such officer or officers with the accounts or debts (if any shall be) between them and the officers and soldiers so quartered in their respective houses; which accounts the said officer or officers is or are hereby required to accept

of, and immediately pay the same, before any part of the said pay or subsistence be distributed, either to the officers or soldiers : provided the said accounts exceed not, for a commissioned officer of horse, being under the degree of captain, for such officer's diet and small beer, per day, two shillings ; nor for one commissioned officer of dragoons, being under the degree of a captain, for such officer's diet and small beer, per day, one shilling ; nor for one commissioned officer of foot, under the degree of a captain, for such officer's diet and small beer, per day, one shilling ; and if such officer shall have a horse or horses, for each, for their hay and straw, per day, six pence ; nor for one light horseman's diet and small beer, per day, seven pence ; and hay and straw for his horse, per day, six pence ; nor for one dragoon's diet and small beer, per day, seven pence ; and hay and straw for his horse, per day, six pence ; nor for one foot soldier's diet and small beer, per day, five pence ; and if any officer or officers, as aforesaid, shall not give notice, as aforesaid, and shall not immediately, upon producing such account stated, satisfy, content, and pay the same, upon proof thereof, shall be declared cashiered.

No wives or children may be quartered in any house against the consent of the landlord.

An Abstract of another Act, for increasing the Rates of Subsistence to Innkeepers and others, on quartering Soldiers passed in England, Wales, and the town of Berwick-upon-Tweed.—[16th May, 1800.]

For the better payment of innholders and others, on whom non-commissioned officers and soldiers are quartered and billeted, who shall be furnished with diet and small beer at their quarters; and an option is given to such innholders and others, to furnish certain articles gratis, in lieu of diet and small beer, at the rates prescribed; and whereas the occasion of marching and quartering troops has increased, and may continue, and the rules prescribed for furnishing soldiers with necessaries, from the high price of provisions, inadequate, and are productive of distress to such innholders and others: it is enacted by this Act, That every non-commissioned officer, and private soldier, who shall be furnished with diet and small beer, within the aforesaid part of Great Britain, and for articles which have been furnished gratis in lieu thereof, one half-penny per day to be allowed to the innholders or other persons, on whom such non-commissioned officers and private soldiers shall be quartered and billeted by virtue of the said Act, they shall pay and allow for the same one shilling and four pence per day, and that the accounts of the same shall be

rendered, and payment thereof made, in like manner as is directed in the said Act now in force, touching the former rates of seven pence per day for the cavalry, and five pence per day for the infantry; making for infantry, one shilling and four pence per day, and for cavalry one shilling and two pence per day, for hay and straw, and one shilling and four pence for diet, so furnished by each publican, &c.

It is enacted, That all non-commissioned officers and soldiers shall be entitled to receive their diet and small beer from the innholders and other persons on whom they may be billeted, while on the march; as also on and for the day of their arrival at the place of their final destination, and on the two subsequent days, unless either of the two subsequent days shall be a market day in and for the town and place where such officers or soldiers shall be billeted, or within the distance of two miles thereof, in which case it shall, and may be lawful for the innkeeper, or other person, to discontinue, on and for such market day, the supply of diet and small beer, and to furnish in lieu thereof the articles bed, salt, vinegar, and candles.

Persons paying money to non-commissioned officers or soldiers on a march, in lieu of furnishing diet and small beer, liable to be fined and punished.

When halted on a march, non-commissioned officers and soldiers are entitled to diet and small beer from the persons so quartered, as after arriving at their destination.

And if such halting be only for a day after arrival, and that be a market day, their diet and small beer is not to be discontinued, but to be continued on said market day.

All non-commissioned officers and private men employed in recruiting, and the recruits by them raised, shall, while on the march, and for two days after the day of their arrival at any recruiting station, be entitled to the same benefits as are hereinbefore provided, in regard to troops upon the march; but no recruits, on their recruiting station, shall be entitled to be supplied with diet and small beer, at the rate hereinbefore prescribed, except at the option of the person on whom he shall be quartered: provided also nevertheless, that in case any such recruiting party, with the recruits by them raised, shall remove from their stations, and after a time shall return to the same place, they and the recruits by them raised, so returning, shall not be again entitled to the supply of diet and small beer for such two days as aforesaid, unless the period between the time of their removal from such place, and their return thereto, shall have exceeded twenty-eight days.

The aforesaid Act is to be in full force from the eighteenth of May last, until the 25th day of March, 1801, or until repealed by some future Act.

Limitation of Information against Publicans.

Stat. 1, Will. III. Sess. 1. c. 24, s. 16; 12 and 13 Will. III. c. 11. s. 17.—No information shall be brought against any alehouse-keeper for any mis-entry or offence, but within three months after the offence committed; and notice thereof shall be given him in writing, or left at his dwelling-house within a week after laying and entering the information.

