

A

PRACTICAL TREATISE

ON

MALTING AND BREWING,

WITH AN

HISTORICAL ACCOUNT

OF THE

MALT TRADE AND LAWS,

DEDUCED FROM FORTY YEARS' EXPERIENCE.

By WILLIAM FORD,

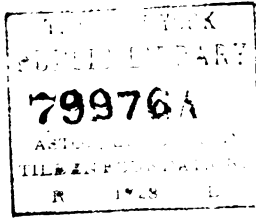
SECRETARY TO THE MALTSTERS' ASSOCIATION.

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1862.



[ENTERED AT STATIONERS' HALL.]

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P R E F A C E.

It has been my aim to render the present Work as comprehensive as possible, including, for the first time, Plans and Proportions for the correct construction, and materials for building Maltings of any capacity.

These Plans and Calculations are, in fact, an important feature of the Work, inasmuch as neither Surveyor, Architect, Builder, or Maltster had hitherto any correct data to work upon.

I have also brought down the Statutes and Decisions, as far as practicable, to the moment of publication, making the Work one of useful reference.

WILLIAM FORD.

Howes 12 Jan. 1923

INTRODUCTION.

THE encouragement experienced in the first edition, published 1849, together with the important alteration in the Laws and Regulations since that date ; and further, the author being solicited to prepare a second edition, he feels justified in so doing.

The object of this work is to present a full explanation of the Malt Trade in all its connections, showing its national importance, decline, and the causes that have produced that decline demonstrated by a summary of facts, the whole supported by authentic statistics, arranging alphabetically those clauses of the various Acts of Parliament remaining in force, that contain the regulations, restrictions, and penalties to which the Maltster is at present subject. This summary is the more needful, considering the fact that since the reign of Queen Anne there has not been passed one Consolidation Act, properly so called.

The leading duties of the officers of Excise are likewise explained, as set forth by the Board.

There is also given a practical treatise upon malting and brewing,—that upon malting being the main feature of the work, is given in the most explanatory form of

instruction, from the choice of barley suited for making malt for the various purposes for which malt is used; the manufacture is most correctly treated of, from steeping to drying. The correct proportions for building a malt-house, and material best suited for the cisterns, floors, and kilns; illustrated with plans and sections for brown and pale malt-houses and kilns. A simple method of gauging the contents of cisterns and couch, by which the most inexperienced may at all times check the officer and ascertain the exact amount of duty chargeable upon each steeping. An historical account of the articles, malt, beer, and hops, with observations on the objectionable points in the present regulations of Excise, and the suggestion of a corresponding remedy, are subjects specially treated on in their proper place. The work comprehends a statistical account of the annual consumption of malt and beer, together with some explanations of the causes which have produced the gradual decline in the use of this invaluable national beverage, a result unfortunately hastened by the excessive and unequal taxation of beer as compared with that upon its foreign and other substitutes, such as tea, coffee, cocoa, chicory, spirits, wine, and cyder. The whole is concluded by correct tables and rates of duties, and a history of the consumption of those competing articles, the better to render such comparison obviously operating to the detriment of one of the most essential articles in our home manufacture.

REMINISCENCES OF THE MALT TRADE.

Before commencing my Practical Treatise on Malting, I wish this opinion to be well established, in fact to become, if possible, a maxim in the trade: *Every maltster ought to be a good brewer, and every brewer a good maltster.* It is to be feared that the opinion is but too well founded, that more than two-thirds of the free victuallers and retail brewers of England are ignorant of the most essential part of the business; they are not capable of ascertaining the real quality of the malt they use. It is possible for an old woman to brew and make drinkable beer in a saucepan, but when a brewer desires to brew for sale, something more than this saucepan-kind of knowledge is requisite; there must of necessity be equality of strength, colour, and flavour, and at a given price; to do this it is absolutely necessary to know the real quality of the wort; after this, a regular and correct system of fermentation. The system of brewing which I here propose to recommend will go sufficiently near perfection to ensure not only a good saleable beer, but also will enable the brewer to know with certainty the value of his malt, and thereby to produce quantity according to the quality of the malt he may be using. I have also given the names and characters of the various qualities of beer and ale brewed both in Great Britain and Germany; and the better to establish my own views upon important scientific points, I have advanced the opinion of the eminent authorities, Dr. Ure and Professor Liebig.

Since the reign of Queen Elizabeth—an era celebrated for monopolies, no trade or manufacture has laboured under so vast a complication of oppressions from fiscal regulations, and other disadvantageous circumstances, as the malt trade; nor does it appear that, even in this age of Free Trade, the malt trade would in any degree have liberated itself, excepting for the celebrated attempt of Government to impose such extravagant restrictions upon the manufacture, during the Session 1827 (7 & 8 Geo. IV.), as to cause an almost total prostration of the malting trade!

This Act not only imposed superabundant restrictions, regulations, and penalties, but fettered and tormented the trade with an additional mode of charge by means of a "certificate" system. This extravagant Act imposed two methods of charge: the first, by means of gauging whilst the malt is under vegetation; and the second, upon dry malt sold and delivered, and added a further vexation by varying the charge or allowance by gauge on the floors. The result was the formation of an Association of Maltsters in the United Kingdom, for the purpose of applying to the Legislature for the suspension of the most obnoxious of the clauses; and their ulterior view was to prepare a respectful, energetic, and united application to Parliament, for a complete investigation of the whole code of the Malt Laws; and to ascertain, if possible, how the various interests could be embodied in one general principle, keeping in view the means of a more effectual and more equal collection of the duty. To be satisfied that an united and general Association was the medium of action best adapted to this particular juncture, it seems only necessary for me to point out the

mischief which local and partial application to the Legislature sometimes does.

In 1806, when a Committee of the House of Commons sat upon the Malt Sprinkling question, that Committee strongly recommended to the House to grant the liberty to sprinkle at the eighth day; accordingly it was promised that the Act should contain a clause to that effect. The country Maltsters accordingly left London with a strong faith in the Minister, and withal "mightily pleased." Another deputation of Maltsters obtained interviews with the Minister, highly condemning the "sprinkling." The result was, that the first deputation had scarcely reached their homes when the Bill reached them; its prominent clause limited this indulgence of "sprinkling" to one year.

Again, in June, 1827, when the before-mentioned Act, 7 & 8 Geo. IV., was being passed into a law, a few spirited men in the trade came to town to watch over the Bill, and to obtain what alterations they possibly could. They offered not a few objections, and having succeeded as they imagined in making out a good case, some of these objectionable clauses they really believed and understood were to be erased forthwith, and upon this understanding these gentlemen left London quite contented. Their surprise when the Act came out I need not explain. In fact success rarely attends any class of trade when its cause is advocated by isolated bodies, whose local interests and petty prejudices too generally clash, and in none more so than that of the Maltster.

It has a tendency also very much to confuse the judgment of those executive officers of the Crown who

may happen to be appealed to; the whole body of the trade are liable to be treated with distrust. I think it will always be found that system, combined with union of effort, as an ordinary rule, alone gives power and commands respect.

And I am satisfied that the interests of the public revenue, as well as of the entire trade, would be better promoted by a nomination of members of Committee, representing the several departments of the trade, who might be constituted as a kind of Consulting Board or Council; and who, upon occasions occurring of any need of conference with the Minister, would alone be delegated to represent the views and requirements of the aggregate body.

The responsibility thus thrown into the hands of accredited and experienced delegates, would at all times be a security to the Government, that the alteration, amendment, or any other kind of recommendation would be as the unanimous voice of the whole trade. The consequent advantages might be reckoned to be invaluable. Had such been the case heretofore, the petty and annoying restrictions with which the manufacturer has been fettered, would not have been in existence; the interest of Government and of the trade would have been more intimately united; and in the event of Government at any time wishing to obtain practical information, they would be able promptly, and with ease, to obtain it, without being burdened by partial, interested, or local communications; and thus escape the perplexity of suggesting exceptionable laws and taxation, founded on the basis of *ex-parte* information.

The consistency of opposition to this celebrated Act,

7 & 8 Geo. IV., cannot be better proved than by stating the result of the Maltsters' first general meeting in London, held upon the subject. After one interview with the First Lord of the Treasury, Lord Goderich, for the purpose of explanation, their requests were granted, sanctioned by Treasury order, and after three years' continued labour, the Association succeeded in obtaining the repeal of no less than two-thirds of the restrictions and penalties by which the trade had been fettered.

The old host of a hundred-and-one restrictions are here introduced as a remembrance of the labours of the Association; and at the same time, as a very neat sample of what is called the "abundance of the law."

Maltsters were subject by the Acts of the 7th & 8th Geo. IV. to the following penalties:—

Sec.	£
1. Relative to Entries:—Every maltster to make a true and particular entry, in writing, of every building, place, cistern, couch frame, kiln, and other vessel or utensil, and particular purpose for which it is to be used; using without entry, or for any different purpose, £100 penalty on each, or 6 of £100	600
3 and 4. Relate to Certificates from Supervisor:—Steeping corn without certificate from supervisor that cistern is properly constructed	100
Not keeping and maintaining requisite means for officers to gauge cisterns	100
Maltster or his servant not aiding and assisting officer	100
5.* Using couch frames not constructed as specified	100
And forfeiture of all corn or grain therein.	
8. Regarding Specimens:—If any maltster or other person, not being an officer of excise, shall remove or take away any such specimen	200

Sec.	£
Or shall conceal or withhold it	200
Or shall damage or destroy the same	200
Or alter, deface, or obliterate any entry therein	200
Or shall make any entry therein	200
9. For obstructing officers or persons acting in their aid	300
10. <i>Relating to Barley Book :—Not entering barley on the same day as received</i>	100
<i>And in the proper column</i>	100
<i>A true and particular account of the number of bushels</i>	100
<i>With the christian and surname, and place of abode of the person from whom received</i>	100
<i>And the day of its being so received</i>	100
<i>Not entering within three hours after wetting</i>	100
<i>And in the proper column</i>	100
<i>A true and particular account of the quantity</i>	100
<i>The day and particular hour of the day</i>	100
<i>Not entering barley sold or otherwise disposed of</i>	100
<i>In the proper column prepared for such purpose</i>	100
<i>A true and particular account of the quantity</i>	100
<i>The name and residence of persons to whom sold</i>	100
<i>If he neglects or refuses to make such entries</i>	100
<i>Or shall not keep such book as aforesaid</i>	100
<i>Or shall convey away or conceal the same</i>	100
<i>Or shall destroy or tear out any leaf thereof</i>	100
<i>Or cancel, obliterate, destroy, or alter any entry therein</i>	100
<i>Or make any false entry therein</i>	100
<i>Or refuse to permit any officer of excise to inspect such book</i>	100
<i>Or for him to make any minutes therein</i>	100
<i>Or to refuse him taking away such book</i>	100
12. <i>Regarding stock of barley on 5th of July :—Not delivered within ten days after July 5th, of every year, a true and particular account in writing, of all barley in his possession not in process of malting, and number of bushels in each place or building</i>	100
<i>Or delivering a false or untrue account</i>	100

Sec.	£
<i>Or neglecting to show the officer any building or place . . .</i>	100
<i>Or any such barley as aforesaid</i>	100
13. <i>Stock of barley before beginning to wet :—Not giving a true and particular account in writing of the quantity in his custody or possession, describing the buildings or places, and number of bushels in each, 24 hours, at least, before beginning to wet</i>	50
<i>Or giving a false or untrue account</i>	50
<i>Neglecting or refusing to show the officer any building, &c.</i>	50
<i>Or any such barley as aforesaid</i>	50
14. <i>When required by any officer of excise, not placing barley not in operation, in such form as it may be conveniently gauged</i>	100
*20, 21, 22, 23, and 24. Notices to Wet :—A maltster must give 24 hours' notice of wetting at a malt house in a city or market town, and 48 hours elsewhere, of the day and quantity of corn or grain in bushels then to be wetted or steeped, under a penalty of 100	
*If he begins to wet or steep without such notice, or shall steep a greater or less quantity (exceeding the proportion of one in twenty) 100	
If he begins to wet at any time between 8 o'clock in the morning and 2 in the afternoon 100	
<i>If notice is given to steep for 65 hours, he must begin between 8 in the morning and 11 at night</i> 100	
<i>If corn or grain is continued in steep exceeding 55 hours</i> 100	
<i>If the water is drained off before 40 hours</i> 100	
<i>Having given notice to steep 65 hours, corn must be kept under water until the expiration</i> 100	
<i>And if kept any longer than 65 hours</i> 100	
26. <i>If any corn is added to the steep after the officer has taken an account thereof</i>	200
27. <i>Cistern to be emptied between 7 in the morning and 4 in the afternoon</i>	100
28. <i>When corn is steeped 65 hours, cistern to be emptied between 1 in the forenoon and 4 in the afternoon</i>	100

Sec.	£
29. All cisterns in the same house to be emptied at the same time	200
30. No corn to be taken out of any cistern within 96 hours of the last emptying	200
31. Conveying corn from cistern that it cannot be gauged in the couch frame	200
32.* Corn to lay in the couch from the 1st of March to the 1st of December, 26 hours	100
*At any other time of the year 30 hours	100
If all corn is not emptied out of the cistern into the entered couch frame	100
If it is not laid flat and level	100
Or if laid of a greater depth than 30 inches	100
33. Treading or forcing together corn in the cistern or couch frame	100
34. Refusing to assist the officer if required	100
35. <i>Sprinkling or wetting corn or grain making into malt before it has been 12 days out of cistern</i>	200
36. <i>Having more than five floors, including couch frame and kiln, from one cistern</i>	200
37. Floor to be laid in regular forms and level in regular succession of age, and if not so laid	100
<i>If on request of the officer, outward edges are not made straight</i>	100
38. <i>Or if not laid level</i>	100
<i>Mixing corn of different steepings</i>	200
39. Wetting or damping corn after taken from kiln	100
40. <i>Fraudulently concealing or conveying away malt from the sight of the officer</i>	200
<i>And forfeiting such malt.</i>	
41. Maltster removing malt and persons receiving the same before the duty has been charged	200
<i>And forfeiture of malt.</i>	
42. <i>Entry to be made monthly of all malt, or</i>	100
<i>If a false entry be made</i>	100
47. <i>Relating to Certificates :—The certificates to be cut progressively from the printed form</i>	100

Sec.		£
	<i>To be signed by the maltsters, or some persons on his behalf, certifying date</i>	200
	<i>Quantity and quality of malt</i>	200
	<i>To whom sold or sent, of what place</i>	200
	<i>That the duty has been charged thereon</i>	200
	<i>And at what place, and on what maltster such charge has been made</i>	200
	<i>If any maltster shall send out any quantity of malt exceeding four bushels, without a certificate</i>	200
	<i>Or, if to a brewer for sale, in any quantity whatever</i>	200
	<i>Or shall not leave the certificate</i>	200
	<i>Or shall make use of the certificate a second time</i>	200
	<i>Or to accompany other malt than for which it was first cut from such book as aforesaid</i>	200
	<i>Or shall not at the same time make a correspondent entry to certificate aforesaid</i>	200
	<i>Or shall not keep such book as aforesaid</i>	200
	<i>Or shall not deliver up such book to any officer demanding the same</i>	200
	<i>Or permit him to make any minute therein</i>	200
	<i>Or shall convey away or conceal any such book</i>	200
	<i>Or shall destroy or tear out any leaf therefrom</i>	200
	<i>Or cancel, obliterate, or destroy, or alter any entry therein</i>	200
48.	<i>If a maltster refuses or neglects to make an entry of malt sent out in quantities less than four bushels</i>	50
	<i>Or shall not keep a book for such purpose</i>	50
	<i>Or not deliver it to any officer demanding the same</i>	50
	<i>Or permit him to make any minute therein</i>	50
	<i>Or shall convey away or conceal the same</i>	50
	<i>Or shall destroy or tear out any leaf</i>	50
	<i>Or cancel, obliterate, destroy, or alter any entry</i>	50
	<i>Or make a false entry</i>	50
	101 Penalties	£13,500

Of which only 32 remain at this day wholly or partially in force.

NOTE.—Those in italics are repealed. Those marked * are altered.

The Association proposed to Government the adoption of a somewhat novel, but effectual mode of settling the several points at issue; it was this:—That the trade should elect three of their body, for the purpose of meeting a corresponding number of Surveyors-General of Excise, to investigate matters, and to draw up a Report for the sanction of Government. This was done; Sir F. Doyle attending as chairman, with three Surveyors-General of Excise; and E. B. Portman, Esq., M.P., with the representatives of Maltsters—Messrs. Brown, Herepath, and Ford. There were only two points claimed by the Maltsters, which, either wholly or in part, were not conceded by the Government. Here again, the old trick was played in one very important concession, respecting the “Couch Clause.” It had been agreed at the Conference that the objectionable words, “conclusive evidence,” should be expunged; thereby to invest the magistrate with a power to judge of the fraudulent intent: whereas the clause as it then stood, and still remains, leaves the magistrate no power at all; and if literally construed, makes the magistrate little more than an automaton.

Upon this subject it is probably needful to go into further explanation, this being the most important point upon which the trade have reason of complaint; and which it is their duty strenuously to persist in getting altered, so that the spirit and practice of the law may accord more entirely with the contract formed between the trade and Excise in 1829. At the Conference already referred to, the three main points, in addition to those previously granted by Treasury Order, then sought by the trade to be conceded to them, were—firstly, the

Certificate System ; secondly, the leave to Sprinkle at an earlier date ; and lastly, an alteration of the Couch Clause.

The principal difficulty to overcome, was in the "Certificate System ;" the Excise refusing to concede this point, unless a remedy were proposed by the objectors, and upon the following grounds, a memorandum of which is taken from minutes noted down by myself at the Conference.

The Government object thus:—"By the present Couch Gauge, we do not receive the amount we are entitled to, according to the letter and spirit of the law, upon the malt made ; and this is admitted by the trade generally, and was further proved by the experiments tried by Government in 1806, in Scotland, which showed that in seventeen steeps without sprinkling, the average exceeded three-and-a-half per cent. above the quantity charged with duty. Besides, it is further proved by this new system of certificate, imperfect as we admit it to be, it has given an additional revenue,—the first year, of 48,000*l.* above the Couch Charge." Upon these grounds the Government adopted, and most pertinaciously adhered to the favourite "Certificate System."

In the Committee of the Maltsters' Association, representing above 1800 Maltsters, the first question to be cleared was, "Which shall we advocate, a charge upon the dry barley or the malt?" It was agreed that the law, from first to last, had made and declared it a malt duty. Hence the Committee decided upon supporting the principle of a malt charge. The next question was, "How to meet the subject of deficiency?" The Committee unanimously agreed in condemnation of the

Government plan of "Certificate," but as in most cases of finding fault, which is at all times a very easy affair, whether it be of Governmental or other measures, the Committee rested content with their expression of condemnation; and fell short in the supplying a remedy.

And at the Conference it was ably argued by Mr. Brown and Mr. Herepath, firstly, that any addition to the then Couch Charge, would have the effect of imposing an additional tax both upon the labouring community and upon land; secondly, that it was inconsistent with the duty we owe to ourselves that any such proposition should emanate from any other source than the Government.

It may be considered trite to remark, in this place, that as experience teaches the sad lesson, that many of the events of life consist in alternatives, and that stern necessity frequently compels us to choose one of two disagreeable courses, so were the Committee placed on this occasion; for finding the Government, through Sir F. Doyle, fixed and determined in their own views, I conceived it my duty to propose, upon the express agreement that all the other points were to be conceded, that the Committee ought to accommodate itself to the lesser evil; viz.:—the alteration of allowance in the Couch Gauge.

Upon this question a difficulty presented itself to my mind, from the fact of Maltsters keeping their corn in steep for different periods, varying from 40 to 72 hours; the difference of swell between these two periods being equal to 8 per cent.; the short steep paying 8 per cent. less duty than the long steep. I took the steeping medium at 55 hours.

I have been more explicit on this point, owing to the fact that many Maltsters of the present date object to this alteration, as it gives 80,000*l.* additional annual revenue (through not knowing the primary cause of its adoption). The alterations having been acceded to, the next step was to see the contract carried fully into effect. As Secretary to the Association, I begged E. B. Portman, Esq., M.P., to forward to me a correct copy of the Report, previous to its being laid before Government. On the 29th July, I received the following note.

-(COPY.)

No. 4, New Burlington Street, 25th July, 1829.

SIR,

I have great pleasure in sending to you Mr. GOULBURN'S decision on the Report which Sir F. DOYLE and myself made to him on the subject of the Malt Laws. You will perceive that he is disposed to accede to our wishes upon all the points to which we thought it necessary to advert therein, and although there are many minor details, which are not entered upon in our Report, I conceive that they follow for the most part, as of course from the concessions which are promised. Sir F. DOYLE has noted them all, and as soon as the proposed new Bill is before Parliament, I will take care that any omissions shall be notified to you and to Sir F. D. with a view to their being supplied.