Ed. II. Geo. III. King v. Williams and Davis.—An information was granted against the defendants, as justices of the peace for the borough of Bury, for refusing to grant licences to those alehouse-keepers who voted against their recommendation of candidates for Members of Parliament for that borough. It appeared that they had acted very grossly in this matter, having previously threatened to ruin these people by not granting them licences, in case they should vote against those candidates whose interests these justices espoused; and afterwards actually refusing them licences, on this account only. And Lord Mansfield declared, that the Court granted this information against the justices, not for the mere refusing to grant the licences (which they had a discretion to grant or refuse as they thought proper), but for the corrupt motive for such refusal; for their oppressive and unjust refusing to grant them, because the persons applying for them would not give their votes for Members of Parliament, as the justices would have had them.—*Burr. Mans. 13. 17.*

Mode of Transferring Licences.

A dealer in any exciseable article, on giving up the possession of a house to another person, must, in the first place, assign or transfer his right and title to the licence, by *writing on the back of such licence according to the following form* :—

I do hereby assign and transfer all my right and title to
 this licence to (Christian and surname of new occupier.)
 this day of 18
 (Signature of late occupier.)

Witness

The parties must then attend together at the excise office, the one to withdraw all entries made in his name for the house, and the other (the successor) to make the same entries in his own name, to enable him to receive exciseable articles; and when this has been done, the licence will be allowed to the successor, by order of the commissioners of excise.

If the trader *be a publican*, he must obtain, at the next special meeting of the justices, their *certificate of approval*, and at the same time enter into the recognizance required by law. The certificate is to be produced at the excise office with the licence.

PART VIII.

TABLES AND MISCELLANEOUS MATTERS.

Extracts from the Bill for establishing Uniformity of Weights and Measures.

Whereas, it is necessary, for the security of commerce, and for the good of the community, that weights and measures should be just and uniform; and whereas, notwithstanding it is provided by the Great Charter, that there shall be but one measure and one weight throughout the realm, and by the Treaty of Union between England and Scotland, that the same weights and measures should be used throughout Great Britain as were then established in England, yet different weights and measures, some larger and some less, are still in use in various places throughout the United Kingdom of Great Britain and Ireland, and the true measure of the

present standard is not verily known, which is the cause of great confusion and of manifest frauds: for the remedy and prevention of these evils for the future, and to the end that certain standards of weights and measures should be established throughout the United Kingdom of Great Britain and Ireland;—

“ Be it therefore enacted by the King’s most Excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons in this present Parliament assembled, and by the authority of the same, That a cubic inch of distilled water, weighed in air, by brass weights, at the temperature of sixty-two degrees of Fahrenheit’s thermometer (the barometer being at thirty inches), is equal to two hundred and fifty-two grains and four hundred and fifty-eight thousandth parts of a grain, of which the imperial troy pound contains five thousand seven hundred and sixty.

“ And be it further enacted, That the standard measure of capacity, as well for liquids as for dry goods, not measured by heaped measure, shall be the gallon, containing ten pounds avoirdupoise weight of distilled water, weighed in air at the temperature of sixty-two degrees of Fahrenheit’s thermometer (the barometer being at thirty inches), to be used as well for wine, beer, ale, spirits, and all sorts of liquids, as for dry goods, not measured by heaped measure; and eight such gallons shall be a

bushel, and eight such bushels a quarter of corn or other dry goods, not measured by heaped measure.

“ And be it further enacted, That the standard measure of capacity for coals, culm, lime, fish, potatoes, or fruit, and all other goods and things commonly sold by heaped measure, shall be the aforesaid bushel, containing eighty pounds avoirdupoise of water, as aforesaid; the same being made round, with a plain and even bottom, and being nineteen inches and a half from outside to outside of such standard measure as aforesaid.

“ And be it further enacted, That all contracts, bargains, sales, and dealings, which shall be made or had within any part of the United Kingdom of Great Britain and Ireland, for any work to be done, or for any goods, wares, merchandise, or other things to be sold, delivered, done, or agreed for by weight or measure, where no special agreement shall be made to the contrary, shall be deemed, taken, and construed to be made and had according to the standard weights and measures ascertained by this Act; and in all cases where any special agreement shall be made, with reference to any weight or measure established by local custom, the ratio or proportion which every such local weight or measure shall bear to any of the said standard weights or measures, shall be expressly declared and specified in such agreement, or otherwise such agreement shall be null and void.

“ And whereas it is expedient that persons should

be allowed to use the several weights and measures which they may have in their possession, although such weights and measures may not be in conformity with the standard weights and measures established by this Act; be it therefore enacted, That it shall and may be lawful for any person or persons to buy and sell goods and merchandise by any weights and measures established either by local custom, or founded on special agreement: provided always, That in order that the ratio or proportion which all such measures and weights shall bear to the standard weights and measures established by this Act, shall become a matter of common notoriety; the ratio or proportion which all such customary measures and weights shall bear to the said standard weights and measures, shall be painted or marked upon all such customary weights and measures respectively; and that nothing herein contained shall extend, or be construed to extend, to permit any maker of weights and measures, or any person or persons whomsoever, to make any weight or measure at any time after, except in conformity with the standard weights and measures established under the provisions of this Act.

“ And be it further enacted, That accurate tables shall be prepared and published, shewing the proportions between the weights and measures heretofore in use, as mentioned in such inquisitions, and the weights and measures hereby established;

and after the publication of such tables, all future payments to be made shall be regulated according to such tables.