I have no Copy of the Report that I can send you as *verbatim*, correct; but the abandonment of the Barley Book, of the Certificate System, and of the conclusiveness of Evidence before Magistrates, the alteration of the Couch Clause, with the concession of Sprinkling at 8 days, were the chief points. The new Regulations, which at our Meeting were discussed, of course were proposed as the concessions which the Maltsters ought to make in return for the boon required. Hoping that Mr. GOULBURN'S letter will be fully satisfactory.

I remain,

Your faithful and obedient,

Mr. W. FORD.

E. B. PORTMAN.

Downing Street, 23rd July, 1829.

MY DEAR SIR,

I have received from Sir FRANCIS DOYLE a Memorandum of what passed at the conference which you and certain gentlemen engaged in the Malt Trade had with him on the 7th inst., on the subject of the Regulations which apply to that Branch of Trade; and I have fully considered the alterations in the Law which were then agreed upon, subject to my approval, as fit to be submitted to Parliament.

I have since had an opportunity of learning the sentiments of other Gentlemen who carry on the Malt Trade in Essex and Hertfordshire; the result has been an approval on my part of the Propositions which have been so submitted to me, and a readiness to give effect to them by Legislative provision at the earliest moment after the Meeting of Parliament.

It must, however, be understood by the several persons interested that I reserve to myself a full power of reverting to the Law, both with respect to Sprinkling and to Certificates, or to originate other effective Regulations, should my present acquiescence in the proposal submitted to me, lead to any material increase of Fraud, or of evasion of Duty, or of any general deterioration of the quality of the article.

With respect to the immediate suspension of the Certificate System, I cannot altogether acquiesce: I consider it necessary, and I do not see any inconvenience likely to flow from it, to take in October next the account of Stock, in the manner now pointed out by law, not indeed from any wish to charge the parties with the Duty on any excess to which they may then be found to be liable, but because, as there is now no sufficient authority for reducing the allowances in Cistern and Couch, I cannot now, nor until the alteration of the Law, procure for the Revenue that protection which has been agreed to be substituted for the Certificate System. I therefore think it indispensable to have the Stock taken; but I shall have every disposition to forego the payment of the Duty on the excesses, so soon as the arrangements now submitted to me shall have been *bonâ fide* carried into effect by Parliament.

I trust that this course will prove satisfactory to the several parties.

I remain, my dear Sir,

Yours, very truly,

E. B. PORTMAN, Esq., M.P.

HENRY GOULBURN.

The Committee had no alternative but to rely upon the vigilance of Mr. Portman. The Government confirmed the Report, and thereupon an Act was passed; but the Committee immediately discovered to their mortification that the "Couch Clause," with all its vexations, had been left unaltered, unabated, except in the allowance in gauging. Being morally convinced that the operation of this clause had occasioned, and would continue to occasion, until legally altered, more vexatious proceedings against the body of Maltsters, than the whole bulk of fiscal regulations affecting the business.

This may seem a strong assertion, yet such was the fact that, from 1830 to 1846, the relations between the trade and the Revenue officers were carried on with comparative ease. But after this date, the Excise, forgetting, whether wilfully or not is rather difficult to determine, at all events they chose to forget the contract of 1829, and thereupon issued printed instructions to their officers, at once novel, arbitrary, and unjust. These fanciful instructions were to this effect:—That every Maltster, in emptying his corn from cistern to Couch, shall do so by placing, not throwing, the corn into two or more cones; then shall level the same over the Couch, using either rake or levelling instrument.

Now, let anyone examine this new Excise Office order. It will be seen that it is not only contrary to the Laws of the Legislature, and contrary to all previous practice in the trade, but in many cases the injunction cannot possibly be carried into effect! Compare this Excise Office order with its own old version of the practical law, as contained in all previous general Excise instructions.

After the grain is thrown out of the cistern, and before

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the expiration of twenty-six hours, the officer takes one or more gauges thereof, entering in his book and specimen the true average depth of it in each Couch frame. One of these gauges must be taken as soon after it is thrown out of the cistern as the nature of the officer's other business will allow.

But the Board of Excise are in the habit of issuing orders upon particular points, one of which is the one now complained of by the trade, and which, in common with many others, I myself felt justified in refusing to comply with: but the effect of this non-compliance speedily discovered itself in a crusade against the Maltsters! So active was the hostility that in 1846, in one solitary year, more informations were issued against Maltsters upon this Couch question alone, than during any five years put together during the whole of the sixteen years previously.

This Couch question has formed a subject of contention between the Excise authorities and the malting trade for the last forty years, namely, whether the Excise officials, when ordering Couches to be emptied and re-cast under the provisions of the Act of Parliament, when compression be suspected, are entitled to require that the Couch shall be re-filled by any mode peculiar to themselves, in place of the ordinary manner of filling as universally practised by the Maltster.

The Excise, in endeavouring to enforce these orders (which orders have been various), have charged very many most respectable members of the malting and brewing trade, in all parts of the United Kingdom, with fraudulent compression of the grain in the Couch; most of the prosecutions of this obnoxious character have been

instituted by them before the Justices, in many of which the Justices have dismissed the information with very decided expression of opinion upon the unfairness of the system which the Excise were endeavouring to enforce, but without producing any change in the proceedings of the Excise, and in most cases in which the Justices have dismissed the information, the Excise have appealed to higher Courts, putting the trader to vexatious and ruinous expenses.

From 1829 to 1858 the Author has been upon many occasions consulted by the trade, and appeared as witness upon proceedings under this vexatious Couch clause, and in every case has succeeded in gaining a verdict. The most important have been those of Mr. Shaw, Croydon, Surrey, and Mr. England, of Dudley, Worcestershire, and Mr. Melvin, of Edinburgh, the last being the most important, tried before the Lord Ardmillan, Lord Ordinary in the Exchequer causes in the Court of Sessions in Edinburgh, 1858, the Court having there confirmed the principle advanced in Mr. Shaw's case, viz. that the Cone system is not fair as between the trader and the Crown, and the Board having issued an order shortly after countermanding the Cone order of filling the Couch.

This Couch clause, as I have elsewhere observed, is the only fiscal regulation the trade have to complain of; but it is of constant annoyance, and for the security of the trade it should be set at rest by legislative enactment, defining the mode of filling the Couch both by trader and officer, and not left to the caprice of an irresponsible Board, although the last order from the Board apparently sets the question of filling the Couch on the Cone system at rest; but considering the order of 1849,

which appeared equally conclusive, by that order the Board clearly recognized two main principles: first, that the grain should be thrown into the Couch, and, second, that it be done in the ordinary way of working; but the officers still adhered to the Cone system until 1845. How long they will allow the order of 1858 to remain in force is doubtful.

It must be remembered that the Board have no power to make regulations binding upon the trade, the Board has great administrative but no legislative power or functions whatever; it is itself the creature of an Act of Parliament; it cannot move except within the circle which the Act of Parliament prescribes for it; it is therefore evident the Act of Parliament does not define the mode of filling or refilling the Couch; it is altogether beyond the power of the Board to say, that Maltsters must fill it any particular way.

Lord Ardmillan, in his charge to the jury, says, "The Act lays down a mode of ascertaining the amount of increase, which is to be held as conclusive evidence of compression; and at the date of that Act, 1827, this system of Cone casting is proved by the evidence to have been a thing unknown; and it has since been discovered to be an ingenious device to increase the measurement on the re-casting, and by that device the traders are caught, and called upon to pay the penalty."

Since this Couch clause is the only objectionable point left, it is the more necessary I should go fully into the question; with this view I have given the leading evidence and judgments of the two most important cases that have come under my personal observation, and in which I was a witness. The first, that of Mr. Shaw, of Croydon,

1846. Upon the investigation of this case, it was evident to me a gross act of injustice had been done to the trader; but, as it is my practice in all similar Couch cases to treat the question as a decided matter of profit and loss, I recommended him to submit paying the mitigated fine of £20, rather than contest it in a court of law; for this reason that, even should he happen to be successful in defeating the Honourable Board of Excise, his law expenses in defending himself (such are the delightful harmonies of our boasted cheap justice) would be four times the amount of the penalty. But as he was one of those stern independent Englishmen who, knowing he had done nothing worthy of the censure of the law, would rather firmly resist, even to his last shilling, determined to defend the action, he solicited me to assist him in resisting the complaint.

I consented to aid him with my best advice, and as the result is not uninteresting, but may be, as it has been, referred to in other cases, I have here inserted an authentic report of the trial, both for the information of the trade, as well as with the view of exposing the arbitrary and unjust nature of the proceedings of the Excise upon these questions.

Couch Case at Croydon, Surrey, May 30th, 1856. Before the Magistrates, MESSRS. SUTHERLAND, LUCAS, HERRIES, and SIMION.

Mr. F. Shaw attended to answer an information laid against him at the instance of the Board of Excise, charging him with having unlawfully packed and compressed the grain in his Couch, for which offence he had

subjected himself to a penalty of £100, 7 & 8 Geo. IV., cap. 52, secs. 32, 34.

Mr. R. Russel, Solicitor of Croydon, appeared for defendant.

The evidence of the Excise officers went to prove, that on the 6th of April they attended the Malt-house of defendant, at Croydon, and gauged the contents of the Couch that had just been thrown from the cistern, and found to contain $129\frac{3}{16}$ bushels; but as the grain appeared to be more closely packed than it ought to have been, they ordered it to be replaced in the cistern, and then again turned back into the Couch, and upon gauging it the second time, ascertained the quantity to be gross $139\frac{6}{16}$ bushels (subject to a reduction of five per cent.). Under these circumstances, the defendant was now charged with having unlawfully packed and compressed his Couch. In the cross-examination, the officer said he never had cause of complaint against the defendant; had been present at previous emptying of cistern in defendant's malt-house, and never objected to the manner of emptying, which was very different from the manner the Couch was filled by one of the Surveyors-General. Upon the examination of the superior officers, they said they did not allow the man to throw the grain a second time into the Couch in his own way, but compelled him to empty the corn from Cistern into Couch in two cones, just inside the Couch, and then they (the officers) levelled it by raking the corn lightly all over the Couch. They admitted that by this process a greater quantity of air was allowed to remain between the grain, and that therefore, to some extent, they gauged air instead of corn. Thus they found the increase. They likewise admitted, that

as the Maltster threw the corn with some force, levelling over the Couch, the air would be excluded, and the grain be much closer, and consequently not gauge so much in quantity. But they said, the Excise authorities considered it illegal to throw the corn level from the cistern into the Couch; and produced a printed document to the magistrates, containing instructions to them (the officers) how to fill a Couch. But upon being asked whether that was put as evidence, and if those instructions were a legal document from the Act under which the Maltster carried on his business, the said document was withdrawn, admitting the law gave no such instructions. It was further admitted that no artificial means of pressure had been resorted to, and that the method adopted by them (the officers) was the most ingenious that had been devised of getting the greatest quantity of air amongst the grain, and thus increasing the apparent quantity in the Couch. It appeared likewise in evidence, the Couch was only $10\frac{7}{10}$ inches deep; and the officers in levelling, made a variation of no less than $1\frac{7}{10}$ inch, the lowest being 9 inches, and the highest $10\frac{7}{10}$ inches, that had the Maltster at any time levelled his Couch so irregularly, they should have complained that every inch contained $12\frac{8}{10}$ bushels.

Mr. Russel, on behalf of the defendant, urged that it would be monstrous to suppose the Act of Parliament was ever intended to apply to such a case as this.

The defendant was charged with packing and compressing the grain, and he submitted that the Act was only intended to apply to cases where artificial means of pressure were resorted to; and not, as in this case, where the only offence appeared to be, that the grain was

thrown into Couch, in the ordinary way practised by the whole trade, and not in the artificial manner practised by the Excise officers and informers.

The maltman was then examined, to explain the matter. The officers compelled him to return the corn into Couch, viz. in two cones, and not to throw the corn, but let it run off the shovel gently. He never saw a Couch so filled; and had never been found fault with before, either by officer or supervisor.

Mr. Ford, Maltster, was then examined at some length by the magistrates, to show the ordinary business way of performing the operation of filling the Couch. He had been practically engaged in the malt-trade twenty-six years. The defendant, Mr. Shaw, was his first foreman in 1820, but was now malting for himself. He (Mr. Ford) had never seen a Couch filled as practised by these officers. If any of his men had done so, they should never have filled another for him. The practice he had followed, and still did, was to cause, as nearly as possible, every shovel of corn as taken up in the cistern, to be thrown into the proper place in the Couch, causing as little raking as possible.

It was an important object in malting, not to allow more evaporation of moisture than possible in the early stages of the process; it would consequently be injurious to knock and rake it about as described.

He malted principally upon commission for brewers, at so much per quarter, in some cases including duty. It was of great importance to him, that this question should be set at rest; for if the officers' mode of filling the Couch was to be made the law, his contract prices must of necessity be advanced at least 11*d.* per quarter, equal to nearly 5 per cent.

The Magistrates, after consulting some time, dismissed the information, but the Excise gave notice of appeal to Quarter Sessions, in which they were again defeated, but it cost Mr. Shaw above £100.

To the honour of these Magistrates, I must not omit recording the circumstance, that they employed special counsel to attend the appeal for the purpose of supporting their previous decision. The truth is, the Magistrates' hands are so fettered through the equivocal wording of this Couch clause, that upon the bare fact of an excess being sworn to, be it ever so trifling, or unfairly obtained, the Magistrates have in most cases convicted, or the trader, to avoid ruinous expenses, has compromised; but as an evidence of the innate force of truth and of the natural love of justice, the Magistrate has given expression to his moral impressions in repeated instances by following a conviction with these words: "We do not believe that fraud has been either committed or attempted. By such instructions as those issued by the Board to their officers, in reference to the filling the Couch, the informers, by the most dexterous manipulation, cannot well fail in their object of obtaining some excess, yet this anomalous exposure to difficulty has enabled the trade to place the question in a new and serious light before the Magistrates and Government. It is this, "What is the fair, ordinary, and business way of performing the operation of filling the Couch, that justice may be done between the trader and the Crown."

I contend that the trade, having at the Conference, in 1829, entered into a compromise with the Government, and the Government having thereby received a permanent additional duty upon the Couch gauge equal to

£80,000 a year, it was a breach of good faith thus to attempt obtaining another five per cent.

At the Conference between the trade and Excise we proposed a reduction in the allowance for swell in cistern and Couch, in consideration of certain concessions being made by the Excise, the three principal concessions were the abandonment of the Certificate System, Sprinkling at an earlier date, and the omission of the word "conclusive" in the Couch clause; no mention was made by either party as to the mode of filling the Couch.

For, had the Excise broached the question and required the Cone system, the trade would not have proposed or submitted to any reduction in the allowance, inasmuch as the difference in charge caused by such altered mode of filling would have exceeded the proposed alteration in the allowance.

If the Excise had any objection to the trade mode of filling the Couch, that was the proper time for making such objection. There have been many alterations made by the Excise by laws or general orders relating to the mode of filling and refilling the Couch, the most important one in 1830:—

"That part or the whole of the corn may be thrown out; if a part, then the other part to be turned over in the Couch."

1837.—"That ALL corn must be thrown out and returned into Couch."

1845. Excise Order. — "That corn be returned in Couch in cones."

1849. Excise Order. — Virtually repealing the last order, by ordering that "corn *may* be returned into Couch in the ordinary way of working."

1858. Excise Order.—Withdrawing the order of 1845, called the Cone Order; and I have not heard of any “fresh” prosecutions under the Excise Cone Order since the Scotch trial of 1858; on the contrary, I have reason to believe that many intended cases were abandoned.

It is therefore to be hoped the Magistrates will take this new order to be sufficient authority for them to decide all Couch questions according to the evidence, as to whether the officer, in returning the corn into Couch, did so in the ordinary way of working.

Now, if the word “conclusive” be omitted from the Couch clause, as agreed at the Conference, the mode of refilling the Couch by the officer would, of necessity, be agreeable to the business mode as practised in the trade ever since the Malt Duty was first imposed; namely, by *throwing* the corn or grain from the Cistern into the Couch, and afterwards by levelling with the rake or level; and in cases where the Couch is so constructed that the corn cannot be correctly levelled without getting upon it, planks shall be so placed as to admit the man to level the same without undue pressure.

A case of my own, which occurred in 1846, is here introduced by way of illustration. The Supervisor, in the course of his official duties, had caught the Maltster on the Couch in the act of levelling. In this, as in the Croydon case, the Magistrates acted upon their own judgment, and would not be governed by any arbitrary construction of the letter of the law. During the legal examination of the question, I set forth in my defence: Firstly, that the Couch had been in use forty years; that a certificate was in my possession affirming its being agreeable to law; that the Couch was so constructed no

man could level it without getting upon it ; that planks were provided, and used for the purpose of enabling the man to level without pressing upon the corn ; that the man had transgressed the law and violated my instructions. Secondly, that I was not inclined to place myself in a position of being screened from the legal consequences by prosecuting the man for the contravention of my orders, a matter he had unwittingly done. (See 7 & 8 Geo. IV., cap. 52, sec. 46, under the head "Prosecutions of Servants.")

The Supervisor having been the sole witness of the fact, the question was put to him by myself at the time of the offence: "Do you think the Maltster was on the Couch with any malicious or fraudulent intent?" He frankly declared, "I do not for one moment think he was." The same question was put to him before the Magistrate, whereupon he made the same admission. The Magistrate, upon consulting the Act, said he must take time to decide the question, as he wished personally to inspect the malt-house. He did so, and decided against the information.

Up to the period of 1719 direct proof was required of the treading or forcing, but by 6 Geo. I., sec. 21, it was enacted that any corn found so hard, close, and compact, as it could not be unless the same had by some means or other been forced together, to prevent the swell or rising thereof, shall forfeit the sum of 2*s.* 6*d.* per bushel.

The only difference thus made on the Statute of Anne is as to the mode of proof. No other change of consequence took place till the year 1808, 48 Geo. III., when the Malt Tax changed its original character of a

War Tax to a perpetual supply to the Crown. The only difference in the Act in reference to the Cisterns and Couch is that it again varies in the mode of proof.

The practical fact being, that *if* the corn be illegally compressed in Couch, it should be found and charged by the after survey, by gauge upon floor or kiln.

One instance of a floor charge	22230
Couch	21369
	<hr/>
	861

Measuring corn by gauge in all its various stages is, practically, so many checks against the fraud of *privately steeped corn*, which is the object of every law upon the subject.

I have known many cases of floor charges far exceeding the excess for which any proceedings have been instituted in the Couch, and for which a heavy penalty is claimed. But the great objection to the levelling heavy penalties upon excess found by re-gauging is *the uncertainty of gauging*.

Such is the uncertainty that constant variations occur between one officer's charge and another. Within a few hours I have known instances occur of from one to eight-tenths. There is, in fact, no sufficient reliance upon two officers gauging alike, to justify the enforcing of penalties.

And, further, I have known an instance of a variation in the officers' gauge rods of one-tenth of an inch.

But it being deemed inconsistent to levy a penalty for any excess found by gauging upon the floor or kiln above the allowance, upon what principle is it that a penalty is enforced for any excess found above the allow-

ance in the Couch, which in no case that has come under my notice (with the Cone or other mode), has exceeded that frequently obtained upon the floor. The fact is, if fraud has been committed in Cistern or Couch, it is or should be detected on the floors or kiln.

But the most important case, and which it is to be presumed settles the legal part of the question, was tried in Scotland before the Lord Ardmillan, Lord in Exchequer cases, in the Court of Sessions at Edinburgh, on 1st February, 1858.

There were two cases simultaneously raised, one against Mr. Charles Dick, brewer, Edinburgh, and another against Mr. Alexander Melvin, of Edinburgh. The case against Mr. Melvin was tried on as the leading one, who was well supported by the trade in his defence. Like many other cases before the Justices it ended in acquittal; and under the beneficial provisions of a *recent Statute, the Excise have been found liable to Mr. Melvin in the costs of the prosecution*, thus relieving the private party of the hardship, which was previously so grievous, of having to bear his own costs, though unjustly prosecuted, and successful in his defence.

The Excise, as usual, having appealed against the decision of the Justices, the case was tried by Jury; previous to which various and interesting experiments were tried in presence of and by the officers and trader, which fully proved the extreme unfairness of the Excise system of filling the Couch. One experiment went through by the Excise was indeed novel, being done to prove our error in stating that the Excise system of filling by Cone was the most ingenious contrivance by which the greatest quantity of air could be mixed with the corn; this novel

mode was by casting the grain through a riddle, the result as shown was, indeed, *conclusive* evidence against the Excise.

The application to institute a variety of experiments to ascertain the effect of different modes of casting, was made by Mr. Melvin to the Board. This was granted upon the condition that two general examiners should be present to watch everything that might be tried; to gauge any Couch that might be cast; to hear everything that might be said, and to report every circumstance that might pass, at which experiments I was present.

I.—EXPERIMENTS FOR THE CROWN.

	Dips.	Bushels.	Percentages.
1. WITH STREET PORTERS—			
Grain cast into couch 'without system'	21·1 in.	142·6	
Re-cast in 2 cones	21·3 „	143·9	Increase by cones of . 9
2. WITH MR. RITCHIE'S MALTMEN—			
Re-cast in the usual way	20·5 „	138·5	Decrease on cones . 3·8 Increase 'on way without system' . 2·9
3. WITH LEITH METERS—			
Cast into couch in their own way	19·2 „	101·9	
Re-cast in 2 cones	19·4 „	103·5	Increase by cones . 1·0
Re-cast by Mr. Ritchie's men in ordinary way	18·6 „	98·7	Difference between meters, cones, and Mr. R.'s men ordinary way . . 4·3
4. EXPERIMENT AT MR. DISHER'S (Cistern on flat above couch)			
Dipped on being newly filled from cistern	26·8 „	229·4	
Re-cast in cones	27·3 „	233·6	Increase by cones . 1·8
5. EXPERIMENT WITH MR. RITCHIE'S MALTMEN—			
Couch had been cast in ordinary way for Defender's 4th Experiment	19·8 „	197·4	
Re-cast in 3 cones	20·7 „	206·3	Increase on last casting 4·5
Measured with a bushel measure		217·0	Increase over quantity found by cones . 5·3

II.—EXPERIMENTS FOR THE DEFENCE.

	Dips.	Bushels	Percentages.
1. CASTING BY MR. RITCHIE'S MALT-MEN—			
Cast in usual way of working	23'8 in.	237'2	
Re-cast in 3 cones	25'0 "	249'2	Increase by cones . 5'0
Re-cast in usual way of working	23'9 "	238'2	Decrease on cones . 4'6
2. CASTING BY DISTILLERY MALT-MEN—			
Cast in 3 cones	25'0 "	249'2	Increase on last casting 4'6
Re-cast in their usual way of working	24'0 "	239'2	Decrease on cones . 4'1
3. CASTING BY MR. RITCHIE'S MALT-MEN—			
Cast in ordinary way	20'0 "	106'2	
Re-cast by riddling	20'3 "	107'7	Increase by riddling 1'4
4. CASTING BY MR. RITCHIE'S MALT-MEN—			
Cast by riddling	19'6 "	195'4	
Re-cast in usual way of working	19'8 "	197'4	Increase by usual way 1'0
5. BYE-EXPERIMENT—			
Bushel filled during the first casting of 3rd Experiment		Weight lb. oz.	
Bushel filled from a cone made before 2nd Branch of 3rd Experiment began		60 6	
Bushel filled while riddling in 2nd Branch of 3rd Experiment		57 4	Difference, 3 lb. 2 oz. 5'4
		62 0	Increase on 1st filling 2'6 Do. on 2nd filling . 8'2

These experiments thus satisfactorily prove the truth of the assertion advanced by the trade that the Cone mode of filling is the most ingenious mode of filling the Couch by which the greatest quantity of air is retained, and therefore unfair, as charging more than was intended when the allowance for swell, caused by the absorption of water, was made law.

In the argument advanced by the Crown in this case, the counsel, Mr. Frazer, first refers to the Exchequer case, *Regina v. Spiller*, 25th November, 1847, in which the defendant was convicted. It was then held that the

increase in the grain found by such a mode of returning it was conclusive evidence of the offence within the 7th & 8th Geo. IV., cap. 52, sec. 33, as it did not appear that the mode of proceeding was unfair or improper, and consequently the conviction was right; and that the officer has some, if not an absolute discretion to exercise in the matter, *provided he does* not use it improperly.

And upon the re-hearing before the Chief Baron Pollock, his Lordship concluded by stating, "It may be that the Excise officer is not altogether at liberty to use his discretion; it may be that the Act of Parliament is not confined to those methods which were in use at the time the Act was passed; but we think it is clear that the Excise officer has some discretion to exercise upon the subject, and that in the particular case which is before us it does not appear that he exercised an improper discretion, or adopted a course which was not calculated to do justice between the subject and the Crown; we are, therefore, of opinion that the conviction must be affirmed."

The learned Counsel for the Crown, after quoting the above case, concluded his remarks thus:—"Your Lordship will see that, according to the mode in which the Court disposed of this case, the issue which they held to be the proper issue was this, whether or not the officer, in the mode of returning the grain by the cone, returned it in a mode which was improper.

"Without the evidence comes up to that, then, they say, the conviction is right, and they do not mean to lay down that the officer may not have an absolute discretion. But whether that be the case or not, the very object of allowing the increase of 5, or 6, or 7 per cent.

between the first and second measurements, was to provide for the difference that might be anticipated, the fair difference that might be anticipated between the result as shown by the mode of throwing the grain out adopted by the Maltster, and the mode adopted by the exciseman."

The Dean of Faculty, as Counsel for defendant, argued that if any other mode of refilling the Couch had been adopted by the Excise in this case, an excess would not have been found, hence no prosecution; for we have had various modes mentioned, but all of these are proved to be a certain percentage more favourable to the trader than the Cone mode. The real question is, whether to return the grain by the Cone is a fair way of returning it, as between the Government and the Maltster; that when the statute was passed, the Cone mode was not known, nor was it heard of till 1845.

The Dean of Faculty further observes upon this point: "The statute allows the trader and officer to fill the couch in any way they please, provided the trader does not offend against the statute by treading or forcing it together; and the officer in filling the Couch must not do so by any mode that is unfair, as between the trader and the Crown."

The Lord Ardmillan, in his charge to the jury, stated, "If you are of opinion that it could not be the meaning of the Legislature that the Revenue should get the benefit of all the atmospheric air that the mode of casting could introduce into the Couch, so that the measurement should not be of grain only, but of grain and air united, then the mode, adopted as it was (and that is not denied) in order to get that result, is a fair or an unfair

mode, according as your judgment shall lead you to say. There can be no better test of the fairness or unfairness of such a procedure, than the verdict of a jury, perfectly impartial, and judging of it, not with reference to its being more or less favourable to the trader, but with reference to its being, in your opinion, a just and fair thing in the administration of justice between the Crown and the trader.

“Now, gentlemen, you have no conflict of scientific evidence, for you have no scientific evidence for the Crown. The Crown were quite entitled to stand on the clause of the Act of Parliament, and to throw the whole burden of proof on the other side; and, again, I repeat to you, that you must deal with the case as one in which the burden of making out unfairness rests on the defender, and the defender has endeavoured to prove this fact. You will decide whether he has succeeded.

“He calls witnesses to the experiments which he made, and made in the presence of the officers of the Crown, and the result of which—it is not disputed—is to show a difference of nearly 5 per cent. between the one mode of casting and the other. And on the whole matter, you will then have to consider, whether, as the result of the experiments on both sides, it is not ultimately brought to this, that a mode of ascertainment by a new and ingenious process of Cone casting has been adopted by the prosecutor, of which the effect is certainly unfavourable to the trader—that is not enough—but of which the effect is, in your judgment, unfair between the trader and the Crown, that is a matter for your judgment. If you think that it is not unfair as between the Crown and the trader, you will find a verdict

for the Crown ; because, undoubtedly, the Crown is by law entitled to the benefit of all doubts thrown upon the defender's evidence in this matter. If you were trying a question between the Crown and the trader, apart from this statement, the trader might be entitled to the benefit of the doubt ; but the moment it comes to pass that the burden of proof is shifted, and that the trader must prove that this is an unfair procedure, failure in that proof is failure in his case, and failure in his case leaves the case to stand on the statute. You must consider the case with that view.

“ If you are not satisfied, on the evidence, that the defender has made out a case of unfairness in the use of this mode of casting, you must find for the Crown. If you are satisfied that he has made out a case of unfairness—of unfairness as distinguished from mere unfavourableness—in the use of the Cone casting, then, I think, you should find for the defender.”

A verdict was returned for the defendant.

Judgment.—The Lord Ordinary, of consent, assoilzies the defender from the claims made against him under the subpœna and information in this cause, and decerns : Finds the defender entitled to expenses ; and remits the account thereof, when lodged to the auditor, to tax and report.

The result of these two Exchequer trials, the one before the Lord Chief Baron of Exchequer, England, 1847, and that before the Lord Ordinary in Court of Exchequer, Scotland, are in direct opposition, the first declaring that the officers, in adopting the Cone system, did not exercise any improper discretion, *or adopt a course which was not calculated to do justice between the subject and*

the Crown; but the Lord Ordinary in Scotch case, 1858, gave that the case was a new and injurious mode of casting; unfavourable to the trader, and *unfair as between the trader and the Crown*. The result of these two important trials proves the necessity of having the mode of filling the Couch defined by law.

SPRINKLING.

THE next question connected with Laws and Regulations affecting the trade, and concerning which there has long existed great difference of opinion, and has caused considerable perplexity both to the Government and trade, is that of *Sprinkling*. Previous to the Conference in 1829 sprinkling corn on the floor was not allowed until the twelfth day, when it was conceded to sprinkle on the eighth day, subsequently on the sixth day. By 23 & 24 Vic., cap. 113, 1860, it was granted to sprinkle at the expiration of ninety-six hours, provided the corn has been covered with water in cistern for the full space of fifty hours ; and I am of opinion, considering the high duty upon malt, and the still imperfect state of survey in rides and in cases of Bye Maltsters, the fifth day is the extent of indulgence which can consistently be asked.

Experience proves earlier sprinkling is not required. If the corn has received its proper proportion of steep in cistern, the corn or grain can be effectually regulated by judicious sprinkling in making either free or close malt ; but if it be a question of quality, I have always found that the long steep, say from sixty-five to seventy-two hours, produces the most even and perfect vegetation, giving more weight, and at the same time equal flavour and tenderness.

Upon this point I must refer to an account of the two experiments introduced at the end of ' Malting Treatise.'

The contest, for such it was from 1802, was between the Maltsters themselves, the advocates of "Sprinkling," against those who oppose it.

The main arguments advanced before the Committee of the House of Commons by those who advocated sprinkling on the floor, were the following:—

Firstly, that although in some counties, and with respect to peculiar qualities of barley, the restrictions may not be inconvenient; yet in other counties, and with respect to other qualities of barley, good malt cannot be made without sprinkling.

Secondly, that it interferes with the just rights of the subject, who ought not to be coerced in working his commodity in the way he conceives most advantageous both to himself and the purchaser.

Thirdly, that it furnishes the easy means of legal persecution and oppression.

Lastly, that it does not afford any protection to the Revenue.

This fact has been fully established since 1829, when the indulgence was granted to sprinkle on the eighth day; in 1860 further reduced to the five days.

The Government are satisfied that such indulgence has not been injurious to the Revenue.

On the other hand, those who opposed "Sprinkling," had for many years, and with varied success, been pressing the Government to restrict or prohibit it, on the two following grounds:—

The one is, that malt made under the sprinkling process is of very inferior quality; and the other, that the practice opens a wide door to frauds on the Revenue.

Now, as far as concerns the business and common-

sense view of the question, the advocates for *liberty to sprinkle* have the advantage, inasmuch as they do not seek to *impose the practice on others*; while their opponents have sought to restrain *others* from sprinkling, because *they themselves* did not adopt it.

To support the views of this latter party, the evidence, as given before a Committee of the House of Commons in 1806, goes but a sorry way in making out for them a good case. Their first supporter, a Maltster of thirty years' standing, malting 400 quarters per week, states, "That barley *grown on heavy soils, does not* require sprinkling on the floor more than that grown on a light soil. That if liberty were given to sprinkle on the ninth day, frauds would be practised upon the Revenue, as the grain would require less liquor in cistern."

Another Maltster, making 600 quarters per week, stated, "That in purchasing *sprinkled* malt, he paid from 6s. to 8s. less than for the malt not sprinkled." These gentlemen's evidence is a very neat sample of what the logicians call "proving too much." He gave it as his opinion, "that those who sprinkled can more easily commit fraud by mixing the floors; that the restricting to sprinkle the twelfth day proved beneficial to the Hertfordshire Maltster, for this reason, that previously other Maltsters brought their malt to market so much cheaper, that they, the Hertfordshire Maltsters, *had very near lost* their trade."

In the evidence of Mr. W. Laurence, Surveyor-General, Examiner of Excise, he stated:—"That if the restriction was to be totally taken off, Maltsters would run whole wettings and part of wettings as they used

to do. That if Maltsters were compelled to keep the corn fifty hours in steep, they could not commit the frauds so easily. That he considered the restrictions to be necessary in cold weather. That it would be of benefit to the Maltster to be allowed to sprinkle from April to October. He was bred a Maltster, and had been in the Excise thirty years: that the fraud of running wettings applies equally to the case of those *who do not* sprinkle, as to those *who do*, but the sprinkling facilitates it."

Another Surveyor-General, Mr. Haddon, stated:—
“ That in some cases he believed sprinkling to be necessary. All the London brewers gave their opinion decidedly against sprinkling. They found that the supplies of malt, since the restrictions, had proved to be of a very superior quality. In fact, their objection was not so much against the principle as *the abuse* of the practice. But other extensive brewers, who also were maltsters, gave evidence that sprinkling was highly requisite, particularly under certain circumstances.

It must be observed of this period, 1806, that the duty was 34s. 8d. per quarter; consequently it cannot excite surprise that attempts to evade this impost were not unfrequently practised, particularly within the rides; neither can it occasion much surprise that the Government should have imposed upon the trade the most stringent regulations.

It is perfectly certain that run malts must be forced, containing the elements of unequal vegetation, which will cause a depreciation in value of from 6s. to 10s.; neither can there exist a doubt that so long as the present high duty of 21s. 8d. continues, added to the variable mode of

survey, it would not be prudent to wholly abandon the restrictions to sprinkle.

The question of sprinkling corn upon the floors has sobered down greatly these last ten years; there are now few that do not practise it more or less, and I have no hesitation in asserting the circumstances are rare, either in quality of barley or season, but that barley, steeped under sixty hours, is not greatly benefited in the malting by judicious sprinkling. And so long as the Government charge the same duty,—or in other words make the same allowance for *swell* upon barley steeped forty, fifty, or seventy-two hours; and the duty paid by the Maltster steeping forty hours, being at least from 4 per cent. less than that steeped fifty hours; and that steeped fifty hours, with liberty to sprinkle, 5 per cent. less than that steeped seventy-two hours,—it cannot be expected that the Maltster making for sale will steep the seventy-two hours. The question would be satisfactorily met by the Government allowing all to sprinkle on the fifth day; by a differential duty equal to difference caused by swell; fixing the present allowance of eighteen-and-a-half for the fifty hours' steep, that being the standard agreed to at the Conference in 1829. In reference to the question of survey, it must be remembered that in nearly two-thirds of the country, the rides were not surveyed more than five times a fortnight, and the other third, called divisions, surveyed every day, or fourteen times a fortnight. This leads to the consideration of those particular Excise regulations, "as to the mode of survey;" anything more absurd can scarcely be imagined.

The Government imposes a duty of 2*l*s. 8*d*. per

quarter upon malt, nearly equal to the value of the grain malted. It is left to the Board of Excise to adopt such regulation as to them seems best, for the correct and equal collection of tax.

Their first manifesto came out in the following form, as a General Order, "That Maltsters should be surveyed at least once a day; and twice, where either the best-cistern or Couch-gauges are depending, or fraud suspected; and in order to obtain the best-cistern gauge, the house, in residence called *divisions*, must be visited, if possible, some short time before the water is let off from the cistern." So far, so good; for if all malt-houses were in this manner surveyed, but very little danger to the Revenue could occur from running wettings.

But let us see what the next Excise regulation says.

"That Maltsters in the county business, called rides, when an officer can survey the whole of his business in one day, must be visited at least four times a week; and when the whole cannot be surveyed in oneday, three times every week if possible, or five times a fortnight at least. The officer must not be more than three days wide in his visits on such traders."

Thus Maltsters residing in divisions must be surveyed fourteen times in a fortnight, whilst those in rides only five times. The one every day, the other every three days and a half.

Besides this, the Board have created another class of traders, called "Bye Maltsters," respecting whom the following are the Excise instructions to their officers. Should there be any Maltster in a ride who makes only a steeping or two during the season, and in small quan-

tities for his own use, and who is situate too remote from the rest of the business as to render it impracticable to survey him close, and at the same time to perform the other duties of the station, the officer may be allowed to enter him in his survey-book as a Bye Maltster, and after he has had a gauge of each steeping in both cistern and Couch, he may, with the permission of his supervisor, make his survey not oftener than once a week, until the grain is dried off."

If left alone regularly *three days* in succession, what may not a Maltster do? Verily, these Excise law-makers must think Maltsters residing in rides are either a wonderfully honest set of men whom nothing will tempt, or else they must consider the Maltsters residing in divisions easy subjects of contamination, whom everything or anything will tempt.

Instead of a wise and practical administration of the law the Board has actually opened a door to fraud, by their own imperfect regulations, to counteract the effects of which they have hitherto fettered the trade with vexatious and injurious restrictions. It is evident a great injustice is done either to the Maltster residing in divisions, or an equal injustice done by the Excise to the Revenue.

But the history of facts is always held to be what is called "stubborn evidence." In a Return made at the instance of the Maltsters' Association, in 1828, intituled "A Return of all Convictions of Licensed Maltsters before Magistrates, for Breaches of the Excise Laws in England and Wales, between the 5th July, 1803, and 5th July, 1812, specifying whether in a Ride, or in *Divisions*," the following

result is obtained ; too truly establishing the charge I have ventured to make.

CONVICTIONS.		Total.	Rides.	Divisions.
Between 1803 and 1804	..	283	.. 155	.. 128
1804 „ 1805	..	505	.. 325	.. 180
1805 „ 1806	..	417	.. 283	.. 134
1806 „ 1807	..	370	.. 230	.. 141
1807 „ 1808	..	329	.. 219	.. 110
1808 „ 1809	..	202	.. 153	.. 49
1809 „ 1810	..	159	.. 111	.. 48
1810 „ 1811	..	194	.. 134	.. 60
1811 „ 1812	..	175	.. 118	.. 57
		<hr/> 2,635	<hr/> 1,728	<hr/> 907

The full size of the evil I am denouncing is not brought out by the above returns. To get at the right view it is needful to consider the fact, that the malt made in the divisions is above five times the quantity made in rides, while the convictions for breaches of the Excise laws in the rides, as shown by these statistics, amount to nearly two-thirds of the whole.

As an apology for this inconsistency, it has been conjectured that the Excise have cherished some favourite *scheme* of economy, for had they concocted one uniform rule of survey, the Revenue would have been burdened with the salaries of additional officers.

I contend that this is an insufficient apology for fiscal economy, because it is a known fact that the Revenue upon malt, being above five millions sterling annually, is collected at the smallest modicum of cost, as compared with other productive departments of the Revenue.

But are not the traders to be protected as well as the

Revenue? Hence we contend the survey should be equalized; and since the number of licensed Maltsters are reduced within the last twelve years from about 10,000 to 6,000, and the number of licensed malt-houses reduced in the same period one-fifth, caused mainly by the judicious measure of reducing the credit from eighteen weeks to six weeks, the trade are justified in calling upon the Government to survey all alike.

It is true the Board have lately made a slight alteration in the survey.

“ If there are malt-houses in *one* section only of the out business of a ride, they are to be visited at least *four* times in every seven days, and no more than *two* days must intervene between the visits.

“ When there are malt-houses in *more* than one section of a ride, they are to be surveyed at least *five* times in every *fourteen* days, and no more than *three* days must in any case intervene between the visits.”

But it is too trifling a concession to have much effect. In the first place, a line should be drawn as to the quantity to be made, for which a licence should be granted. The important Revenue derived from malt suggests an approximation to the system adopted in the case of distillers, in which, by the 6th of Geo. IV., no person can keep a still of less than 400 gallons. One would imagine it must escape the notice of the Board of Legislature that there was double the number of Maltsters taking out licences for making under 50 quarters a year, to those taking licences to make above 550 quarters a year.

In further reference to the question of survey, it is only just to remark, as a class, the Excise officers of the

present day are widely different to that existing fifty years since. By the present discipline of the Board, their officers are now not only superior in education, but the emolument, so judiciously increased, is sufficient to induce parties of superior standing to enter the service.

I could relate a few amusing anecdotes of the trader and officer, of fifty years back, that would shake the nerves of the present generation, the fact being that the pay was not equal to his absolute necessities, particularly the ride officers.

The present Board not only are more careful in the examination of their officers before put in active service, but they have, at great expense, established a chemical department, of which I need only give an extract from the Report of the Commissioners of Her Majesty's Inland Revenue, published July last :—

“ We invariably have to speak in terms of high commendation of our chemical department ; but the result of the annual examination of the students just completed by Dr. Hoffman is so remarkable that we cannot refrain from bringing it prominently under your Lordships' notice. Dr. Hoffman announces it to our Secretary in these terms :

“ In the examination for certificates in science, as well as in the examination of the students of the School of Mines, I am in the habit of dividing the candidates in three classes. Those who have obtained not less than 80 marks belonging to the first class ; those who have obtained not less than 60 belonging to the second ; those with not less than 40 marks to the third class.