“ And whereas the weights and measures by which the rates and duties of the customs and excise, and other His Majesty’s revenue, have been heretofore collected, are different from the weights and measures of the same denominations directed by this Act to be universally used : and whereas the alteration of such weights and measures may, without due care had therein, greatly affect His Majesty’s revenue, and tend to the diminishing of the same ; for the prevention thereof, be it therefore enacted, That as soon as conveniently may be, accurate tables shall be prepared and published, in order that the several rates and duties of customs and excise, and other His Majesty’s revenue, may be adjusted and made payable according to the respective quantities of the legal standards directed by this Act to be universally used ; and that from and after the publication of such tables, the several rates and duties thereafter to be collected by any of the officers of His Majesty’s customs or excise, or other His Majesty’s revenue, shall be collected and taken according to the calculations in the tables to be prepared as aforesaid.

TABLE shewing the Proportion of the Wine Gallon to the Imperial Gallon, in Parts of a Gallon, from One Gallon to One Hundred and Sixty Gallons.

Wine Galls.	Imperial Gallons.	Wine Gal's.	Imperial Gallons.	Wine Galls.	Imperial Gallons.	Wine Galls.	Imperial Gallons.
	gals. pts. qts.		gals. pts. qts.		gals. pts. qts.		gals. pts. qts.
1	0 0 2½	38	31 5 1	75	62 3 3½	112	93 2 2
2	1 5 1½	39	32 3 3½	76	63 2 2	113	94 1 0½
3	2 4 0	40	33 2 2	77	64 1 1	114	94 7 3
4	3 2 2½	41	34 1 1	78	64 7 3	115	95 6 2
5	4 1 1½	42	34 7 3½	79	65 6 2	116	96 5 0½
6	5 0 0	43	35 6 2	80	66 5 1	117	97 3 3
7	5 6 2½	44	36 5 1	81	67 3 3½	118	98 2 2
8	6 5 1	45	37 3 3½	82	68 2 2	119	99 1 0½
9	7 4 0	46	38 2 2	83	69 1 1	120	99 7 3
10	8 2 2½	47	39 1 1	84	69 7 3	121	100 6 2
11	9 1 1	48	39 7 3½	85	70 6 2	122	101 5 0½
12	10 0 0	49	40 6 2	86	71 5 1	123	102 3 3
13	10 6 2½	50	41 5 1	87	72 3 3½	124	103 2 2
14	11 5 1	51	42 3 3½	88	73 2 2	125	104 1 0½
15	12 4 0	52	43 2 2	89	74 1 1	126	104 7 3
16	13 2 2½	53	44 1 1	90	74 7 3	127	105 6 1½
17	14 1 1	54	44 7 3½	91	75 6 2	128	106 5 0½
18	15 0 0	55	45 6 2	92	76 5 1	129	107 3 3
19	15 6 2½	56	46 5 1	93	77 3 3½	130	108 2 1½
20	16 5 1	57	47 3 3½	94	78 2 2	131	109 1 0½
21	17 4 0	58	48 2 2	95	79 1 0½	132	109 7 3
22	18 2 2½	59	49 1 1	96	79 7 3	133	110 6 1½
23	19 1 1	60	49 7 3½	97	80 6 2	134	111 5 0½
24	19 7 3½	61	50 6 2	98	81 5 0½	135	112 3 3
25	20 6 2½	62	51 5 1	99	82 3 3½	136	113 2 1½
26	21 5 1	63	52 3 3½	100	83 2 2	137	114 1 0½
27	22 3 3½	64	53 2 2	101	84 1 0½	138	114 7 3
28	23 2 2½	65	54 1 1	102	84 7 3	139	115 6 1½
29	24 1 1	66	54 7 3	103	85 6 2	140	116 5 0
30	24 7 3½	67	55 6 2	104	86 5 0½	141	117 3 3
31	25 6 2½	68	56 5 1	105	87 3 3½	142	118 2 1
32	26 5 1	69	57 3 3½	106	88 2 2	143	119 1 0
33	27 3 3½	70	58 2 2	107	89 1 1	144	119 7 3
34	28 2 2½	71	59 1 1	108	89 7 3	145	120 6 1
35	29 1 1	72	59 7 3	109	90 6 2	150	124 7 3
36	29 7 3½	73	60 6 2	110	91 5 0½	160	133 2 1½
37	30 6 2	74	61 5 1	111	92 3 3		

TABLE shewing the Proportion of the Ale Gallon to the Imperial Gallon, in parts of a Gallon, from One Gallon to Two Hundred Gallons.