“ I have adopted the same plan both in last year's

and in this year's examinations of the students of the Inland Revenue.

“ The following table shows the order in which the candidates stand :

Name.	Theoretical Examination.	Practical Examination.	Total.
First Class.			
Brown	80·0	20	100·0
Morris	76·5	17	93·5
Bradley	76·5	16	92·5
Maclean	74·5	16	90·5
Hunt	70·0	17	87·0
Platts	69·5	17	86·5
{ Carter	67·5	16	83·5
{ Chapman	64·5	19	83·5
Horkness	67·0	15	82·0
Second Class.			
O'Loghlen	58·5	16	74·5

“ In congratulating you on this remarkable result, allow me to state that during my professional career, I do not remember a similar examination.’

“ The general good character of our staff of officers has been well sustained during the past year. We have reason, indeed, to think that there is a constant progress in the efficiency of all branches of the service, and in none is it more conspicuous than in the ranks of the surveyors of taxes. Among the younger members of that body, this is no doubt owing to the recent introduction of an examination which we require them to undergo before passing from the station of supernumerary surveyors ; a system which has the advantage of testing the knowledge and diligence, not only of the young men

themselves, but of the surveyors under whose superintendence they have gone through their course of instruction.

“ We have the honour to be
 “ Your Lordships’ most obedient humble servants,

“ CHA. PRESSLY.

“ C. J. HERRIES.

“ ALFRED MONTGOMERY.

“ HENRY ROBERTS.

“ ALEX. DUFF GORDON.

“ JAMES DISRAELI.

“ INLAND REVENUE OFFICE,

“ *July, 1861.*”

Another beneficial effect produced, is that more liberal conduct is generally pursued towards the trader.

“ Several minor alterations have been made in the Malt Laws during the last year, with a view to render the trade as free from restrictions as possible; so that the British Maltster may be in a condition to compete on equal terms with the foreigner in the event of foreign malt being imported.”

Much as I congratulate the trade upon the liberal tendency of the present Board of Inland Revenue, I must caution the trade to keep a watchful eye upon the dangerous principle introduced in 23 & 24 Vic., cap. 113, sec. 26 (Distillers’ Act for making duty-free malt); it gives the Board a power never acceded to them before. Up to this period the orders or instructions of the Board had no legislative power or effect, but by this clause these orders or instructions to the officer are legally

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enforced as binding on Maltsters making in bond. The trade must take care that no such power be granted in any future Act, as applicable to the trade of Maltster or brewer upon *duty-paid malt*.

The next observation I have to offer on the existing Excise regulations, refers to the system of credit. The clause on this subject in the Act, 11 Geo. IV., cap. 17, sec. 26, runs thus:—

“ Officers of Excise are to make a return of duty charged on the Maltster every six weeks ; the amount of such return to be paid in *six days*, unless security shall have been given by bond in double the amount of the duties the Excise shall judge likely to arise or become due from such Maltster within any six weeks, for the due payment, at the end of six weeks, after the account shall be made of duties charged.”

The objection I have to urge to this regulation, is that one Maltster is compelled to pay his duty at the expiration of six days, another at forty-two days ; and only because one of these parties is not enabled, or may be unwilling to lay himself under an obligation—a feeling at all times painful—to solicit friends to become his security.

The effect of this law practically is, that it operates most seriously to the injury of one, and in the like proportion to the benefit of the other.

One party, with very limited resources, enabled to offer security, becomes thereby invested with the means of exercising an injurious advantage over his neighbour ; in truth, to carry on a business equal in extent to the man of capital who has given no security.

I must here refer to extracts from various petitions to the Treasury and Board of Inland Revenue, with propo-

sitions upon the subject, worthy the serious consideration of the trade and Government.

The following is the proposal of Mr. Herrington, Surveyor-General of Excise :—

“ That when the duties become due as the law now directs, six days after the sounds are made up, to be paid, but if they could not raise the money, to be allowed to deposit (in bond) as much malt as the duties were payable upon, in order to secure the duties ; this would give absolute security, under any circumstances, in double the amount of duty due.

“ And have depôts, or bonding-warehouses, at convenient places to put the malt in.

“ Under these circumstances it would enable the Maltster to extend his credit ; he would be able to keep his malt without exposing it to a bad market, or forcing sales, instead of being called upon to pay up his duties.”

This gentleman then describes one great evil in this practice of securities ; he says many of these Maltsters can positively go to work without possessing any real capital ; many of them trade entirely on the Government money.

These artificial men ought to walk out of the market ; as this gentleman sagely remarks, “ Maltsters ought to work on their own money, and not on that of Government.”

The next extract is from the Select Committee of the House of Commons, reported on the Scotch Malt Duties, May 31st, 1821.

“ It appears to your Committee, that the bonding system which has been found advantageous, in a very high degree, to the commercial interests of the country,

must prove also beneficial in relation to articles of domestic growth, liable to duty, if it can be made applicable to them with safety to the Revenue, and at a moderate expense. As applied to malt and spirits, the immediate result must be to bring additional capital in aid of agriculture, by which a market would be afforded, at prices, for grain, where it is most wanted; and the stock accumulated under bond must tend to check excessive fluctuations in price in times of comparative dearth.

“Your Committee, therefore, recommend both these subjects to further and favourable consideration.”

The following judicious suggestions are gathered from a petition to the Treasury, from Messrs. Stead, Mackenzie, and Robinson, 28th April, 1821:—“For permission to place malt made from barley, the growth of this kingdom, under bond for duties, in the same way as wine, and other excisable goods, the growth of foreign countries, are allowed to be bonded. The duties to be ascertained by the usual mode, and to be paid when the malt is removed from under the Excise locks and bond.

“We make this petition to your Honours on the ground of Mr. Pitt’s most valuable system of encouragement to commerce by the Bonding Acts; and which we believe are universally admitted to be most beneficial to the country. And we hope that, in your Honours admitting the benefit of those Acts to the article of malt, you will thereby encourage, in a similar degree, the growth of barley of our own kingdom. We are persuaded further, that by your Honours granting this petition you will encourage British capital to be much more extensively vested in the making of malt; and the duties

themselves will be more effectually secured to the Government. There can be no doubt such a measure would be highly advantageous to the Maltster, the farmers, and Revenue, in cheap seasons; but the time for remaining in bond should be limited."

One important advantage would be gained by abandoning the present system of credit. The equalizing the surveys, and limiting the quantity of malt, for which a licence should be granted to fifty quarters or above, *the Malt-duty would be more correctly collected in Ireland and Wales.*

The three measures would bring the trade within reasonable limits, leaving the present staff of officers little more than 5,000 Maltsters to survey, instead of formerly nearly 10,000. The latter number has been greatly reduced, mainly by the curtailment of the credit from eighteen weeks to six.

To compensate the trade, for the suppression of credit, I recommend either to allow under proper regulations the bonding of malt as recommended by the Committee of the House of Commons in 1821, or by allowing the trade to *make* malt in bond for home consumption, under the same regulation as now existing for malt made for exportation or for the use of distillers. The Board can have no reasonable objection to this, and for this reason: if the present regulation for making in bond for export and distillers' use is found perfect, it cannot be otherwise for home consumption. The only difference being that where the Maltster gives notice for delivery, he would have to pay the duty for the quantity packed ready for delivery, whereas for distillers and export (duty-free malt), the officers attend as per notice to

pack and deliver, but (no cash). Thus, in one case the officer receives the cash for the quantity he packs before delivery, and in the other he packs and delivers minus the cash.

The suggestion of *one uniform survey*, with a credit of six days, would if adopted materially accommodate the Government, and confer a boon on the trade, inasmuch as there would then be thrown open a fair competing market, and in the great business of producing, we would then find a legitimate *quantity* of malt made, according to the *quantity of capital* really employed.

It should further be observed, that the expense hitherto of survey and collection of the 1,740,000 quarters, is above four times as much as that upon the 3,500,000 quarters. These remarks are concluded by referring to the arbitrary power the Excise are authorized to exercise over the Maltster, who unfortunately may not be enabled to pay the amount of duty when due.

The Excise seize all his effects, including book debts and every other description of property. After realizing *all*, to the exclusion of every other creditor, they take his person; if the balance, though trifling, be unsatisfied, he is kept in prison until this be settled, or during their good pleasure. The law supplies them not only with a giant's strength, but allows the power to use it like a giant.

PRACTICAL TREATISE ON MALTING.

MALT TRADE.

THE manufacture of Malt is one of the most important of our home productions, deriving its primary and essential importance by being from grain of native growth ; for under the international law of free trade in corn, the farmer has less of competition to contend against in the importation of barley than in any other grain ; for this reason, the barley of foreign growth is for the most part of too inferior quality, as compared with English, to justify the maltster extensively using the foreign, inasmuch as the *duty* and *expenses* upon a barley malted, yielding 70lbs. of saccharine, is the same as upon the best English yielding 97lbs. In the market for wheat the comparison is otherwise, much of the foreign wheat is superior to the English.

The malt trade derives its next importance from the fact of being the means of producing an annual Revenue to the Exchequer exceeding five millions, exclusive of that of licences, amounting to nearly one million ; and further, the large share it holds in the production of our nationally established beverage, whose wholesome virtues and invigorating power tradition, poetry, and custom have long associated with our ideas of the freedom and character of our English fireside. Its many conventional

uses are well suited to the English temperament, equally so with the condition of a British climate, and from affording such extensive employment to both labour and capital in the manufacture, not only in malt, but beer, vinegar, and spirits.

In 1713, a law was passed, 12th of Anne, allowing private families the liberty to compound for the malt duty at the rate of five shillings per head, of which privilege the community almost universally availed themselves, for above two-thirds of the malt made was consumed by private families. At that date, when the population (England and Wales alone being then charged with the malt duty) ranged little more than 5,000,000, the quantity of malt manufactured, as ascertained by the amount of duty collected, was above 30,000,000 bushels; whereas, with a population (now paying the malt tax) of nearly 30,000,000, the consumption has not averaged 37,000,000.

To prove this enormous decrease in the consumption of malt, I need only refer to the statistical table in this volume, under the heads 'Malt,' and 'Population.' To the year 1723 the consumption of malt was nearly six bushels to each individual, but to 1831 to 1861 it has not exceeded one-and-a-quarter bushels.

This decrease in the consumption is to be ascribed to various causes, one of which comes from the quarter that ought to promote and extend it, that is, the laws regulating the trade of both maltster and brewer. Whatever frauds the laws were framed to detect, they have signally failed in being instrumental in increasing the revenue, as no additional duty has been collected; hence one of two things may be fairly assumed, either the restrictions

have proved of no effect, consequently only vexatious and embarrassing, or that, previous to those restrictions, a great quantity had been made which did not pay duty through the absence of restrictions. If the latter proposition be correct, then an additional decrease in consumption is proved to the whole extent of the fraudulently made malt.

The laws which limit the means of vending malt liquors, and excessive taxation, as compared with that of foreign substitutes, are the great causes of checking the natural progress of the malt trade. In proof of which, it is only needful to refer to the result of the abolition of the tax on beer, together with the partial opening of the trade in beer from 1831 to 1841.

The consumption of malt increased from an average of ten years, ending 1831, of 29,000,000, to 41,000,000, the ten years ending 1841.

But then came the more than corresponding reduction of duty upon foreign articles with which malt has to compete, which not only checked the further increase in the consumption of malt, but caused it again to *fall off* for the succeeding twenty years ending 1861; with an increase of population of above 3,000,000, the average consumption of malt was only 38,000,000, or a reduction of 3,000,000 bushels annually.

The reduction of duties since 1841 upon tea, coffee, cocoa, and wine, has been nearly 50 per cent.

		<i>d.</i>	<i>d.</i>
Coffee, from British possessions,	from	6 $\frac{1}{8}$	to 4 $\frac{1}{2}$
„ „ Foreign „ „		15 $\frac{3}{4}$	„ 8 $\frac{1}{2}$
Cocoa, „ British „ „		2 $\frac{1}{8}$	„ 1 $\frac{1}{8}$
Tea	„		„ 1s. 5d.
Wine, from 5s. 6d. per gallon	to an average of		2s. 3d.

The result is—

	lbs.	lbs.
Coffee has increased in consumption } from }	28,370,857	to 35,375,675
Cocoa " " " "	1,930,420	„ 3,576,384
Tea " " " "	36,675,667	„ 77,949,464
	galls.	galls.
Wine " " " "	6,553,922	„ 10,787,171

These facts of themselves are sufficient to account for the depression and falling-off in the consumption of malt.

The next impediment to the proper development of the malt trade is the present, or rather antiquated and offensive licensing system.

The first mention I find of licence was in the reign of James I., about 1605, when his Majesty granted to Sir Thomas Mitchell a patent of monopoly for licensing inns and ale-houses in England.

But as a system, it was first instituted in the reign of James II. The principles upon which the Parliament advocated it was, "that it would operate as a necessary regulation of police, by preventing improper persons from keeping houses for the sale of wine and ale."

But this system of magisterial licensing is fundamentally vicious in principle; the age of ignorance of the general laws of commerce is past, and has given way to that of free trade and open competition.

We have now an efficient staff of Excise—and, still more, an effective police force—throughout the kingdom, neither of which existed when the present licensing system was introduced.

All licences should emanate exclusively from the Board of Inland Revenue, and the licence should be sufficiently low as not to interfere with the profitable

exercise of the trade; such an open trade would consequently greatly increase the number of licences, and of course the *public* Revenue.

The granting of licences should be invested by the Board in some responsible officer, under proper regulation.

If the trade is to be legally permissible, it ought to be equally open to all who may be disposed to embark their capital or labour in it.

The granting of licences ought not to be at the caprice of magistrates, the folly of which is apparent in most districts; in some are to be seen public-houses every thirty yards, in others not a licensed house within a mile or more; whole villages excluded from a single refreshment house. The question has been so often investigated by Committees of both Lords and Commons, 1817, 1833, 1849 and 1850, 1853 and 1854, that little in the shape of information upon the subject remains to be obtained. These Reports clearly show the desire that a free competition should exist.

There is no measure likely to work more general good among the people of this country, than one which shall tend to make beer an article of more extensive consumption amongst the labouring classes. It is, however, sufficiently manifest that such a measure must be one which shall effect its purpose by indirect, as well as immediate provisions. It will not be enough to repeal or reduce the malt-tax, unless some decided method be adopted to open the trade, by letting any man sell beer who pleases, under an Excise licence only; as it might serve all moral purposes, to leave the vendor answerable to the visits from the Excise, and to fine or loss of licence by judgment of the Quarter Sessions.

The Government objection to the reduction of the malt duty has been, "That the increased consumption would not cover the deficiency of revenue." The answer to which is, "Make an equitable adjustment of the duty on the competing articles."

The present immoderate duty on malt, and the reduction of the duty on wine, has brought the price of wine to nearly that of ale. It has had a serious effect upon the consumption of ale termed India pale, an article in great and increasing estimation with middle and higher classes of society.

It would be preposterous to expect, or wish, the consumption of beer in 1862 to correspond in proportion to that of 1700, inasmuch as the introduction of tea, coffee, and cocoa, must be admitted of great benefit to the country, and the consumption of these articles must of necessity affect the consumption of beer. It is not the beneficial introduction and use, but the abuse of the use, in maintaining an exorbitant war-tax upon malt, and reducing the tax on the competing articles to the lowest point, that we complain; for by such unfair reduction, the consumption has been forced, to the prejudice of malt. Thus have the Government forced the sparkling ale, that beverage which was wont to be the pride, not only of the middle, but even the higher orders of society, from their tables, to make room for the productions of foreign countries.

In Germany, the Government take a contrary view of the beer trade to that of the British Legislature; every possible encouragement is there given to the production of malt liquor, even to offering premiums upon *quality*, and the tax upon malt is barely sufficient to ensure

quality; what is the effect? why, in Belgium, the brewers are now rivalling the British. The 'Brussels Herald' of July 11, 1849, in giving a statistical account of their trade, states:—"We have much pleasure in recording a great improvement in one of the principal branches of trade in Belgium, that of brewing. The improvement in question consists in the perfect imitation of English beer for exportation, several thousand hectolitres of this description have been exported by the Vigrett Brewing Company, of Louvain. Imitation Scotch ale has been likewise shipped to Guatemala, California, Cuba, and Java."

It is, indeed, a strange policy which would destroy or injure important home resources and manufacture, for the purpose of encouraging and patronizing extensive consumption of *foreign* produce. "The whole price of the annual produce of any country, naturally divides itself into three parts—the rent of land, the wages of labour, and the profit of stock; and constitutes a revenue to three different orders of people—to those who live by rent, to those who live by labour, and to those who live by profit. These are the three great original and constituent orders of every civilized society, from whose revenue that of every other order is ultimately derived."

Now what is the effect of substituting the comparatively untaxed produce of *other countries*, for the overtaxed produce of our own country, but to seriously injure the first and third of these great orders of society, and to ruin the second (or labour), and since the cost of every article of consumption is constituted of above three-fourths labour, of what vital importance must it

appear, for every country to avoid those measures which shall have the effect of the employment of the labour of other countries, to the destruction of our own.

Looking at the great increase in consumption of the several competing articles, it ceases to be a wonder that malt, so highly taxed, should remain stationary; at the same time it serves to convince us of the imperative necessity of trying to get the tax upon malt and hops reduced.

Respecting the two articles, tea and coffee, competing with malt, no reasonable objection can be urged; but it must be remarked that the manner by which the Government has forced their excessive consumption, to the necessary diminution of the use of malt, is not only objectionable in policy, but injurious in finance to some of the most important interests of the kingdom; and I must direct attention to the following recorded facts. The first notice of tea in England is in an Act of Parliament (12 Car. II., c. 23), 1660, by which a duty of eight-pence per gallon was laid upon all tea made and sold in coffee-houses; and in 1666 the price of tea in England, rated as high as sixty shillings per pound. About this period the East India Company, being desirous of presenting a rarity to His Majesty, procured twenty-two pounds of tea, which was thought a valuable offering to Royalty.

In 1669, the East India Company's *first invoice* of tea was received, amounting to two canisters of 143½ lbs.; this was the commencement of a trade which has, within 190 years, reached to upwards of 77,000,000 lbs. *per annum*, and the price reduced from 60s. per lb. to .

3s. retail, duty included. In 1678, the Honourable Company imported 4,713 lbs.; but this *then large* quantity completely glutted the market, so much so, that the imports of tea, during the ensuing *six years*, amounted to only 318 lbs. In 1689, the old mode of levying the duty on tea, viz., by the quantity made in coffee-houses, was altered to a fixed duty of five shillings per lb. and five per cent. on the value. In 1708, the average price of tea was sixteen shillings a pound. Thus tea, in 1710, paid a duty of five shillings and five per cent., the consumption was 831,438; in 1861, duty reduced to 1s., the consumption has increased to above 77,000,000 lbs.; but malt, in 1712, paid a duty of 6½*d.* per bushel, the consumption being 30,000,000 bushels. In 1861, duty 21s. 8*d.*, with a population nearly quintupled, the consumption scarcely varies, being 38,307,987.

From a similar cause of liberal reduction in duty has coffee attained an amazing demand. From 1795 to 1799, when the duty was 1s. 5½*d.* per lb., the consumption was about 700,000 lbs. per annum; but from 1809 to 1813, with a reduction of duty to *one-half*, or 7*d.* on British Plantation, and to 10*d.* on East India, the consumption rose to nearly 8,000,000 lbs.; and in the year 1861, with a further reduction to 4*d.*, it has gained the prodigious consumption of 35,000,000 lbs. per annum.

What appears equally astonishing is, while so many great interests are involved in this subject, the body of maltsters, brewers, and victuallers, above 100,000 in number, to whom must be added the farmers and landed proprietors, representing one-half the property of the

kingdom, can suffer themselves to look on so supinely on the neglect.

Next to these effects of tea and coffee, the reduction in the duties of sugar, and its introduction into the breweries, has greatly tended to diminish the consumption of malt.

This latter measure has been repeatedly pressed upon the attention of Government, by the West India interest, but always met by refusal on the two good and sufficient grounds of injury to the revenue, the malt trade, and the landed interest. However, in the year 1847, during the temporary and unjustifiable great advance in the price of all kinds of bread stuffs, this incident was seized upon as a favourable event, ultimately to carry the point in favour of the colonists.

According to present experience, from brewing with sugar, I am ready to admit, that when malt is below 60s. and sugar is 35s. very little injury can arise to the malt trade. But what, let it be asked, must be the case when it has fallen to 25s.? In 1846 the duty was reduced from 24s. to 14s., and, let it be remarked, this was the period chosen to permit its *free use* in competition with malt; and the quantity of malt displaced by sugar, in the year 1848, was above 20,000 qrs., the average price of malt being under 64s., few brewers as yet knowing how to use it advantageously. From the lax survey of the breweries, I have reason to know that nearly *double the quantity of sugar* was and is used to that shown by the returns; and further, I know many brewers who are now using sugar to *great advantage*.

CYDER may be fairly considered, from its national character, as ranking next to beer; being, like beer, of

home growth and manufacture, and maintaining a great consumption, will always be considered of importance to those counties favourable to, and familiar with, its production—Hereford, Gloucester, Somerset, and Devon.

The first tax imposed upon cyder was naturally co-existent with that upon malt, namely in the year 1697, 4s. per quarter on malt, 4s. per hogshead on cyder, and its highest tax has been 30s. per hogshead, when beer was taxed 10s. per barrel, and the malt-tax 34s. 6d. per quarter. But in 1825 it was reduced to 10s. per hogshead, and in 1829 the duty upon cyder was altogether abolished. But why an article of so great consumption, being 40,000 hogsheads per annum, should be exempt from duty, whilst beer is taxed 90 per cent., is inexplicable. The expense attendant upon its manufacture is not one-twentieth part upon that of beer. The consequence is, that in those districts where cyder is made, beer is rarely drunk, owing to the great difference in price. Good cyder can be obtained at 6d. per gallon, when beer of equal strength cannot be sold at less than 16d. Here, again, appears an evident injustice, both to the barley grower, the maltster, and brewer. I have a letter from a brewer in Somersetshire, stating that in good apple seasons, he might as well close his brewery.

In reference to the consumption of malt it is a fact worthy of notice, that previous to 1767 England was an exporting country of both malt and barley, varying from 63,477 in 1700, to 900,000 in 1764; but since that period the exportation of barley has not only ceased, but the importation has reached from 1,000,000 to 2,000,000 quarters annually, and the export of malt has altogether ceased except to our own colonies. The

quantity of malt as exported *duty free*, and that consumed in beer exported, upon which the malt drawback is allowed, amounts to above 120,000 quarters. English malt was formerly held in great estimation on the Continent. A distiller from Holland being introduced to the author in 1827 to see our system of malting, stated that his great-grandfather had been in the habit of buying a considerable quantity from London. Upon seeing our corn on the floor, he exclaimed with astonishment, that we made malt differently now to what he always understood had been the practice in former times; for *then* we made our malts without causing any roots.

This erroneous opinion arose from the practice we then, as compelled by law, adopted, and now by choice follow, of separating the roots from the malt after being dried; which was quite different to the practice in Holland, where they never dressed it previous to use. In connection with this feature in the trade, it may be stated that from 1549 it had been the general practice in England to dress it. This very point was deemed worthy of being matter of legislation. In the 2nd and 3rd Edward VI., cap. 10, there is this clause, "No person shall sell any malt not well trodden, rubbed, and fanned, whereby there may be conveniently fanned out of one quarter, half-a-peck of dust or more." The forfeiture was two shillings per quarter.

That heavy taxation of any article must necessarily reduce consumption of that article, has become quite axiomatic in political science. But while opposed to extravagant taxation, experience has taught me to be less scrupulous of moderate taxation on certain articles.

If asked to give an opinion, I would say that a moderate tax upon malt will ever prove beneficial to the maltster, brewer, and public; having the effect of maintaining an article in the market of very superior quality, and always preferable to that which would be obtained if there existed no tax.

BROWN OR BLOWN MALT.

A description of the process of making this malt (which is used exclusively for brewing porter and stout) is not of great practical benefit, inasmuch as no person could dry off a wetting of corn for blown malt from any written instructions. Practice and great experience is indispensable; but as a guide to cost, materials used for drying, and the increase, an explanation may prove interesting and useful.

The barley usually selected for making brown or blown malt, is of a second quality as to size, but it is of the utmost consequence to use none but kindly barley, that will vegetate as free and perfect as the very first quality and size, and for this reason: the malting part of the process is conducted precisely the same as for the best pale malt; but in the drying, the grain is blown or increased in bulk by the sudden application of heat (amounting to a perfect blast), to the extent of from eighteen to twenty-five per cent., this increase constituting the maltster's profit, for the price is uniformly 10s. per quarter less than the best pale malt. But those corns that have *not vegetated*, will neither blow or increase, and are deficient both in colour and flavour.

The great art consists in the drying, the system is this: the corn is laid with care and skill upon the kiln, not exceeding one-and-a-half inch in depth, and is turned only once; the entire drying takes from one hour to one hour and twenty minutes, and requires eight faggots to each quarter of malt, and the extreme heat is not thrown in until the first steam or moisture is off.

The fuel used is faggot wood and billets, and in the first heat, billet wood is used with faggots. The cost of fuel is about 2s. per quarter, and the labour attendant upon the drying exceeds that upon pale, nearly 6d. per quarter. The drying is not only laborious work, but attended with no little danger from fire.

This may be considered the proper place to introduce a few words on an interesting and prominent article in brewing, namely, ROASTED MALT.

Being of comparative modern invention, and most valuable to the porter brewery, it has, in a great degree, superseded the Blown, or Brown Malt, which had constituted a very important branch of the malting business. It has likewise, to some extent, interfered with Amber Malt.

Both Brown and Amber Malt are used for giving colour and flavour, but principally flavour, to porter. But this misnamed *malt*, roasted, has displaced above two-thirds of the Brown and Amber. One peck of roasted is equal, in giving colour, to eight bushels of brown. Formerly the grist for porter was constituted of one-third pale, one-third brown, and one-third amber.

The word *malt* is greatly libelled in these roasting-houses. The corn is steeped only forty hours, being the

shortest time the law allows, consequently pays at least 5 per cent. less duty than ordinary malt, and is usually thrown upon the kiln from four to seven days after being emptied from the cistern. Corn perfectly malted will not give out so much of colour, or so standing a colour, as that merely partially malted; and on the other hand, barley, *unmalted or not steeped*, gives still less colour, and the colour is not permanent. This corn is not so perfectly dried on the malt kiln as pale or other malts; and the process of roasting is conducted by law, as it respects the premises, not less than one mile from the malt-house; the business of roasting is similar to that of roasting coffee. The best quality is that which is of a dark coffee-brown colour, nearly black, and *close* roasted, that is to say, none of the corns *burst*.

The most inferior is that which is quite black, and the husk burst, and many of the corns will be observed to be matted together; the colour from such will not stand, from its being so highly charred.

There is a special Act of Parliament for regulating the proceedings of the malt-roaster, which I have reason to believe was concocted mainly by a few of the London roasters, ostensibly to protect the trade and revenue against the fraud of roasting barley not paying the malt duty. But the effect of its provisions are to create a very nice little monopoly; the trade is in very few hands, all is sent out by certificate.

I was sent for by the Excise to examine a sample of corn *called* Patent, or Black Malt, for my opinion whether it was ever malted. I found that about *one-tenth*—not more—had partially vegetated; my answer was, “As part had vegetated, it was *possible* all might have been steeped

and paid duty, consequently it was malt according to *law*, but never was the malt of commerce, inasmuch as the law, as now construed, constituted all grain to be malt that had been steeped forty hours, and had remained in couch thirty hours, without reference to its being malted."

But by a late Act, all malt found upon the premises of a malt-roaster, or roasted malt found on the premises of a brewer, that has more than five per cent. of unmalted grain, or if grain have more than five per cent. of which the acrospire has not passed at least half over the grain, the same is liable to seizure.

The principal makers of Black or Roasted Malt are Mr. Walmsley, New Road, Whitechapel; Mrs. Backhouse, Spital Square; Messrs. Randall, Lambeth; and Mr. Swonnell, London; and Messrs. Plunkett, Dublin. (*See Laws.*)

CRYSTALIZED MALT.

This was a patented article, but which patent, I believe, has now expired. The process is somewhat similar to that of making the Black or Roasted Malt; the difference being that Black Malt, after being partially malted and kiln-dried, is then roasted in a close cylinder, but the Crystalized is put into a large wire cylinder in the *moist* state from the malting-floors.

To the taste, this Crystalized Malt is nearly as sweet as sugar, but will not yield in the mash tun an extract equal to the pale malt, neither does it give colour equal to the Brown or Blown Malt.

AMBER MALT.

It is made both pale and dark : the latter is mostly in use, not only for flavour, but colour, and, like the blown or brown malt, to impart to porter that peculiar nut-brown head, without which porter loses its original character and peculiarity.

This dark Amber Malt should be made from the best quality of barley, and worked upon the floor the same as for pale malt. The colour and flavour is given on the kiln. The malt to be not *more* than four inches in depth, and turned only once. The first fire made with Welsh coal or coke, to raise and get off first steam ; then put on billet wood in sufficient quantity to obtain the required colour and flavour.

MALTING.

THE seeds of plants, when placed under certain circumstances, undergo a change called Germination. The result of this change is, that the starch, or fecula, contained by most seeds, receives new qualities; the most predominant of which are an increased degree of sweetness and a more complete and ready solubility in water of a given temperature.

The business of the maltster is to arrange and govern the circumstances necessary to germination; also to obtain these qualities in the highest possible degree. The chief circumstances to be attended to, in order to produce the healthy germination of seeds, are:—

First.—The adjustment of the temperature, which should always be above the freezing point, and below a mean of 60.

Second.—The regulation of a supply of moisture to the seed.

Third.—The regulation of the access of air to the seed.

The *conjoined* operation of these three agents—atmospheric air, heat, and moisture, in given degrees, is requisite to germination, for seed will not germinate without air, though moisture be present; nor without moisture, though air; nor without the requisite degree of heat, though both air and moisture be present. Seeds never

vegetate when exposed to a temperature below the freezing point, nor when buried too deep in the soil to admit the action of the atmospheric air upon them.

When seed is placed under a favourable arrangement of these circumstances, the growth proceeds; and the following leading phenomena are observed. First, the husk, or membrane which envelopes the component parts of the seed, is swollen and bursts the plumula, called by the maltsters the acrospire, the part that produces the stem and the leaves, gradually expands, and when *buried*, rises to the surface of the soil; the radicle puts forth ramifications and becomes a root. These changes constitute what is understood by germination in the extended signification of the term. The cotyledon (or the part of the seed which contains the matter for the early nutrition of the young plant), which is originally insipid and farinaceous, becomes sweet and mucilaginous, and furnishes materials for the early nutriment of the plant before its roots and leaves are adequate to their full functions.

When the root and stem have acquired a certain degree of vigour, the cotyledons either rot away or become leaves, and the plant derives its nourishment from the absorbing power of the root and leaves.

Now, in malting, the process of germination is allowed to go on to the extent at which the cotyledon, or insipid farinaceous matter, becomes to the utmost attainable degree sweet and mucilaginous. The seed is then subjected to a degree of heat which drives off the moisture and stops the process of germination.

The germination of barley, to make malt, is carried

usually to the extent when the plumula, or acrospire, has elongated, and has nearly reached the opposite *extremity of the seed*; it is then stopped by heat: the kernel, or farinaceous matter in the grain, has, now that it is dried, become loose and mealy. It is soluble in water heated to a certain degree, and this solubility is the next valuable quality communicated; as that malt is the best which yields the greatest quantity of soluble matter to heated water.

I shall now treat of the qualities of the grain used for the purpose of malting; and next, of the process itself, under its several heads. The following, according to Dr. Thomson, exhibits the analysis of unmalted and malted barley:—

Gum	5	. . . . .	14
Sugar	4	. . . . .	16
Gluten	3	. . . . .	1
Starch	88	. . . . .	69

—	—
100 Unmalted Barley.	100 Malted Barley.
—	—

The Doctor states that the real loss barley sustains is about 8 per cent. by converting it into malt, of which

1	5	is carried off by the steep water.
3	0	dissipated on the floor.
3	0	roots separated by cleansing.
0	5	waste.

—
8 0
—

Barley contains a portion of oil. Thomson found its

colour to be asparagus green. This oil, to the presence of which is to be ascribed the peculiar flavour of spirits obtained from raw grain, is in a great degree dissipated by the process of malting.

Barley for malting consists of inner and outward husks, the cotyledon and plumula.

The cotyledon, or body of the grain, should be white and somewhat mealy, botanically called albumen; but barley of the unkindly character, or that ill-suited for malting, the husk of which is much thicker, and in most cases smooth with a black mark down the back.

This barley is of a hard, steely nature; it presents if cut or broke in half a darker appearance, has a grey or bluish transparent cast; it is difficult to make it into tender malt.

The whiter and more mealy the better.

The plumula is seen in barley under the husk at the root end of the grain.

It is admitted that the grain contains a substance called diastase, which, when the grain has absorbed the water, commences the vitality, converting the albuminous cotyledon, or starch of the grain, into dextrine, which by action of the diastase becomes sugar. The diastase is a white flocculent substance, from the Greek word "diastomia," I separate. Musprat states, that diastase may be obtained tolerably pure by making a paste of thoroughly malted grain at a temperature of seventy-six degrees, allowing it to stand for a few minutes, and then pumping out the liquor, which is afterwards filtered and heated in a water bath at 170 degrees; at this temperature a portion of the foreign

nitrogenous matter coagulates, which is afterwards separated by filtration.

The clear filtrate, which contains tolerably pure diastase, is evaporated at a low temperature to dryness. When thus prepared, although not quite pure, it has the remarkable property of changing any kind of starch into sugar. By mixing it in water with the starch at a temperature of 160 degrees, which extract should be steadily maintained, one grain is sufficient to saccharize two thousand grains of any kind of starch.

Diastase does not exist in raw grain, but is the result of germination, and the starch of the body of the grain, or cotyledon, is converted into sugar not only as far as the acrospire, or plumula, advances under the husk, but by the cool system of malting, giving long steepes, and little or no water upon the floors, and kept out from fifteen to seventeen days upon the working-floor; that part of the grain not traversed by the acrospire becomes likewise converted. The plumula, or acrospire, which in the ground becomes the future stem of the plant, and the root or radicle is thrown out in opposite direction of the plumula, or acrospire, and is the first to show sign of vegetation—is usually seen in form of a white protuberance from the third to the fourth day; in very mild weather I have seen it developed the first twenty hours whilst in couch.

For the good choice of a malting barley, attention should be given to a variety of circumstances. The most important are—1st, weight; 2nd, size; 3rd, equality of size; 4th, kindliness. The first manifested by the appearance, are that the cotyledon, or body of the grain,

should appear white and mealy, and that the husks should be thin and cridled. According as these qualities are found, in a greater or less degree in barley, it is said to be kindly or unkindly.

When so heavy a duty is imposed on malt as in England, being nearly equal to the value of the barley, it is bad economy to malt any but the very best quality, weighing 53 to 56 lbs. per bushel.

In most seasons, the barley grown upon heavy lands is unkindly (in my opinion) from the great quantity of gluten which it contains, perhaps binding together more closely the starchy particles; in some cases weighs as heavy, and sometimes heavier, than the best stout kindly barley. This steely barley absorbs moisture slowly, and it is often with extreme difficulty that the process of vegetation can be carried on with perfection for our purposes. I am of opinion the excess of gluten prevents this barley *containing*, or retaining sufficient moisture that length of time to enable it to properly accomplish its purpose, that of setting the starch at liberty. Unless this cohesion of the particles be destroyed, it is impossible to reduce the pulp to the necessary farinaceous substance. This is the description of malt to which I have so often alluded, when I have contended for the freedom of the process of malting from arbitrary Excise regulations.

Although this barley be completely saturated with water in the first process of malting (which I shall presently describe), and be allowed to remain in the cistern one-half longer than the kindly barley, yet, from its not being able to retain, or contain an adequate proportion of moisture at any *one* period before germi-

nation has performed half its office, it becomes languid, and the end of the root droops, and sometimes suddenly assumes a brownish cast, and the corn remains, as a Shrewsbury maltster once described to me, dead. He stated, as the law did not then allow them to sprinkle their corn until the twelfth day (in 1828), they always termed their corn after the sixth day until the twelfth, to be in dead couches; in cold weather not disturbing it more than once in two days.

The period at which this languor takes place varies according to the temperature of the atmosphere, and the degree of steeliness of the grain and quantity of moisture given in cistern; previous to this apparent languor taking place, is the period at which judicious sprinkling should be applied. The vegetating powers should at all times be kept alive, and at no one period receive any other visible check until thrown on the kiln, but that resulting from the deficiency of moisture caused by evaporation and vegetation, at which period the change from barley to malt should be complete, so much so that upon breaking the grain, it should be floury to such an extent as to make a mark like chalk; when watery, or as we term it waxy, the *conversion is incomplete*, and if dried on the kiln in this latter state, the malt is sure to be hard, particularly at the end, consequently this hard or steely part is unproductive to the brewer.

It does not, however, follow that barley grown on cold and heavy lands is always so steely as to require the same treatment in succeeding seasons.

Some barley, of the growth of 1827, of the western and northern counties, required to the extent of seventy-

two hours in the cistern, and sprinkling on the floor. The barley of 1828 growth, in the same district, only required fifty-five hours.

In the choice of barley for malting, great care must be taken to avoid that which is mow burnt. The husk which covers the *bud* of such barley is generally of a reddish brown, and on moving it, the bud, instead of a perfect straw colour and a moist appearance, presents a musty shrivelled-up and burnt aspect. The grains which are mow burnt are dead; and in malting, at the end of about from six to eight days, even in cool malting weather, they become mouldy, and are apt to taint the healthy grain under process, in which they may get mixed. *When the bud is but loosely attached to the kernel, it will not malt well.* Such is in general the case with barley that is stale, or the opposite, when used too early in the season. The cause of the latter, in my opinion, is that the barley has not had the proper sweat in the mow, which has the effect of uniting the bud to the kernel.

Although a proper choice of barley for malting is of the utmost importance, yet it is extremely difficult to convey, by writing, such an idea of all the appearances as to guide the judgment. The difficulty is to convey by writing a perfect idea of the appearance of any one variety, but the varieties are endless; for as the seasons vary, so does the appearance of injury received by the barley.

From time to time there occurs peculiar states of weather and combination of circumstances, from which results an appearance of barley which is entirely novel to

persons even of the most extensive experience. During the forty years that I have been in the malting trade, I never experienced greater difficulty in the selection of malting barley than in the early part of the season 1829. I found vegetation extremely precarious in the barley of that season, which had presented the finest appearance of life and health.

This imperfection I ascribe to the rains which fell during, and for nearly three weeks previous to the harvest; and the fact of the barley having, in many instances, been cut before it was perfectly ripe, from the impatience of the farmer at the unsettled state of the weather. Great care should be taken to purchase no barley for malting that is not perfectly sweet, and free from any musty or stale smell. The sooner used after being thrashed out the better. But the growth of barley in 1860 was still worse, and the most difficult to make into malt, even of the best selected samples, a great portion of the growth even from the most favoured districts was found to be incapable of being made into malt; so much so that the Board of Inland Revenue had numerous applications from maltsters for the remission of the duty on imperfectly malted grain, in fact unfit for brewing purposes, much of which was obliged to be disposed of as food for cattle, or destroyed.

The Board granted relief in 182 out of 193 applications.

The immediate cause of this state of the barley crop was, no doubt, owing to wet and cold summer and autumn, and the adverse character of the weather during the harvest of that year, considerable quantities of barley

have, during the malting season 1860-61, proved to be incapable of germinating. "It is difficult to determine the precise manner in which these causes have operated in destroying the vitality of the grain, but, judging from the numerous samples which have been examined in the Laboratory, it would appear that some of the injury is due to the damp state in which the barley had been stacked or housed, as many of the samples possessed that character which is usually described as "Mowburnt;" and it may be that much of last season's barley was rendered unfit for malting by the process of drying it at too high a temperature on kilns before taking it to market, as it is not perhaps generally known that a temperature so low as 140° Fahr., when the grain is moist, and 150° when it is dry, is sufficient in most cases to destroy the vitality of the barley, without in the least impairing the healthy appearance of the embryos. In addition to the damage alluded to, there can be little doubt that some of the barley of last season lost its vitality whilst standing in the field, as a number of the samples examined were found to contain numerous grains which, from the attacks of fungi, had become quite mouldy and decayed, a condition that, I think, is not likely to have been brought about in the stack.

"In October many persons in Ireland, interested in the malting trade, strongly represented that much of the season's barley could not be made to germinate. Although there were reasons to believe that these representations were substantially true, it was deemed advisable to ascertain, as far as possible, to what extent the defect complained of really existed. Accordingly, samples of

malt and barley were simultaneously procured from every maltster in Ireland who was at the time working. These samples, numbering upwards of 200, were at once forwarded to the Laboratory for examination, and found to contain an average of 34·5 per cent. of corns incapable of germination, some of the samples containing from 60 to 70 per cent. of such corns.

“In the month of February last about 100 more samples were procured in Ireland: these, when examined, proved to contain an average of 13·5 per cent. of corns which could not vegetate, thus showing that a considerable improvement had taken place in the quality of the grain, but still indicating a percentage greatly above what has ever been found in ordinary seasons.