Ale Galls.	Imperial Gallons.	Ale Galls.	Imperial Gallons.	Ale Galls.	Imperial Gallons.	Ale Galls.	Imperial Gallons.
	gal. pts. qrs.		gal. pts. qrs.		gal. pts. qrs.		gal. pts. qrs.
1	1 0 0	35	35 4 3	69	70 1 1½	103	104 6 0
2	2 0 1	36	36 4 3½	70	71 1 2	104	105 6 0½
3	3 0 1½	37	37 5 0	71	72 1 2½	105	106 6 1
4	4 0 2	38	38 5 0½	72	73 1 3	106	107 6 1½
5	5 0 3	39	39 5 1	73	74 1 3½	107	108 6 2
6	6 0 3½	40	40 5 2	74	75 2 0	108	109 6 3
7	7 1 0	41	41 5 2½	75	76 2 1	109	110 6 3½
8	8 1 0½	42	42 5 3	76	77 2 1½	110	111 7 0
9	9 1 1	43	43 5 3½	77	78 2 2	111	112 7 0½
10	10 1 1½	44	44 6 0	78	79 2 2½	112	113 7 1
11	11 1 2	45	45 6 0½	79	80 2 3	113	114 7 1½
12	12 1 2½	46	46 6 1	80	81 2 3½	114	115 7 2
13	13 1 3	47	47 6 1½	81	82 3 0	115	116 7 2½
14	14 1 3½	48	48 6 2	82	83 3 0½	116	117 7 3
15	15 2 0½	49	49 6 2½	83	84 3 1	117	118 7 3½
16	16 2 1	50	50 6 3	84	85 3 2	118	120 0 0½
17	17 2 1½	51	51 7 0	85	86 3 2½	119	121 0 1
18	18 2 2	52	52 7 0½	86	87 3 3	120	122 0 1½
19	19 2 2½	53	53 7 1	87	88 3 3½	125	127 1 0
20	20 2 3	54	54 7 1½	88	89 4 0	130	132 1 3
21	21 2 3½	55	55 7 2	89	90 4 0½	135	137 2 2
22	22 3 0	56	56 7 2½	90	91 4 1	140	142 3 0½
23	23 3 0½	57	57 7 3	91	92 4 1½	145	147 3 3½
24	24 3 1	58	58 7 3½	92	93 4 2	150	152 4 2½
25	25 3 1½	59	60 0 0	93	94 4 2½	155	157 5 1
26	26 3 2	60	61 0 0½	94	95 4 3	160	162 5 3½
27	27 3 2½	61	62 0 1	95	96 5 0	165	167 6 2½
28	28 3 3	62	63 0 1½	96	97 5 0½	170	172 7 1
29	29 3 3½	63	64 0 2	97	98 5 1	175	178 0 0
30	30 4 0	64	65 0 3	98	99 5 1½	180	183 0 3
31	31 4 1	65	66 0 3½	99	100 5 2	185	188 1 1
32	32 4 1½	66	67 1 0	100	101 5 2½	190	193 1 3½
33	33 4 2	67	68 1 0½	101	102 5 3	195	198 2 2
34	34 4 2½	68	69 1 1	102	103 5 3½	200	203 3 1

TABLE shewing the Proportion of the Irish Gallon to the Imperial Gallon, in Parts of a Gallon, from One Gallon to Two Hundred Gallons.

Irish Galln.	Imperial Gallons.			Irish Galln.	Imperial Gallons.			Irish Galln.	Imperial Gallons.			Irish Galln.	Imperial Gallons.		
	gals.	pts.	qrs.		gals.	pts.	qrs.		gals.	pts.	qrs.		gals.	pts.	qrs.
1	0	6	1	42	32	7	8	83	65	1	0	124	97	2	2
2	1	4	2	43	33	6	0	84	65	7	1	125	98	0	3
3	2	2	3	44	34	4	1	85	66	5	2	126	98	7	0
4	3	1	0 $\frac{1}{2}$	45	35	2	2	86	67	3	3 $\frac{1}{2}$	127	99	5	1
5	3	7	1 $\frac{1}{2}$	46	36	0	3	87	68	2	1	128	100	3	2
6	4	5	2	47	36	7	0	88	69	0	2	129	101	1	3
7	5	3	3 $\frac{1}{2}$	48	37	5	0	89	69	6	3	130	102	0	0
8	6	2	1	49	38	3	1 $\frac{1}{2}$	90	70	5	0	131	102	6	1
9	7	0	2	50	39	1	3	91	71	3	1	132	103	4	3
10	7	6	3	51	40	0	0	92	72	1	2	133	104	3	0
11	8	5	0	52	40	6	1	93	72	7	3	134	105	1	1
12	9	3	1 $\frac{1}{2}$	53	41	4	3	94	73	6	0	135	105	7	2
13	10	1	2 $\frac{1}{2}$	54	42	3	0	95	74	4	1 $\frac{1}{2}$	136	106	5	3
14	10	7	3 $\frac{1}{2}$	55	43	1	1	96	75	2	3	137	107	4	0
15	11	6	0 $\frac{1}{2}$	56	43	7	2 $\frac{1}{2}$	97	76	1	0	138	108	2	1
16	12	4	2	57	44	5	3 $\frac{1}{2}$	98	76	7	1	139	109	0	2 $\frac{1}{2}$
17	13	2	3	58	45	4	0 $\frac{1}{2}$	99	77	5	2	140	109	7	0
18	14	1	0	59	46	2	1 $\frac{1}{2}$	100	78	3	3	141	110	5	1
19	14	7	1	60	47	0	3	101	79	2	0	142	111	3	2
20	15	5	2	61	47	7	0	102	80	0	1	143	112	1	3
21	16	3	3	62	48	5	1	103	80	6	2 $\frac{1}{2}$	144	113	0	0
22	17	2	0	63	49	3	2	104	81	5	0	145	113	6	1
23	18	0	1	64	50	1	3	105	82	3	1	146	114	4	2
24	18	6	2	65	51	0	0	106	83	1	2	147	115	2	3
25	19	5	0	66	51	6	1	107	83	7	3	148	116	1	0 $\frac{1}{2}$
26	20	3	1	67	52	4	2 $\frac{1}{2}$	108	84	6	0	149	116	7	2
27	21	1	2	68	53	2	3 $\frac{1}{2}$	109	85	4	1	150	117	5	3
28	21	7	3	69	54	1	1	110	86	2	2	151	118	4	0
29	22	6	0	70	54	7	2	111	87	0	3 $\frac{1}{2}$	152	119	2	1
30	23	4	1	71	55	5	3	112	87	7	1	153	120	0	2
31	24	2	2 $\frac{1}{2}$	72	56	4	0	113	88	5	2	154	120	6	3
32	25	0	3 $\frac{1}{2}$	73	57	2	1	114	89	3	3	155	121	5	0 $\frac{1}{2}$
33	25	7	0 $\frac{1}{2}$	74	58	0	2	115	90	2	0	156	122	3	2
34	26	5	2	75	58	6	3	116	91	0	1	157	123	1	3
35	27	3	3	76	59	5	0	117	91	6	2	158	124	0	0
36	28	2	0	77	60	3	1	118	92	4	3	159	124	6	1
37	29	0	1	78	61	1	2 $\frac{1}{2}$	119	93	3	0 $\frac{1}{2}$	160	125	4	2
38	29	6	2	79	62	0	0	120	94	1	2	170	133	3	1
39	30	4	3	80	62	6	1	121	94	7	3	180	141	2	0
40	31	3	0 $\frac{1}{2}$	81	63	4	2	122	95	6	0	190	149	0	3
41	32	1	2	82	64	2	3	123	96	4	1	200	156	7	3