“Since the commencement of the present malting season many applications for the remission of the duty upon grain which it was stated had failed to germinate, and was therefore unfit for brewing purposes, have been made, and, in every instance, the truth of the statement made has been tested by a careful examination of the sample of the grain in question. 260 of such samples, containing an average of 58·6 per cent. of ungerminated corns, have been so examined in the Laboratory within the last six months.

“As a protection against the frauds which might be committed in the exportation of malt upon drawback, samples of all such malt are now taken, and subjected to examination in my department. During the few months that this precautionary measure has been in operation, ninety-nine samples of malt, intended for exportation, have been analyzed. These samples contained an average

of 5·1 per cent. of corns which had refused to germinate.

“ The following Table shows the number of samples of grain examined in the Laboratory, for all objects, during the year just ended :—

Description of Samples.	Number of Samples examined.	Mean percentage of ungerminated Corns in the Samples.
For remission of duty on the ground of defective germination	260	58·6
For exportation on drawback of duty	99	5·1
Procured from Ireland in October last to determine the extent to which barley then in process of malting refused to germinate	209	34·5
Procured from Ireland in February last for a similar object	101	13·5
Taken from malt roasters, and containing not more than 5 per cent. of ungerminated corns	21	2·3
Taken from malt roasters, and containing more than 5 per cent. of ungerminated corns	53	24·5
Samples examined for other objects	11	—
Total number of samples examined in 1860	754	
" " " 1859	143	
" " " 1858	59 "	

Extract from Report of Commissioners of Inland Revenue.

Good barley, which has been well harvested, continues to rise in the cistern from 60 to 70 hours, and as the duty is charged from the greatest gauge, the maltsters who steep their barley but 40 hours, will not pay so much as those who steep it 60. Those maltsters who consider the profits of their trade as the principal object

of their pursuit, rather than the quality of their malt, will avail themselves of this advantage.

Avoid using any that has been lying in the granary, as it is so likely to have been previously heated, after being thrashed out, and thereby injured; which injury is not easily detected, for by turning over the barley, and thereby cooling and freshening it, the latent taint is often greatly covered, and the judgment misled.

The consequences of the use of barley which has been heated in the bulk, are similar to those resulting from the use of mowburnt barley; but they are not so great in degree, though they are more difficult to guard against.

Barley should never lay in granary more than four feet deep, and should be turned every four days at least.

New barley should not be malted until it has received what is termed the sweat in the mow, which occurs within five weeks after being stacked. When I have had occasion to steep barley as soon as carried, have found great benefit from sweating it upon the kiln and steeped as soon as cold.

I find that most foreign barley receives less injury from being kept in bulk than our own. I have made beautiful malt of fine Sicilian barley eighteen months old, whilst the best of our growth is seldom fit for malting at one year old, unless it has been carefully dried upon the kiln, and this is a very delicate process; and even then it is not always fit for malting beyond the age of one year.

Unripe barley is particularly to be avoided, as such will not vegetate; this description is detected by the peculiar greenish appearance and coldness, seldom or

ever to be seen in foreign barley; their seasons being more certain, they never cut until fully ripe, and give plenty of field room, hence their superior *condition*, although inferior in weight. When barley has been gathered too hastily, before it was sufficiently dry (either with rain or dew upon it), it has been found necessary to expose it a short time to a very gentle heat upon the kiln; this will dispel the morbid moisture which benumbs the vegetative principle, and prevents the barley from absorbing its necessary portion of fresh water in the cistern; but it is a very delicate operation, and the purchaser of barley for malting should avoid this kind of grain.

The next criterion to be observed, after those already mentioned, is the weight, in cases when, *other properties being equal*, the heaviest barley is the best. The general weight of the best barley is from 53 to 56 lbs. per imperial bushel. The inferior barley weighs from 51 to 53, and the husk weighs at least 10 per cent. *heavier* than the best barley. The best foreign for malting, the Scala, weighs from 52 to 54 lbs. per bushel.

Next in importance is the size of the grain. Equality of size in the grain is a most valuable property in malting barley, particularly when intended for sale: for if barley of different sizes be malted together, the germination will be unequal, the thin corn vegetating earlier and more rapid. Thin, consequently light barley should never be used in malting, as the duty and expense of making are the same as upon the bold and heavy barley.

There is an essential difference between lean barley from an enriched soil, and barley which is thin from its

natural type; and as the future crop must necessarily partake of the features and properties of the seeds, all the properties of the seed should be duly appreciated. However, it is manifest, that the boldest seed will endure the greatest vicissitude, and will more generally ensure a productive crop to the farmer, than barley of a meagre cast, especially if its impoverished shape be the result of a natural conformation.

Although in some districts in Scotland they can grow a first-class barley, still, generally speaking, barley is not cultivated to the same advantage as in England; the same refers to Ireland. In Scotland a description of barley called Bear, or Bigg, was formerly much cultivated, and from which they made malt, but of late years little is grown.

Barley and bigg, in character, are nearly allied, and each forms one of their principal crops; but require different soils and situations to bring them to perfection.

Bigg, which like barley has many varieties, is the more hardy plant, grows more rapidly, and ripens ten days or a fortnight earlier than barley, though usually sown more than a week later. It requires less heat, and will grow in an inferior soil. It does not need such care in the cultivation as barley, and is the best adapted for cold high-lying districts, being much less apt to shed its seed.

On this and other accounts it thrives in situations where barley could hardly be raised. Barley has not been raised in Scotland until within the last ninety years.

Barley can easily be distinguished from bigg while in the straw, but when thrashed out, it is not so easy to do so. Bigg is darker than barley, smaller in size, and

inferior in weight, with a thicker and smoother husk ; the meal it yields is generally of a coarser quality. But notwithstanding the difference in quality, the two grains appear so very similar in some seasons, that it is difficult to distinguish them, and this difficulty is often increased by the circumstance, that it is not uncommon for mixtures of barley and bigg to be sown and sold under the name of blended bere.

The bigg weighs from 47 to 51 lbs. per bushel, and being generally thinner and lighter than barley, vegetates more rapidly, and requires less time to steep. But in some seasons, the bere and bigg is in bulk and quality nearly equal to any barley *grown in Scotland* ; as was proved by the experiments tried by order of Government, 1806.

Papers presented to the House of Commons, relating to experiments made by order of the Commissioners of Excise of Scotland, to ascertain the relative qualities of malt made from barley and Scotch bigg, June, 1806.

Upon that evidence, I have always thought that the distinction was made by Government in favour of bigg most unjustifiably, bigg malt paying only 16s. per quarter duty, whilst barley malt pays 21s. 8d. per quarter ; for the inferior qualities of barley in England, not weighing more than the bigg, is equally entitled to the same indulgence, and the Scotch maltsters requested of Government to be allowed to steep bigg ten hours less than barley.

The season in which these experiments were tried, was certainly highly favourable to bigg, for the harvest in England was that year indifferent, and in Scotland

quite the reverse; but the fact was, the best English barley weighed 50 lbs. avoirdupois, Winchester bushel, Scotch bigg, 48. The size of the bigg was less than barley, and the husk much thicker, and this bigg, as well as the barley, was unquestionably oversteeped, in these experiments, from 57 to 104 hours, when, in my opinion, for the bigg 48 to 50 hours would have proved abundant; and was kept from 8 to 18 days upon the working floors, when I am of opinion corn, the size and nature of bigg, ought not to have been more than 11 to 13 days old. Yet, with this excess in treatment, the result of the experiment was, that the difference between malt made from barley was only 8 per cent. more productive than malt made from bigg. Considering the difficulty of detecting the mixing of bigg with barley, and the small portion of bigg grown, and that bigg, in some seasons, is far superior in quality to inferior barley, I question much the propriety of making any difference in the duty; in fact a great injustice is done the maltster generally, and revenue, when it is known that the *difference* in the *qualities* of barley malted in England is greater than that shown between bigg and barley in Scotland.

The malt trade is carried on in various ways, the first, by what may be termed the legitimate maltster, that is a licensed maltster purchasing his own barley, and selling his own malt; some giving security for the duty, and thereby obtaining an extra credit on duty of six weeks; others, without giving security, pay within six days of each round.

The second are commission maltsters, that is, making malt on commission, at so much per quarter, principally

for brewers; the brewer paying for the barley, and by becoming security for the maltster for the duty, they pay the duty when due.

Third and Fourth.—Maltsters for duty-free malt in bond for exportation, and likewise for the use of distillers, has become an important branch of business, in addition to which malt that has previously paid the duty may soon be exported, a drawback being allowed of the duty. “Formerly a complete separation was established between the trades of malting for home consumption and that for exportation; so complete, that although there might be in the market no malt expressly made for exportation, but ample stock made for home consumption, a demand from abroad could not be met without the surrender of all drawbacks by the exporter.

“This difficulty, which had lately become frequent in its occurrence, was occasioned by the law requiring malt for exportation to be made under special regulations, and so as to leave it free from charge of duty, instead of allowing as for other excisable articles a drawback of the duty charged in the ordinary course.

“In the act allowing a drawback, provision has been made to guard the revenue from the danger from which the former law was supposed to afford the only efficient protection.”

To complete the reform, and promise here contained, it now requires that the suggestion made in this work be speedily carried out, *viz.* :—

To all maltsters who desire it, to make malt in bond for home consumption.

The foreigner is allowed to send his malt here in

bond ; the English maltster requires the same liberty, abolishing all other credits upon personal security.

Fifth.—A maltster working on commission, but is not the licensed maltster. The brewer, or other principal, becomes the *licensed* maltster, and pays the maltster (*de facto*) so much per quarter, which includes the rent, labour, and fuel ; this commission varies, according to circumstances, from 4s. to 5s. 6d.

I have known other instances, where the man *licensed* has been a servant of the principal, either *clerk* or *drayman*, and I knew one in which the principal was not a brewer, and never was a maltster. He takes a malthouse, purchases his own barley, and pays the duty, rent, taxes, labour, and in fact all out-goings, and gets the *working maltster* to enter *himself* as the *licensed maltster*, consequently the workman alone is *answerable for all duty and penalties*. This, I may fairly say, is not a legitimate style of conducting the malting business ; much evil results from it to the trade and revenue.

In my 'Treatise on Malting,' although to the maltster proficient in the manufacture, the minute details I have gone into, particularly as to temperature, &c., at the different stages, may appear superfluous, I must remind such, that a treatise on any branch of the arts or manufactures is not given with a presumptuous view of instructing those *already perfect*, but for the information and instruction of those seeking information, not only of first principles, but for a full explanation of causes and effects.

The process of malting may be treated of in its four parts.

First, of the steep, or cistern; a square or oblong chamber, lined with lead or cement. It is usually sunk about one foot below the level of the floor, but some are elevated three, four, and six feet above it; it is filled with water to the proper height. At the bottom of the cistern I recommend a false bottom of cast-iron; it suffers the liquor to drain off more rapidly, and in the event of the corn being dusty or stale, it cleanses much better; the drain-cock is outside, situated where most convenient.

The dry grain is let into the cistern, previously filled with water (the thin corn floats, which I skim off), that it may be saturated with the water necessary to commence and carry on germination.

Secondly, of the couch; a place surrounded with boards, into which the grain (after having been drained of superfluous moisture) is transferred from the cistern, in order that it may be conveniently gauged by the officer of Excise, to enable him to charge the duty.

Thirdly, of the working floor; or floors on which the grain is spread, in order that it may be exposed to the action of the atmosphere to produce a limited vegetation.

Fourthly, of the kiln; on which the grain is placed to be dried, to stop the process of germination, and preserve the qualities which it has received as malt.

The implements used in the malthouse are few and simple; being wooden shovels, for the purpose of turning the corn on the floors, kilns, &c.; brooms, to keep the floors clean from loose corn being trodden upon. And barley and malt screens, for the purpose of screening and

clearing malt and barley. The working floors I recommend to be made of Portland or Roman cement, or of a mixture of stone lime, sand, and smith's ashes: slate floors are now much used.

I must premise that no one fixed process will serve for every variety of barley and variation of temperature; and that it would be impossible to give the requisite directions to serve for all possible varieties of cases which may occur.

Great mischief is often done in works treating of various branches of the arts, by giving directions for processes as if these directions were universally applicable to all cases. If all the circumstances are arranged, or occur as contemplated by the author, the results anticipated will follow from the exact adoption of the directions; but let any one of the circumstances be changed, or the combination be varied, and all is spoiled.

The process of malting must be governed by variation in the weather, and in the qualities of barley, with other circumstances that would render it absurd or mischievous to set forth any one, as the only plan, under any circumstances, to be rigidly pursued.

All that, as a practical man, I can do, is to describe the process most successfully adopted; state the effect and leading principles on which I have conducted it; giving the daily state and mode of treatment of one steeping of good barley, weighing $52\frac{1}{2}$ lbs. per bushel nett, and leave it to the discretion of my readers to apply those principles to the circumstances which may occur to them.

With the view of making the 'Treatise on Malting'

as concise and explanatory as possible, I purpose going through one entire steeping and malting; not only explaining the process and daily progress of the work, with a full explanation of the best mode of construction of maltings, and proportions, but the application of the laws, as applicable to each stage.

First.—Every person must make entry as explained under the articles entitled

ENTRY.

I, _____, in the parish of _____, county of _____, do hereby make entry of one Malthouse, situate at _____, county of _____, containing—

One Cistern, marked C.

One Couch Frame, marked C. F.

Two Working Floors, marked 1 F, 2 F.

One Kiln, marked K.

One Store Room over Cistern, marked B.

One Store Room adjoining Kiln, marked M. S.

One Store Room under ditto, marked S. R.

As witness my hand this _____ day of _____, 18 .

Signed,

The cistern should be at one end of the malthouse 40 inches deep, the barley-loft over it; the kiln at the other; and for this reason, you divide the steep into one, two, or three parts (depending on the number of working floors), *from the couch*, well watering the floors upon which the one-half, or third, as the case may be, is thrown, to prevent the dry floor from taking up any part of the moisture the corn has imbibed from the steep.

A very common practice exists of building the malthouse with cistern and kiln at one and the same end, from which no good, but great evil must result; and for this reason, by the time the corn is worked to the end of the bottom floor, it is usually (depending on the temperature) from four to six days old, a period at which the malt cannot afford to lose moisture unnecessarily, and requires the strictest attention to keep it well at work, yet not too much; to check it too suddenly when at this stage is one of the greatest evils, and in good malting weather, the temperature being between 40 and 50, is not required to be turned more than once a day. Yet in a malthouse thus built, at this important period of the process, we are obliged to throw one-half, or where (as is most frequently the case) there are three floors, the steep is divided into thirds, from the ground-floor to second and third floors, an operation equal to four turnings, in the evaporation of moisture and the bruising of the corn; the result is, in the mild weather with drying winds, the vegetation is checked to such an extent that it is difficult to recover; and then only by freely sprinkling. I have had the misfortune to work several maltings so constructed. I have, in such cases, given a liberal supply of water to the malt previous to throwing up; but the steeping I am here going through, is at a malt-house differently constructed, at Bromley-le-Bow, Middlesex, the property of Mr. H. B. Walmsley, of New Road, Mile End, whom I had the pleasure of instructing in the malting business.

PROPER CONSTRUCTION OF CISTERN.

This cistern is well constructed for a fifty-quarter steep, with the exception of the depth, which is only 34 inches, whereas *all cisterns should be 40 inches in depth*; it is built of brick and cement, with a cement facing, 335·0 inches in length, 108·8 inches wide; 34 inches deep, with a drain 6 inches deep, 14 inches wide; from one end of cistern to the other in centre covered over with cast-iron, with holes therein. The drain-cock outside of a round water-way of five inches in diameter. The advantages of a cistern thus constructed, are:—1st, that it allows the water to drain off more freely; 2nd, that in rousing and washing in your barley, you can conveniently reach every part to skim off; 3rd, in the emptying there needs no trimming, but as every shovelful is taken up, it can be thrown solid to any part of the couch without being again disturbed.

I prefer cement cisterns to lead, as the most economical, and not costing two shillings a year to keep in repair. The barley chamber should be over the cistern.

After having made entry, and the name over the premises as directed, the maltster must then obtain a certificate from the Supervisor of district, as follows:—

Form of Supervisor's Certificate for a Cistern constructed and used in its present form, immediately before the 2nd of July, 1827.

I, _____, Supervisor of _____ District,
in _____ Collection, do hereby certify that I have
surveyed and examined a malt cistern upon the malting premises
entered by _____, in the parish of _____
and county of _____, and that the said cistern, distinguished
by the letter or mark _____, is constructed and placed in such a

situation, and has such full and sufficient means provided as will enable the officer easily, safely, and conveniently to have access to and gauge the corn or grain contained in every part of such cistern. It has also sufficient light and head room above every part of such cistern. As witness my hand, this day of , 18 .
Supervisor.

N.B.—In case any such cistern shall not have sufficient light from without, the trader's engagement to keep lamps or candles burning must be inserted in the certificate.

Before a maltster can procure a certificate from the supervisor to use a cistern which has not sufficient light from without, he must be required to sign an engagement to the following effect, to be written upon the back of the certificate :—

I, , Maltster at , in the parish of and county of , do hereby engage to keep, whenever corn shall be contained in the cistern described on the other side hereof, lamps or candles burning sufficient to enable the officers of Excise to gauge and take an account of the corn so contained therein. As witness my hand, this day of , 18 .
Maltster.

Form of a Certificate for a Malt Cistern constructed since the 2nd of July, 1827.

I, , Supervisor of District, in Collection, do hereby certify that I have surveyed and examined a malt cistern upon the malting premises entered by and situated at , in the parish of and county of , and that the said cistern, distinguished by the letter or mark , is constructed with the sides and ends thereof straight and at right angles to each other, and is of no greater depth than forty inches in any part thereof, and has an even bottom with no more inclination for the drip

than half an inch for every foot in length of such drip : also that it is placed in such a situation as that the officer gauging the corn or grain therein will have sufficient light. That there is a clear open space of forty-eight inches above the said cistern, and likewise full and sufficient means provided for the use of the officers, to enable them easily, safely, and conveniently to have access to, and gauge the corn or grain contained in such cistern in every part thereof. As witness my hand, this day of , 18 .

Supervisor.

It is the maltster's especial duty to himself to see these dimensions are correctly taken, particularly that of the cistern and couch frame. I have upon more than one occasion found them otherwise. You cannot be too particular in the construction of the cistern and couch, the sides and ends upright, straight, and at right angles. The cistern should never exceed 100 inches in width. Some prefer elevating the cistern above the floor from two to six feet, the advantage sought by this is, that the corn falls heavier into the couch, consequently becomes more compressed. And in the event of having three working floors, it is exceedingly advantageous to have cistern and couch upon the *middle floor*; by so doing one-third of the corn is thrown from the couch up to the top-floor, and one-third let down to the bottom floor. It not only saves the labour of basketing from the bottom to the third floor, but prevents the bruising of the corn, which the basketing up by the windlass effects to a great extent.

After having obtained the certificate, the maltster must give twenty-four hours' notice, in writing, of the day and hour he intends steeping, as per regulation.

H

NOTICE TO STEEP.

I hereby give notice to wet barley for malting, in houses marked Nos. 1 and 2.

Number of the Houses.	NOTICE TO			Date of Floor to be Sprinkled.
	Wet.	Drain.	Sprinkle.	
No. 1.	Apr. 6, Mg. 8	Apr. 7, Mg. 8	Eg.	
„ 2.	„ 6, Mg. 8	„ 7, Mg. 8	Eg.	
„ 3.	„ 6, Mg. 8	„ 7, Mg. 8	Eg.	
	Mg.	Mg.	Eg.	
	Mg.	Mg.	Eg.	
	Mg.	Mg.	Eg.	
	Mg.	Mg.	Eg.	

It is customary to lay this notice on the specimen twenty-four to forty hours previous to steeping, but should the officer not see it, neglect, or refuse to take such notice so given, the maltster must not steep, for the officer can insist upon the notice being *given to him personally*; to avoid falling into such an error, it is advisable to look to the specimen, if the officer has not entered the notice in the specimen, it would be dangerous to steep, as the penalty would be incurred.

MALTING.

PLAN FOR STEEP BOOK, EACH HOUSE.

BARLEY BOUGHT.				STEEP.					Area 1643.			Area 1733.		Observations.	
Date.	Of whom.	Quantity.	Price.	Date.	Hours.	Steeped Quantity.	Screenings.	Skimmings.	Gauge.	Charge.	Gauge.	Charge.			
April 28	Mr. Woodley	76.0	s. d. 88 0	April 30	50	49.3	bush. 2	bush. 3	230		27.8				
				May 5	72	25.5	1	2	280	46.6	27.8	49.0			
									120		154				Temp. 59
									148		154				
									161	26.7					
															Malt, 78.0
															76.1

On the 5th May, I steeped 26 qrs. of good kindly Suffolk barley, but like most of the growth of 1848, had a little weather, still was well harvested and light, weighing $52\frac{1}{2}$ lbs. nett per bushel; passing the same through a screen to take out the dust, seeds, and small corns, the water being first pumped into the cistern. As the corn ran into cistern, it was roused about, and when all in, the light corns and rubbish swam upon the surface, and was skimmed off.

These skimmings and screenings, when dried, measured 3 bush., consequently the nett quantity steeped was 25 qrs. 5 bush.; this washing should be carefully performed, since if there should be any damaged corn suffered to remain, they would not only injure the appearance of the malt in sample, but injure the flavour, for about the eighth day such corn would become mouldy; besides by removing such corns and dust, you avoid paying the duty upon that which would otherwise prove not only unproductive, but injurious.

The skimmer is a piece of iron plate, with punched holes, turned up at the sides, and fastened to a handle of convenient length.

The corn in cistern is now levelled, for convenient and correct gauging.

The officer took his first gauge within ten minutes of the levelling, being 12·0, the area of the cistern being 164·3.

At the expiration of twenty-four hours, I drained off the water from cistern, and within one hour, as by law required, again covered the corn with water. Some maltsters never shift their liquor in cistern, but I am

fully convinced of the great benefit resulting from the change of water, it clears and purifies the corn at all seasons, particularly in mild weather, or when the corn is stale.

The water extracts from the grain different substances, but this extract is principally from the husk, and of a glutinous nature, possessing no useful quality to retain, but is extremely apt to turn sour. This first water is of a yellow, varying, with age and condition, to that of a brownish colour, with a taste or smell of straw, and is caused by dissolving some of the extractive matter of the husk; the older or staler the corn, the more high the colour, and sometimes difficult to drain off, and with a disagreeable smell; if the water barley is steeped in, be evaporated to dryness, it leaves a blackish-brown residue, of a bitter taste, and is termed extractive matter. It also contains other bodies, nitrate of soda is always present, a quantity of carbonic acid gas is formed and emitted whilst in steep.

Thick-skinned barley gives a much higher colour to the water than thin. The grain soon imbibes water, and gradually increases in bulk, until it attains its maximum size.

This increase in size is regulated chiefly by the time of steeping; next, the quality and state of the grain, and temperature of the atmosphere.

The best dry kindly barley will increase the most, the kernel being more soluble, and the husk being more cridled, gives it a greater capacity of expansion to receive and retain more moisture.

I have often proved the water imbibed by the grain is much greater than that indicated by the swell; the

kindly barley imbibing more than the steely unkindly barley, although the latter was steeped six hours more, the one imbibing 48 per cent. and the latter only 43.

TIME OF STEEPING.

Maltsters must begin to steep only between 7 o'clock A.M. and 5 o'clock P.M.

The number of hours during which corn should be kept in steep, must vary with the qualities of the corn and the temperature of the atmosphere. To make malt of the most *productive* qualities to the brewer, I give to the best kindly barley from 65 to 72 hours; and the hard steely unkindly from 55 hours and upwards with sprinkling; but as the long steeping causes so high a charge of duty above the moderate steep of 50 hours (as shown in two steps given at the end of this treatise), it cannot be expected that maltsters making for sale, would exceed 50 hours, availing themselves of the liberty of supplying the deficiency of moisture by sprinkling: and the period for such sprinkling varies from the fifth to the sixth day; and this is sufficiently early in cold weather, or with long steeping of from 65 to 72 hours at any temperature.

New barley requires longer steep than old, and thin or light barley the shortest, excepting with barley that has received moisture in the field, when ripe and badly harvested; this barley, as in 1829, which was likewise very light in weight, only required 50 hours. In no case where the corn is dry and in good condition, would I give less than 50 hours, particularly as the law does not allow sprinkling unless steeped 50 hours.

In Scotland, the usual test for ascertaining the time

barley has received its proper quantity of steep, is when the ends can be squeezed together between the finger and thumb, the skin separating from the kernel.

CHANGE OF WATER IN CISTERN.

At the expiration of 24 hours the cistern was drained thoroughly, according to notice as given in the notice to steep, and again covered with liquor within one hour; the gauge was then 13·9, and the atmosphere being 70 in the house, at eight in the morning of the following day the liquor in cistern was discoloured. I let off part of the water, and added at the same time a fresh supply; that is, kept running on as fast as it run off, so as to keep the corn covered with water. On the 8th, at nine in the morning, I drained and let through sufficient fresh liquor to remove any slimy matter, it having been 72 hours in steep. The gauge was 16·1, equal to 26 qrs. 7 bush., being ten bushels over the barley steeped; this excess was caused not only by the long steep, but from the temperature and the *small quantity steeped* in a large cistern, being, in fact, one-half the proper quantity, as explained under the article Couch.

The bulk of corn in cistern, as ascertained by gauging, seldom (and should never) exceed the bulk by gauge in the couch, and when it does so, it is invariably caused by errors in gauging, or the rise of the temperature of the steep water, caused by negligence in not properly draining and supplying with cold water; hence the necessity of keeping the corn as level as possible, examining the specimen, and gauging after the officer.

To keep corn in steep too long is injurious, as it prevents germination at the proper time, thereby exhausting

a portion of the vegetative power. Dr. Ure is of opinion, if oversteeped, it causes an abstraction of saccharine matter by the water. And if a barleycorn, when strongly pressed between the fingers and thumb, continues entire in its husk, it is not sufficiently steeped. If barley be insufficiently steeped, the injury cannot in every case be corrected by sprinkling, because no water applied on the floor, particularly before the root is formed, can be equally absorbed; some of the corn gets too much, others not enough, hence an irregular vegetation.

COUCH.

The couch frame is close to the cistern, and should be 30 inches in depth. The corn should be thrown from the cistern into the couch firm as possible, for two reasons: first, to prevent a higher charge of duty than necessary; second, to prevent any undue evaporation of moisture. In filling the couch, every shovelful should be thrown so that it shall not be necessary again to be disturbed in levelling; and when properly levelled, all doors or windows should so far be kept closed as to prevent drying winds passing over, with a view of preventing more evaporation of moisture from the surface than possible; for the loss of moisture by evaporation goes on most rapidly after leaving the cistern, so much so, that if exposed to the open air, in ten days it not only loses all the additional weight, but gradually becomes lighter than before steeped. The gas, which is emitted from the grain whilst in steep, continues for some time after exposure to the air.

The corn must remain in couch 20 hours, except in cases as explained in the laws under the couch clause, which

must be carefully consulted. The grain in couch always occupies more space than before; *the weight of the grain preventing the swell from reaching its full extent in cistern.*

The dimensions of this couch was 335·5 long; depth 30 inches. 114·6 broad; 173·3 area. The couch boards must be two inches in thickness, and not to exceed thirty inches in depth, &c. &c. (*See Laws.*)

The officer's gauge was 15·4, giving a nett charge of 27 qrs. 1 bush., being 12 bushels above the nett number of bushels of barley steeped; whereas the previous steeping of 49 qrs. 3 bush., steeped only 50 hours, gave a nett charge of only 49 qrs., being 3 bushels *less* than barley steeped. But I must remark, this charge upon the smaller steep, although of 72 hours, would not have been so great had I steeped the full quantity, *viz.* 50 qrs. instead of 25·5, for the deeper the corn is in the cistern and couch, the less the charge in proportion. I have always found the difference between a shallow and deep couch very great, for example:—take three cubic inches of barley, put into a cylindrical vessel, graduated to tenths of an inch, cover with water, and allow to remain for 96 hours; the swell will be only 0·3 of an inch, or $\frac{1}{10}$ th of the whole; but upon turning the cylinder upside down, so as to shake the barley to the other end, it will now occupy the bulk of 4·2 inches, indicating a swell of more than 1·3, at the same time 0·2 inches of air is separated.

It was from a knowledge of this fact that the law has limited the depth of a cistern to 40 inches, and couch to 30 inches, and from the same fact should a maltster steep to the full depth of his couch; in other words, his corn in couch should always gauge as near 30 inches as

possible. Yet I have seen in print recommendations to maltsters to construct their cisterns varying in depth from 26 inches to 43, and the couch the depth from 17 inches to 30 inches. It is very evident that the person who thus entered into print was no maltster.

In seven steps in succession, of 70 quarters each, for 72 hours, when the depth in cistern was 37 inches, and couch 29·5, the charge of duty was little more than 2 per cent. above the barley steeped, and the increase in malt over barley $2\frac{1}{2}$ per cent. close working.

The results of the experiments made by order of the Excise in Scotland, in 1806, fully confirms this, for the average of the 52 steepings of 76 *hours' steep*, the quantity of malt charged with duty, with an allowance of 20 per cent., instead of, as at present, $18\frac{1}{2}$, was generally *under the real produce*, and the average was nearly $3\frac{1}{2}$ per cent. under the malt made, but this was in a cold malting season.

Upon this question, of "What is the proper allowance for swell, caused by the absorption of the water in the cistern," a great difficulty has at all times presented itself, inasmuch as the longer the corn is kept in steep, the greater the swell by absorption, consequently the higher the charge and the greater the quantity steeped, or rather *the greater the depth of corn, the less the charge in proportion*. The steps here given prove this, both being in the same house and succeeding each other; the atmosphere high, ranging between 56 and 74 the first steep of 49 qrs. 3 bush. and the

First cistern gauge of which was	. 23·0 in.
Second . . . . .	. 27·0
Third . . . . .	. 28·0

Last gauge, being steeped 50 hours, 28·5. 47 qrs. 5 nett bushels. Hence the extreme rise upon the 49 quarters was 5·5 inches, and the couch exceeded the cistern 11 bushels.

The second steep of 25 qrs. 5 bush. little more than half the quantity.

The first gauged in cistern	12·0	inch.	
second ,,	24	hours	13·9
third ,,	50	,,	14·8
last being ,,	72	,,	16·1
			24·6 qrs.
			26·7 .

Thus the rise upon half the quantity was $4\frac{1}{10}$ inches, of which rise (nearly *one-third*) occurred in the last 22 hours or after the 50 hours, for the gauge at the expiration of 50 hours was only 14·8, when the nett charge was only 24·6, being 7 bushels *less* than barley steeped. The fact being that some steep only the shortest period allowed by law, 40 hours, others varying from 40 to 72 hours; yet that as nineteen-twentieths are steeped 50 hours, it is assumed that the average swell is equal to $18\frac{1}{2}$ for every 100 bushels steeped, being an average of a 52 hours' steep, and this is the rate on which the legal allowances are calculated, and if we compare the two extremes, we find $18\frac{1}{2}$ a rate in favour of the trader, when the temperature is not above 45.

The rise or swell upon corn steeped 40 hours will	Per cent.
average	16
" " 52 hours	18·5
" " 72 "	21·5

To avoid the every-day trouble and time of working out the several gauges, I make a Cistern and Couch Table for each house in the following manner:—

If the length of the couch be 211·0 inches, and the

breadth 104·2 inches, to find the area, multiply the length by the breadth, and divide by 2218·192.

Thus :—	Length . . .	2110	
	Breadth . . .	1042	
		<u>4220</u>	
		8440	
		<u>2110</u>	
	2218·192)	<u>2198620</u>	(9·91 area.

Then to find the gross number of bushels at a given depth of corn in couch, multiply the area by the dip or gauge. Suppose the dip or gauge in couch to be 20·3 inch,

Area . . .	991
Gauge . . .	<u>203</u>
	2973
	<u>19820</u>
	<u>201173</u>

And the allowance for swell caused by the absorption of water in cistern being $18\frac{1}{2}$ per cent., the product must be multiplied by 815, thus :—

	201173
	<u>815</u>
	1005865
	201173
	<u>1609384</u>
	<u>163955995</u>

This gives the nett number of bushels charged with duty, 163 bushels.

The following table is drawn out that the nett charge upon any gauge is seen at once, the object being to avoid the time and trouble of working out every charge as it occurs. In explanation, look to 20 on the inch column and 3 on the tenths' column, the result is as above, 1639.

COUCH TABLE.—Area 991.

Inches	0	1	2	3	4	5	6	7	8	9
10	807	815	823	831	839	848	856	864	872	880
11	888	896	904	912	920	928	936	944	953	961
12	969	977	985	993	1001	1009	1017	1025	1033	1041
13	1049	1058	1066	1074	1082	1090	1098	1106	1114	1122
14	1130	1138	1146	1154	1163	1171	1179	1187	1195	1203
15	1211	1219	1227	1235	1243	1251	1259	1268	1276	1284
16	1292	1300	1308	1316	1324	1332	1340	1348	1356	1364
17	1373	1381	1389	1397	1405	1413	1421	1429	1437	1445
18	1453	1461	1469	1478	1486	1494	1502	1510	1518	1526
19	1534	1542	1550	1558	1566	1574	1583	1591	1599	1607
20	1615	1623	1631	1639	1647	1655	1663	1671	1679	1688
21	1696	1704	1712	1720	1728	1736	1744	1752	1760	1768
22	1776	1784	1793	1801	1809	1817	1825	1833	1841	1849
23	1857	1865	1873	1881	1889	1898	1906	1914	1922	1930
24	1938	1946	1954	1962	1970	1978	1986	1994	2002	2010

The officer always makes the charge upon the best gauge, either in cistern or couch, floor or kiln, that is, the gauge which gives the greatest bulk in bushels after deducting the allowance. I always gauge after the officer, as every maltster should. While the corn is in couch, it seldom, in malting weather, reaches above two degrees in temperature above the floor; and in cold weather the difference is more perceptible than in warm weather. The corn must remain in couch twenty hours. (*See Laws on Couch.*)

The General Order from the Board of Excise, February, 1849, will prove of great benefit, as it allows, under certain regulations, the couch to be broke at twenty hours. (*See Laws on Couch.*)

For Laws and Regulations regarding illegally compressed couch, *see Laws.*

In cases of the officer proceeding to throw out a couch, under the suspicion of being trodden or forced together, the maltster should superintend the operation; taking care to gauge correctly with the officer, and observe the dips to be taken at *regular distances*; and when the corn is returned into couch, see that the same *be fairly returned in the usual business way and quite level*, and again wait upon the officer in his regauging, taking *particular* notice of the hour of such regauging; as it will be observed the law allows an extra 5 per cent. if regauged previously to the expiration of eight hours from being emptied from the cistern or floor, and 6 per cent. if eight hours, or under sixteen hours, and 7 per cent. if sixteen hours or upwards.

FLOOR.

The corn when thrown from the couch, or at the expiration of twenty hours from cistern, *if a gauge has been taken*, is called a floor, and subject to the floor charge, allowance being one-half the bulk; consequently there is but little fear of the gauge, after the couch, exceeding the charge then made, yet I have known many such cases, and resulting from *error in gauging*; it is therefore necessary the maltster should at *all* times keep a watchful eye upon the gauges as entered by the officer in the specimen; in fact, in all such charges the officer should

immediately give notice thereof to the trader, and the charge should at once be entered as a floor charge, but I have known cases of floor charges arise from excessive vegetation, produced not only by the mode of working, but by sudden rise in the temperature.

The depth or thickness the corn should be laid when thrown from the couch, depends upon the temperature of the atmosphere. The skill of the maltster is here brought to the test. On the management in the formation of the root all depends. If heaped too thick, or allowed to remain too long unturned, too much heat would be generated, thereby causing the root to be too suddenly thrown out, weak and long, to the great injury of the malt. Suppose the atmosphere 42, in the couch it will generally rise to 43 or 44. This evolution of heat is probably similar to what happens when moist hay is stacked, and is owing to a similar cause. It is accompanied by the absorption of oxygen gas from the air. This absorption is not very rapid; and it soon ceases altogether, unless the air be renewed, and the carbonic acid gas which the grain continues to give out be dissipated. For grain enclosed in a glass vessel ceases to vegetate in a very short time, unless the air be renewed. If emptied on floor, say eight inches deep, at from 80 to 90 hours old from cistern (*for the age is dated from the cistern emptying.*) the heat will have reached 50 degrees; but the first turning is generally from 22 to 30 hours, where it has commenced well, the sweating which is indispensable for the expansion of the bud and carrying on a good and regular vegetation. This first turn of the corn should reduce the depth to about six inches, never allowing the heat to exceed after the fourth day 48.

The temperature increases slowly at first, but afterwards very rapidly, and must be checked by turning, when, if suffered to go too far, great injury is sustained, by causing too rapid and uneven vegetation, throwing out long weak roots, which greatly exhaust the corn; the acripsire advances too rapidly, whilst the change in kernel does not progress in proportion, counteracting the advantage gained by what we term close working, *viz.* retaining, by a slow, cool process, as much of the substance of the corn as possible, particularly in the early stage, which can only be effected by malting with short root. It is necessary to judge the time for turning not only by the temperature, but by the state of vegetation, for when the root begins to make its appearance, then is the time to turn it. The colder the weather the more you may indulge it, by allowing the root to make a more decided appearance, but after the root has well shown out, and the atmosphere above 50, it is not safe to leave your corn more than four inches deep, even in the young floors.

It is difficult to give directions as to the *date* for turning this early corn, for not only corn differing in character requires different treatment, but maltings differently situate produce different results at the same period. In looking over my gauge book, I find, 9th Feb., 1830, a severe frost, corn at No. 1 house, 24 inches deep, *four days old, no vegetation appearing*; but at No. 2 house, same date, corn *eight inches deep, vegetation well developed*.

If the temperature of floor be under 45 degrees, the first turnings should be gradually diminished in depth until brought to about four inches; and to keep the temperature down, it will be found generally necessary

to turn after the fourth day, not exceeding twice a day.

If working upon the forcing system, the temperature in corn the second day is allowed to increase 4 to 5 degrees, and gradually up to 11 degrees on the seventh day.

In all cases the corn, on working floors, should be laid as level as possible, otherwise the vegetation will be unequal. A broom should be laid at both ends of each piece of corn, and the space between the pieces kept clean, free from loose corn, and slightly liquored previous to turning the corn upon it.

If the temperature of the floor exceeds 50 degrees, then that of the corn should never exceed the floor 5 degrees. In the steeping I am here going through, the temperature was very high, varying from 55 to 74 degrees; and my plan is, with long steep, to obtain not only a strong vegetation, but to attain it by a slow and cool process, that no unnecessary exhaustion of the substance of the corn shall take place by having too much root, but to obtain and maintain a short bushy root from four to six in number, and these roots but little to exceed the length of the corn. When turned from the couch, and during the period the corn is on the working floor, it absorbs oxygen, and gives out carbonic acid gas, and as the acrospire progresses along the surface of the corn, the kernel undergoes a great alteration, the gluten and mucilage to a great extent disappears, the colour becomes more white, and the substance friable, and the nearer the acrospire approaches the end, the more complete has been the conversion.

New barley germinates quicker than old and gives double the increase, but is generally very unequal in its germination, if used previous to having attained the sweat in the mow. If the barley steeped be of different growth, or different in character, the germination will at all times be irregular and difficult to regulate.

When the corn in couch or floor emits an offensive odour, it is a certain indication either (or both) that the barley was stale, or that the maltster had neglected to properly drain and cleanse the barley in steep.

In warm weather, as in the steep here gone into, germination should be kept back in the young stages, by being laid thin on the first floor, and NOT by constant turning; at 50 or above, the atmosphere is as high as the corn should be, therefore the only causes for turning are, to admit air and prevent an increased temperature and root. The too frequent turning not only breaks off the young and tender roots, but bruises many corns, and causes too great an evaporation of moisture; and although the loss of moisture may be supplied by sprinkling, the corn cannot by possibility take in this moisture so evenly by sprinkling as in the cistern. Yet if steeped 50 hours, or under, it seldom occurs that the corn does not stand in need of sprinkling, and the period it requires it varies from the fourth to the sixth day, *but never until the roots are well developed*. Much injury may be done without attention and judgment, but although the great object sought in malting is to obtain the greatest amount of *soluble matter* with the least loss of weight, still the maltster must make to suit the fancy or prejudice of his customers. The majority of the London, Scotch, and

South-eastern county brewers prefer the close-made malt, but in the Midland and Western counties very many prefer the force-made malt, not objecting to see the acrospire in many cases out at the end—which is accomplished by a more forcing system—giving only 50 hours' steep with early and profuse sprinkling, and kept at a higher temperature and in full vegetation about five days, throwing the malt on the kiln from the ninth to tenth day even in cold weather. The colour of this malt is much brighter than that upon the slow system, but the conversion into saccharine matter is the most perfect by a cooler and slower vegetation; and the small portion not converted in the process of thus malting is readily converted into saccharine matter in the brewer's mash tun.

May 9th.—E 1, broke couch to floor 3 inches, and on the 10th M 5; temperature of corn 59. It was turned 2·4, and evening 4; temperature 56. Although only two days old, the bud began to appear, and on May 11th, the bud or root was bold and evenly developed, at a temperature of 58 degrees, atmosphere 57, and turned 2·3 deep. This day turned twice, the two previous only once each day. Keeping the parts of floor *unoccupied* with corn well watered.

Floor
sweat-
ing
Heap.

Turned once, 2 inch deep, with strong vegetation, having two and three short roots; 4th day, atmosphere 61, corn 59.