TABLE in which the Value per Wine Gallon is shewn, with the corresponding Value in the Imperial Gallon, from One Penny per Gallon to Twenty Shillings.

Price per Wine Gallon.	Price per Imperial Gallon.	Price per Wine Gallon.	Price per Imperial Gallon.	Price per Wine Gallon.	Price per Imperial Gallon.	Price per Wine Gallon.	Price per Imperial Gallon.
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
0 1	0 1 $\frac{1}{4}$	2 11	3 0	5 9	6 11	8 7	10 3 $\frac{1}{2}$
0 2	0 2 $\frac{1}{2}$	3 0	3 7 $\frac{1}{4}$	5 10	7 0	8 8	10 5
0 3	0 3 $\frac{1}{2}$	3 1	3 8 $\frac{1}{2}$	5 11	7 1 $\frac{1}{4}$	8 9	10 6
0 4	0 5	3 2	3 9 $\frac{1}{2}$	6 0	7 2 $\frac{1}{2}$	8 10	10 7
0 5	0 6	3 3	3 11	6 1	7 3 $\frac{1}{2}$	8 11	10 8 $\frac{1}{2}$
0 6	0 7 $\frac{1}{4}$	3 4	4 0	6 2	7 5	9 0	10 9 $\frac{1}{2}$
0 7	0 8 $\frac{1}{2}$	3 5	4 0	6 3	7 6	9 1	10 11
0 8	0 9 $\frac{1}{2}$	3 6	4 2 $\frac{1}{2}$	6 4	7 7 $\frac{1}{4}$	9 2	11 0
0 9	0 10 $\frac{1}{4}$	3 7	4 3 $\frac{1}{4}$	6 5	7 8 $\frac{1}{2}$	9 3	11 1 $\frac{1}{2}$
0 10	1 0	3 8	4 5	6 6	7 9 $\frac{1}{2}$	9 4	11 2 $\frac{1}{2}$
0 11	1 1 $\frac{1}{4}$	3 9	4 6	6 7	7 11	9 5	11 3 $\frac{1}{2}$
1 0	1 2 $\frac{1}{2}$	3 10	4 7 $\frac{1}{4}$	6 8	8 0	9 6	11 5
1 1	1 3 $\frac{1}{2}$	3 11	4 8 $\frac{1}{2}$	6 9	8 1 $\frac{1}{4}$	9 7	11 6
1 2	1 5	4 0	4 9 $\frac{1}{4}$	6 10	8 2 $\frac{1}{2}$	9 8	11 7 $\frac{1}{2}$
1 3	1 6	4 1	4 11	6 11	8 3 $\frac{1}{2}$	9 9	11 8 $\frac{1}{2}$
1 4	1 7 $\frac{1}{4}$	4 2	5 0	7 0	8 5	9 10	11 9 $\frac{1}{2}$
1 5	1 8 $\frac{1}{2}$	4 3	5 1 $\frac{1}{4}$	7 1	8 6	9 11	11 11
1 6	1 9 $\frac{1}{2}$	4 4	5 2 $\frac{1}{2}$	7 2	8 7 $\frac{1}{4}$	10 0	12 0
1 7	1 11	4 5	5 3 $\frac{1}{2}$	7 3	8 8 $\frac{1}{2}$	10 1	12 1 $\frac{1}{2}$
1 8	2 0	4 6	5 5	7 4	8 9 $\frac{1}{4}$	10 2	12 2 $\frac{1}{2}$
1 9	2 1 $\frac{1}{4}$	4 7	5 6	7 5	8 11	10 3	12 3 $\frac{1}{2}$
1 10	2 2 $\frac{1}{2}$	4 8	5 7 $\frac{1}{4}$	7 6	9 0	10 4	12 5
1 11	2 3 $\frac{1}{2}$	4 9	5 8 $\frac{1}{2}$	7 7	9 1 $\frac{1}{4}$	10 5	12 6
2 0	2 5	4 10	5 9 $\frac{1}{2}$	7 8	9 2 $\frac{1}{2}$	10 6	12 7 $\frac{1}{2}$
2 1	2 6	4 11	5 11	7 9	9 3 $\frac{1}{4}$	10 7	12 8 $\frac{1}{2}$
2 2	2 7 $\frac{1}{4}$	5 0	6 0	7 10	9 5	10 8	12 9 $\frac{1}{2}$
2 3	2 8 $\frac{1}{2}$	5 1	6 1 $\frac{1}{4}$	7 11	9 6	10 9	12 11
2 4	2 9 $\frac{1}{2}$	5 2	6 2 $\frac{1}{2}$	8 0	9 7 $\frac{1}{4}$	10 10	13 0
2 5	2 11	5 3	6 3 $\frac{1}{2}$	8 1	9 8 $\frac{1}{2}$	10 11	13 1 $\frac{1}{2}$
2 6	3 0	5 4	6 5	8 2	9 9 $\frac{1}{4}$	11 0	13 2 $\frac{1}{2}$
2 7	3 1 $\frac{1}{4}$	5 5	6 6	8 3	9 11	11 1	13 3 $\frac{1}{2}$
2 8	3 2 $\frac{1}{2}$	5 6	6 7 $\frac{1}{4}$	8 4	10 0	11 2	13 5
2 9	3 3 $\frac{1}{2}$	5 7	6 8 $\frac{1}{2}$	8 5	10 1 $\frac{1}{4}$	11 3	13 6
2 10	3 5	5 8	6 9 $\frac{1}{2}$	8 6	10 2 $\frac{1}{2}$	11 4	13 7 $\frac{1}{2}$

Continuation of preceding Table.

Price per Wine Gallon.		Price per Imperial Gallon.		Price per Wine Gallon.		Price per Imperial Gallon.		Price per Wine Gallon.		Price per Imperial Gallon.		Price per Wine Gallon.		Price per Imperial Gallon.	
s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
11	5	13	8½	13	7	16	3¾	15	9	18	11	17	11	21	6
11	6	13	9½	13	8	16	5	15	10	19	0	18	0	21	7½
11	7	13	11	13	9	16	6	15	11	19	1½	18	1	21	8½
11	8	14	0	13	10	16	7½	16	0	19	2½	18	2	21	9½
11	9	14	1½	13	11	16	8½	16	1	19	3¾	18	3	21	11
11	10	14	2½	14	0	16	9¾	16	2	19	5	18	4	22	0
11	11	14	3¾	14	1	16	11	16	3	19	6	18	5	22	1½
12	0	14	5	14	2	17	0	16	4	19	7½	18	6	22	2½
12	1	14	6	14	3	17	1½	16	5	19	8½	18	7	22	3¾
12	2	14	7½	14	4	17	2½	16	6	19	9¾	18	8	22	5
12	3	14	8½	14	5	17	3¾	16	7	19	11	18	9	22	6
12	4	14	9¾	14	6	17	5	16	8	20	0	18	10	22	7½
12	5	14	11	14	7	17	6	16	9	20	1½	18	11	22	8½
12	6	15	0	14	8	17	7½	16	10	20	2½	19	0	22	9¾
12	7	15	1½	14	9	17	8½	16	11	20	3¾	19	1	22	11
12	8	15	2½	14	10	17	9¾	17	0	20	5	19	2	23	0
12	9	15	3¾	14	11	17	11	17	1	20	6	19	3	23	1½
12	10	15	5	15	0	18	0	17	2	20	7½	19	4	23	2½
12	11	15	6	15	1	18	1½	17	3	20	8½	19	5	23	3¾
13	0	15	7½	15	2	18	2½	17	4	20	9¾	19	6	23	5
13	1	15	8½	15	3	18	3¾	17	5	20	11	19	7	23	6
13	2	15	9¾	15	4	18	5	17	6	21	0	19	8	23	7½
13	3	15	11	15	5	18	6	17	7	21	1½	19	9	23	8½
13	4	16	0	15	6	18	7½	17	8	21	2½	19	10	23	9¾
13	5	16	1½	15	7	18	8½	17	9	21	3¾	19	11	23	11
13	6	16	2½	15	8	18	9¾	17	10	21	5	20	0	24	0

TABLES shewing the Contents of Vessels of various Dimensions, by the Number of Inches that are wet on the Dipping Rule.

Example.—Dip the rule into the vessel containing beer, &c.; and if the rule is wet to 10 inches, there are 21 gallons in it: or if wet to 24 inches, there are 56 gallons 2 quarts, as will be seen on referring to the first Table. All the other Tables are on the same principle.

To gauge a Butt of Beer standing, by Inches; and the Quantity given in Gallons and Quarts, by the Number of wet Inches.

Head diameter, 24 inches.—Bulge, 31 inches.

Wet Inch.	is	Galls.	qts.	Wet Inch.	is	Galls.	qts.
1		1	3	24		56	2
2	3	3	25	.....	59	0
3	5	3	26	.....	62	0
4	7	3	27	.....	64	1
5	10	0	28	.....	66	2
6	11	3	29	.....	69	1
7	14	2	30	.....	72	0
8	16	0	31	.....	74	3
9	18	2	32	.....	77	1
10	21	0	33	.....	80	0
11	23	1	34	.....	82	0
12	26	0	35	.....	84	3
13	28	0	36	.....	87	0
14	30	3	37	.....	89	2
15	33	1	38	.....	92	0
16	36	0	39	.....	93	2
17	38	3	40	.....	96	1
18	41	2	41	.....	98	0
19	43	3	42	.....	100	1
20	46	0	43	.....	102	1
21	49	0	44	.....	104	1
22	51	0	45	.....	106	1
23	54	2	46	.....	108	0

*To gauge a short Butt of Beer standing.*Head diameter, $25\frac{1}{2}$ inches.—Bulge, 32 inches.

Wet Inch.	is	Galls. qts.	Wet Inch.	is	Galls. qts.
1		2 0	23		58 0
2	4 0	24	.....	60 2
3	6 0	25	.....	63 3
4	8 1	26	.....	66 0
5	10 2	27	.....	68 3
6	13 0	28	.....	71 3
7	15 1	29	.....	74 3
8	17 3	30	.....	77 3
9	20 1	31	.....	80 1
10	22 3	32	.....	82 3
11	25 1	33	.....	85 1
12	27 3	34	.....	87 3
13	30 1	35	.....	90 1
14	33 1	36	.....	92 3
15	36 1	37	.....	95 0
16	39 1	38	.....	97 2
17	42 0	39	.....	99 3
18	44 3	40	.....	102 0
19	47 2	41	.....	104 0
20	50 0	42	.....	106 0
21	52 3	43	.....	108 0
22	55 1			

*To gauge a Beer Puncheon standing.*Head-diameter, $23\frac{1}{2}$ inches.—Bulge, 28 inches.

Wet Inch.	is	Galls. qts.	Wet Inch.	is	Galls. qts.
1		1 2	19		38 1
2	3 1	20	.....	40 2
3	5 0	21	.....	42 2
4	6 3	22	.....	44 2
5	8 2	23	.....	47 0
6	10 2	24	.....	49 1
7	12 2	25	.....	51 2
8	14 2	26	.....	53 2
9	16 2	27	.....	55 2
10	18 2	28	.....	57 2
11	20 2	29	.....	59 2
12	22 3	30	.....	61 2
13	25 0	31	.....	63 2
14	27 2	32	.....	65 1
15	29 2	33	.....	67 0
16	31 2	34	.....	68 3
17	33 3	35	.....	70 3
18	36 0	36	.....	72 0

To gauge a Hogshead standing.

Head diameter, 22 inches.—Bulge, 26 inches.

Wet Inch.		Galls. qts.	Wet Inch.		Galls. qts.
1	is	1 2	17	is	29 3
2	.....	2 3	18	.....	31 3
3	.....	4 1	19	.....	33 2
4	.....	5 2	20	.....	35 2
5	.....	7 1	21	.....	37 2
6	.....	9 0	22	.....	39 2
7	.....	11 0	23	.....	41 1
8	.....	12 3	24	.....	43 0
9	.....	14 2	25	.....	44 2
10	.....	16 2	26	.....	46 2
11	.....	18 2	27	.....	48 1
12	.....	20 2	28	.....	49 3
13	.....	22 1	29	.....	51 1
14	.....	24 1	30	.....	52 2
15	.....	26 1	31 $\frac{1}{2}$	.....	54 0
16	.....	27 3			

To gauge a Hogshead lying.

Head diameter, 22 inches.—Length, 31 inches.

Wet Inch.		Galls. qts.	Wet Inch.		Galls. qts.
1	is	0 2	14	is	30 0
2	.....	1 2	15	.....	33 0
3	.....	2 3	16	.....	35 3
4	.....	4 1	17	.....	38 2
5	.....	6 0	18	.....	41 0
6	.....	8 2	19	.....	43 1
7	.....	10 3	20	.....	45 2
8	.....	13 0	21	.....	48 0
9	.....	15 2	22	.....	49 3
10	.....	18 1	23	.....	51 1
11	.....	21 0	24	.....	52 2
12	.....	24 0	25	.....	53 2
13	.....	27 0	26	.....	54 1

*To gauge a Half Hogshead.*Head diameter, $17\frac{1}{2}$ inches.—Length, 24 inches.

Wet Inch.		Galls.	qts.	Wet Inch.		Galls.	qts.
1	is	0	1	12	is	15	2
2	.....	1	0	13	.....	17	0
3	.....	1	3	14	.....	18	0
4	.....	2	3	15	.....	20	0
5	.....	4	0	16	.....	21	2
6	.....	5	2	17	.....	23	0
7	.....	7	0	18	.....	24	1
8	.....	8	1	19	.....	25	1
9	.....	10	0	20	.....	26	0
10	.....	11	2	21	.....	26	3
11	.....	13	2	21 $\frac{1}{2}$	.....	27	0

*To gauge a Barrel lying.*Head diameter, 20 inches.—Length, $26\frac{1}{2}$ inches.

Wet Inch.		Galls.	qts.	Wet Inch.		Galls.	qts.
1	is	0	2	13	is	21	2
2	.....	1	1	14	.....	23	2
3	.....	2	1	15	.....	25	2
4	.....	3	2	16	.....	27	2
5	.....	5	1	17	.....	29	1
6	.....	6	3	18	.....	30	3
7	.....	8	2	19	.....	32	2
8	.....	10	2	20	.....	33	3
9	.....	12	2	21	.....	34	3
10	.....	14	2	22	.....	35	2
11	.....	16	3	23	.....	36	0
12	.....	19	1				

The preceding Tables are calculated to the old ale gallon ; but the difference between that and the new imperial measure being trifling (about one gallon in sixty) in small quantities, it is not worth notice ; and for larger quantities, an allowance may be made in that proportion.

Of purchasing Wine and Spirits.

In purchasing foreign wine and spirits, it is particularly recommended to the *retailer* to purchase them at the Docks, where his sale admits of it, the price, exclusive of duty (particularly in spirits) is so trifling; and as they may be allowed to remain in the warehouses after they are bought, giving bond for the payment of the duty when taken out for home consumption. Having bought spirits of the highest over-proof strength that can be met with, excepting rum, (the flavour being finer in lower strengths, from 14 to 20 *per cent.* over proof) and paid the importer's price, he can take out one piece at a time on paying the duty; the remainder is improving by age, and the advantage in the over-proof is considerable; taking care to ascertain, by the hydrometer, that the spirit is of the strength represented; when taken home, the over-proof must be reduced in the presence of the officer of excise, to prevent an improper increase of stock. To reduce it to any strength required, see the examples for that purpose.

Contents, in cubic Inches, of the different Measures.

Imperial gallon contains	277.274	cubic inches
Old ale gallon	282	do.
Old wine do.	231	do.
Old Irish do	217.6	do.

Of reducing Spirits.

In mixing spirits of different prices, to sell them at a reduced rate, and to ascertain beforehand how much of each must be used, proceed as follows:— Multiply each quantity separately by its price per gallon; add the products together, and divide the total by the number of gallons in the whole, the quotient will be the value of the mixture per gallon; as for example:—

	£. s.
30 gallons of Cognac brandy, at 23/ per gallon . . .	34 10
25 do. Bordeaux do. . . 22/ . . do.	27 10
20 do. British do. . . . 12/ . . do	12 0
75 gallons	£. 74. 0

£.
74
20 gallons.
75
75)1480(19s. 8½d. per gallon.
75
730
675
55
12
75)660(8d.
600
60
4
75)240(¼
225
15

	£. s.	
40 gallons of Jamaica rum, at 13/ per gallon	26 0	
6 do. good porter . . . 1/6 do.	0 9	
6 do. water	0 0	
52 gallons	£. 26 9	
	£. s.	
	26 9	
	20	
	52)529(10s. 2d. per gallon.	
	52	
	9	
	12	
	52)108(2d.	
	104	
	4	
	4	

Rules for calculating the Strength of Spirits.

RULE 1.—To bring the strength to hydrometer proof, divide the quantity by its strength over or under hydrometer proof; if over proof, *add* the quotient to the quantity; if under proof, *deduct* it therefrom, which gives the quantity at hydrometer proof.

Example 1.—To 120 gallons of spirit, at 1 to 10 over proof, what quantity of liquor will be necessary to reduce it to hydrometer proof?

Gallons.		
10)120		
	12	Liquor to be added.
	132	Quantity when lowered.
	132	

Example 2.—In 120 gallons of spirit at 1 in 10 under proof, how many gallons at hydrometer proof?

$$\begin{array}{r}
 \text{Gallons.} \\
 10 \overline{)120} \\
 \underline{12} \quad \text{Subtract.} \\
 \underline{\underline{108}} \quad \text{Gallons at hydrometer proof.}
 \end{array}$$

RULE 2.—If the spirit be of the strength of 5 in 6, or 7 in 8, &c. under hydrometer proof, divide by the last figure, and the quotient will be the quantity at hydrometer proof.

Example 3.—In 120 gallons at 5 in 6 under proof, how many gallons at hydrometer proof?

$$\begin{array}{r}
 6 \overline{)120} \\
 \underline{\quad} \\
 \underline{\underline{20}} \quad \text{Gallons at hydrometer proof.}
 \end{array}$$

FINIS.