12th.

Turned twice, three to six roots, fresh and short, average half the length of corn, and spire bold, one-third over, atmosphere 64, corn 64; no corn could possibly appear in better order. In cooler weather, the corn

13th.

could not have been so forward, under any arrangement, until the seventh day; neither is it desirable, but the contrary. The progress of the acrospire from this period is rapid, until it reaches half over the corn, after which the progress is very slow, and requires to be gradually increased in depth: but in *short steep*, say 50 hours and under, in mild weather the evaporation of moisture is so great, that it frequently on the fifth day requires an addition of water by sprinkling. The want of sufficient moisture on the sixth day, caused the roots (which at this stage are very tender) to lose their freshness and vigour.

May
14th.

The sixth day, four to six bushy roots, five-eighths the length of the corn; the temperature of corn was same as that of floor, and only one degree below the atmosphere, being 65. Corn turned once this day.

If, during the fourth to sixth days, should the temperature of corn be allowed to rise too high, the evil resulting can seldom be remedied; it causes the first roots to drop off, and requires great forcing to make tender malt; for the new roots do not possess the power of the first, and exhaust the substance of the malt

FLOORS.

I have a great objection to malt floors made of slate or asphalt; on asphalt floors it is often attended with mischief to leave the corn unturned ten hours, even in cold weather, asphalt being such a great conductor of heat, the young wetting will, if at all neglected, mat like ivy against a wall.

The seventh day, roots the full length of corn, and spire half over; depth, 3·5. Turned once; temperature, 65. May
15th.

Eighth day. Turned to 4·5 inches deep. 16th.

Ninth day. Turned to 6·5 inches deep; the activity of vegetation giving way. 17th.

Some art is required in turning the corn, and care should be taken that the men do it properly; and this can only be safely done by the wooden shovel. The careless use of the plough often causes the corn to mat in small lumps, consequently forces the roots and spire of some corns too rapidly. Every part of a floor of corn should be kept of equal thickness and temperature, for if one part be thicker than the rest, the heat will then exceed in proportion, hence produce unequal vegetation.

The best means of judging that a right temperature and treatment has been used, is the state of the roots; if they are *equal*, and on the seventh and eighth days the length does not exceed half an inch, you cannot have been wrong.

Tenth day. Turned once; the roots half an inch in length. 18th.

Throughout this entire steep, the floors between each piece were liquored twice a day; this is my practice.

Eleventh day, five morning. The roots drooping, and assuming a brownish hue, corn eight inches deep, the malt broke short, the great change had taken place, the glutinous and mucilagenous matter, which had, in the state of barley, bound together the starchy particles, was taken up. The kernel so loose, as by slight 19th.

pressure between the fingers, will crumble like flour; this change was gradual, following the progress of the acrospire, but in no stage any part so floury as when the whole had undergone this change. The kernel is originally composed chiefly of starch, the particles of which seem to be enveloped by a species of gluten and mucilage.

This cement is taken up for the purpose of vegetation, and thus the starch is set at liberty, not in the state of common starch, for its taste is sweet, and is soluble in water, which the other is not. The object of malting being to procure this altered starch, the process ought to be stopped as soon as it is fully disengaged and prepared. If the process has been rightly conducted, this object will be attained by the time the acrospire has come within a little of the end of the seed, but if it proceed farther, a sudden and very considerable loss occurs; shortly after the acrospire has made its way out of the seed, the starchy matter undergoes a further change, and becomes milky, and soon absorbed, leaving nothing but the husk.

The great change the kernel undergoes during germination, is that the glutinous constituent greatly disappears, whilst a great portion of the starch is converted into sugar. By this artificial growth upon the malt floor, all the gluten and albumen present in barley are not decomposed, and little more than one-half of the starch is converted into sugar, the other half receives nearly complete conversion into sugar in drying, and by the application of water, at the correct temperature, in the brewer's mash tun.

The time barley should remain, therefore, depends upon the kind of barley, the temperature, and mode of conducting the operation. The longest I ever had out was twenty-one days, and the shortest ten days; this occurred at the same period and temperature, the difference in age was necessarily exclusively from the extreme difference in the character of the corn, but the average time, in malting weather, between a temperature of 35 and 46, is fourteen days.

E 6. The temperature of floor being 68, what few bruised corns there were showed mould. The malt broke well, and was otherwise fresh, so much so that had the atmosphere been cooler, I should have kept it out at least twenty-four hours longer.

May
19th.

At no period of this seventy-two hours' steep did the malt lack moisture; and *unless* I had been making for *increase*, sprinkling would have done no good, but *had* I been so making for increase, the period for sprinkling was the seventh day, being then at its extreme vigour of vegetation and fresh; but working for increase is done to the sacrifice of weight per bushel, and by the loss of matter in length of roots, which must come from the kernel.

It was now thrown on the kiln nine inch deep, with a slow fire. 19th, E 10.

M 12. Heat in pit 110, in corn 90. Turned.

M 6. „ 130, „ 100. „

20th.

21st.

Drying being now complete, it was rounded up on the kiln in the shape of a cone, and let remain three hours, to ensure perfect uniformity and flavour; then thrown off to cone in malt loft, and following day dressed, and

measured 27 qrs. 1 bush., and weighed 163 lbs. per sack.

The most striking alteration produced in making barley into malt, is the diminished weight. A bushel of barley weighing 55 lbs. when malted, weighs only 41 to 42 lbs. nett. On the average, 100 lbs. of barley produces from 78 to 82 lbs. malt, showing about 20 per cent. loss of weight. This loss is not all solid matter, for barley contains above 13 per cent. of water; but malt, when fit for brewing, before being bruised, contains only 7 per cent., consequently the nett loss in the process of malting is about 13 per cent.

DRYING.

THE heat at which malt should be dried depends upon the character of the malt. One main fact is proved, that the lower the temperature of the heated air the malt is dried with, the plumper and more productive is the malt; but for fullness of flavour a higher temperature is required (as described elsewhere).

First heat in Pit for	Gradually increased from	On kiln.
90 .. White	100 to 120 ...	95 to 105
90 .. Pale	100 ,, 135 ...	100 ,, 130
90 .. Do. for Stock	120 ,, 145 ...	100 ,, 135
96 .. Pale Amber .	140 ,, 180 ...	120 ,, 170
96 .. Dark	170 ,, 190 ...	140 ,, 180

These heats are applicable to well-constructed kilns. In making high-coloured malt, it is not so much the temperature as the suddenness with which it is raised, which should be rapid after the first change of shade, with frequent turning.

The heat in pit, until the steam is well off, should not exceed 100, and then gradually increased with as great a volume of air as can be obtained for pale malt; all air admitted into the kiln pit should be rarefied by the fire in its passage. And the heat required for giving colour depends upon the time of giving the colour; if at-

tempted when the corn is too moist, a much lower heat is required ; but, when so done, it impairs the flavour and soluble properties of the malt. The strong heat in *no case* should be applied until the moisture is well off, and this gradually, with frequent turning, until the desired colour is attained : and in every instance of turning corn upon the kiln, whilst one is turning, another should be sweeping after him, to ensure the bottom malt from remaining next the plate.

In drying *pale* malt, the less it is turned the better. If the kiln be well constructed, with a good draught, it should not require turning more than twice.

The usual time for drying is forty-eight hours, but if the kilns are attended to at night as well as day, thirty-six hours is sufficient. But this depends upon the thickness or depth of corn upon the kiln. Malt should never be discharged from kiln until the fire has burnt down and perfectly clear, and malt rounded up in centre of kiln at least two hours.

The depth at which malt should be placed upon the kiln entirely depends upon its construction ; if the draught be good, ten to twelve inches, if bad only from five to seven. If the kiln be good and draught *even*, so likewise should the malt be laid even, and in all cases as light as possible ; but if the draught be *irregular*, the malt should be so laid that where the draught, and consequently heat is strongest, the malt should be there laid thickest ; and where the draught is irregular, and the plate or floor too low, there occurs great danger of spotting the malt.

If the heat on the kiln be too suddenly raised (in the

early stage), that portion of the gluten unconverted becomes so fixed as to render the otherwise friable matter hard and difficult of solution and conversion in the mash tub. And in drying deep amber, if the heat be too suddenly raised and too high, it carbonizes a portion of the mucilagenous sugar, and converts the *sweet* into a *bitter principle*.

The operation of kiln drying is not confined to the mere evaporation of moisture from the malt, but it serves to convert into sugar a portion of the starch which remains unchanged by the action of the gluten upon the fecula. We have a proof of this explanation; if we dry a portion of malt in a naturally dry atmosphere, and another in a moderately warm kiln, the former will yield *less* saccharine extract than the latter.

Moreover, the properly kiln-dried malt has a peculiar agreeable, *pungent*, and very *faintly* burned taste, probably from a small portion of oil formed in the husk, and which Dr. Ure states not only imparts its flavour to the beer, but also contributes to its preservation. It is therefore obvious that the skilful preparation of the malt on the kiln, must have the greatest influence on the quality of the worts made from it.

As far as the malting process is concerned, I believe we are perfect, but in the drying we have much to learn; our present plan, although greatly improved of late years, is still defective. The four most important errors in the construction of the kiln, are:—First. Not having the plate or kiln floor, on which the corn is laid, a sufficient height from the fire; it causes an unevenness in the draught, that is, it dries more quickly at one part than another.

Second. That in the chamber above the plate and corn, too many and too large doors are allowed, and what is still worse, they are not air-tight, consequently every crevice or hole admits a strong current of cold air over the corn, which condenses the steam or moisture. Third. The dome above the corn is not sufficiently lofty to carry off with the required rapidity, the moisture evaporated, hence we have not the draught necessary to prevent condensation. Fourth. The orifice or opening at the top of dome, on which is placed the cowl or other contrivance to carry off the steam, is seldom of sufficient capacity. I have corrected this in the plan and scale at end of work.

Another error I conceive to be, is in the fuel used in drying, from its containing so much sulphur ; neither is it possible to obtain any fuel more pure than *stone coal*, and whilst we dry or cure our malt with the products of combustion, can we do better.

Coke is now prepared much more free from sulphur than formerly. And a new article has lately been introduced, by far the purest fuel, peat charcoal, manufactured by Patent Peat Charcoal Company, Office, 113, Fenchurch Street, London, but the price at present prevents its use for malt drying. The Company are of opinion they will ultimately be enabled to so far reduce the price, as to bring it into profitable use in drying malt.

In the question of economy, there is but trifling difference between the cost of drying with Welsh stone coal and the best coke, if the kilns are properly constructed.

EXPERIMENTS TRIED MARCH, 1851.

BEST WELSH STONE COAL.

Cwt.		qrs.	bush.	qrs.	
25	of coal dried off	69	0	malt = 56	to the ton.
Tons.					
19½	„ „	1088	0	„ = 54	„
Cwt.					
35½	„ „	91	2	„	

COKE.

Tons.		qrs.		qrs.	
2	of Newcastle hard coke dried off	101	malt = 50	to the ton.	
Cwt.					
16	of Yorkshire „ „	32	„		
Ton.					
1	of gas „ „	50	„		

The cost varies according to the locality. But coal is preferable from it being the most free from sulphur, and the fires do not require such constant attendance as coke.

REPORTS AND ANALYSIS OF WATNEY'S ANTHRACITE.

Analysis by Dr. Lyon Playfair.	Report by Dr. Ure.
Carbon . . . 92.17	This is the purest and most powerful sample of Anthracite I have ever examined.
Hydrogen . . . 3.10	
Oxygen . . . 2.22	It is admirably adapted to <i>malting</i> purposes; and being nearly free from sulphur, it cannot injure the iron of boilers.
Nitrogen . . . 1.08	
Sulphur . . . 0.34	
Ash . . . 1.09	
100.00	

This stone coal has been used for drying malt above 300 years, as pointed out by Owen, in 1595, who says:—
 “It is called stone-coal for the hardness thereof, and is burned in chimnies and grates of iron; and being once kindled giveth a great heate than lighte, and delighteth to burn in dark places. It servith alsoe for smithes to work with, though not soe well as the other kindes of cole called the running cole, for that, when it first kindleth, it melteth and runneth as wax, and groweth into one clodde; whereas this stone-coal burneth apart and never clyngeth together. This kind of cole is not noisome for the smoke, nor nothing so loathsome for the smell as the ring-cole is whose smoke annoyeth all things near it, as fyne linen, men’s handes that warm themselves by it; but this stone-cole yieldeth in a manner noe smoke after it is kindled, and is soe pure that fyne camerick and lawn is usually dried by it, without any stayn or blemish, *and is a most proved good dryer of malt, therein passing woode, ferne, or strawe.* This cole, for the rare properties thereof, was carried out of this cuntry to the citie of London, to the late Lord Treasurer Burley, by gentlemen of experience, to show how far that excelled the same of Newcastle, wherewith the citie of London is served.”—(From the *Mining Journal*, June 11th, 1859.) *or H. H.*

In drying malt with fuel containing sulphur it acts as a deoxydizing agent with the formation of sulphurous acid, hence arises one cause of the irregularity of fermentation in brewing; the reason of this will appear evident to practical brewers, to whom it is well known, that when the fermentations are in full action, if the vapour (of sulphurous acid) from lighting an ordinary brimstone

match be allowed to come in contact with the surface of the fermenting tun, it will instantly cause all fermentation to cease ; therefore it need not be a matter of wonder, knowing as we do the various *quantities* of sulphur used by different planters of hops, and maltsters, in drying, which, according as more or less sulphur be used in the process, so much more or less will the article in reality be deteriorated. At the same time the article will look better to the eye, but as far as intrinsic worth to the brewer, the unbleached hops and malt are the best ; producing the best and soundest ale, and also for keeping under variations of temperature and electricity. These staple articles of malt and hops should, in fact, be dried by air, so heated as to be incapable of exerting any other chemical effect than warming the vegetable matter, and carrying away all moisture.

In hop drying, sulphur is almost universally used, and here the deoxydation takes place of the essential oil of the hops, and consequently, hops so dried have not the condition* that hops have if dried by purely heated air, which has not passed in contact with the hot sulphurous fuel. But hop planters, when their hops are deficient of condition (in fact of essential oil, which is, after all, the only real value of the hop), find it necessary to use sulphur ; and for this reason, unless they did, such hops would soon spoil and turn black, simply from the following cause, that being unprotected by the oil, they absorb moisture, and consequently become decomposed ; whereas those hops with good condition have much essential oil, which covers them as a varnish, can be seen by the eye,

* "Condition" is a term used to signify the *quantity of essential oil*.

and is still more plain to the feel; such will keep well without sulphur. Another feature is, that hops with good condition will acquire very little increase of weight above the Excise charge, which is done directly after drying; but hops without much condition, soon acquire additional weight, from the absorption of moisture from the atmosphere, and the more sulphur is used, the greater tendency to increased weight, in consequence of the sulphur coming in contact with them when moist, deoxygenizing part of their oil, and becoming converted into sulphuric acid, and this acid, although in small quantities in the hops, still is perceptible by chemical tests, and which acid is the best absorber of moisture known. To the brewer such hops as these last described are of little value, for ale brewed from them will, upon the first great change in the electrical condition of the atmosphere, however sound it may have appeared before, instantly turn up.

Of the various modern plans and patents of kilns introduced, none appear to myself so likely to succeed as that of Mr. Davidson's Hot Air Fan. The report given by, not only himself, but Messrs. M'Farlan & Co., distillers, Glasgow, is so extraordinary, that I give a copy of their experience at their own work. They "dry off 1900 bushels of malt, 18 inches deep on the kiln, in eighteen hours, at a heat of 120 below the corn; surface of kiln, 2784 feet."

The only objections I can see to it is the expense. The great effect is evidently produced by the fan creating a perfect blast, carrying off the moisture of the malt with great rapidity at a low temperature.

Barley, or other corn, grain, or seeds, may be dried at

a temperature under the corn *not exceeding* 130 degrees. I prefer 120,—corn not to exceed three inches in depth.

If the heat is carried above 130, there is danger of impairing the vitality of the grain; although malted grain dried at a heat above 170 degrees will, if sown in the earth, again vegetate, *but not sufficiently strong to bear seed.*

TWO EXPERIMENTAL STEEPS.

The object aimed at in these two steepings is to show what difference, if any, exists in the *quality* of malt made upon the two systems, viz: moderate steep of 50 hours, with sprinkling after the sixth day, the other steeped 72 hours without sprinkling.

Both were worked with the view of producing, as near as possible, the same result or quality. But the first, or sprinkled, gave nearly two pounds per quarter less in weight of malt, and produced nearly two pounds less extract per quarter in the brewing. But this short steep and sprinkled malt paid a duty of only 21s. 6d. per quarter on the barley steeped, whilst that steeped 72 hours, paid a duty of 23s. per quarter on the barley steeped. The first was of 49 qrs. 3 bush., steeped 50 hours, and sprinkled; in fact, the evaporation of moisture was so great, from the high temperature of the atmosphere, that anything like good malt could not have been made without sprinkling.

The second was 25 qrs. 5 bush., steeped 72 hours, and was completed without sprinkling, and produced 27 qrs. 1 bush. of malt, consequently produced exactly the same quantity of malt as duty charged. 20 qrs. of each were

sold to Messrs. Manners, King's Arms Brewery, White-chapel, of which two brewings of ale were brewed.

There being no *perceptible* difference in quality of the malt, both were sold at the same price. But in the brewing this was the result :—

No. 1, 20 qrs., 50 hours' steep and sprinkled, weighed 162 lbs. per sack, extract obtained 1758 lbs.

No. 2, 20 qrs., 72 hours' steep, not sprinkled, weighed 163 lbs. per sack, extract obtained 1788 lbs.

Now, as every pound of extract is valued at 9*d.*, it follows that the last was worth to the brewer 22*s.* 6*d.* more than the first, and as there was no difference in the increase, the only possible cause of difference of weight, resulted from the greater exhaustion of the kernel of the first in the extra and sudden length of root from sprinkling. The vegetation of the second was steady, having no *sudden* excitement from either heat or additional moisture.

Yet although the long steep malt was productive to the brewer, it was the reverse to the maltster, as it cost him 1*s.* 6*d.* per quarter more in duty and less malt.

I would observe, that what water is given upon the floor should be given in *all cases* before the eighth day ; in most cases what is given should be on the fifth day.

It is to be again observed, that those steeps were carried on at the extreme end of the season ; hence the temperature of the atmosphere and of corn in the working much higher than could be desired. The temperature best suited for malting ranges between 40 and 50.

**TWO EXPERIMENTS AT MR. WALMSLEY'S MALTINGS,
BROMLEY.**

I.

**First steeping, 50 quarters measured; the swimming and screening measured
5 bushels, consequently the nett quantity steeped was 49 quarters 3 bushels.**

1849.			Area 1643.		Area 1733		Temperature of			Observations.	
Date.	Hours.	Quantity steeped.	Cistern.		Couch.		Corn.	Floor.	Atmo- sphere.		
			Gauge.	Nett Charge.	Gauge.	Nett Charge.					
Apr. 30	50	49·3	M. 8, 23·0	46·6				57	59	Suffolk barley weighing 52 lbs. Drained.	
May 1			M. 8, 27·0								
" 2			M. 9, 28·0			27·8	qrs.	56	59	61	Drained and couched.
" 3			M. 10			27·8	49				Duty being 53l. 1s. 2½s. 6d. per quarter upon Barley steeped.
			M. 11								
" 4			M. 7								
			E. 2					60	64	66	Bud showing.
			E. 5			2					Turned.
" 5			M. 4			1·8		67	68	72	Vegetation too forward from the high temperature, throwing out three strong roots, half the length of corn acrospire, one-third over.
			E. 1			1·7					
			E. 5			1·7					
" 6			M. 4			2		60	60		Healthy; but from previous ex- cessive high temperature, the moisture had evaporated; corn dry, stood in great need of sprink- ling.
			M. 9			2					
			E. 2			2		60	60	65	
			E. 9			2					
" 7			M. 4			2		56	54	58	Well at work, 3 to 4 roots, acro- spire half over.
			E. 5		2·2						
" 8			M. 4		3		56	55	58	In fair work, roots had lost much of their freshness. Sprinkled with about 2 gallons to quarter of corn, and turned.	
			11		3					Turned.	
" 9			E. 8		4		61	60	61	Well at work, 4 to 5 roots.	
" 10			M. 4		4						
			M. 3		5					Acrospire full five-eighths over.	
			E. 4		5		60	58	59	Sprinkled with about half gallon to quarter.	
" 11			M. 5		5		60	57	56	4 to 6 roots, unequal, some double; length of corn.	
			E. 5		5·5		59	58	58	Healthy, but lost freshness.	
" 12			M. 4		5·5		63	63	64		
" 13			M. 5		5·4						
			E. 2		5·5		65	64	66	Root exceeding length of corn.	
" 14			M. 4		5·5					Acrospire three-fourths over, bruised turning off.	
" 15			M. 5		8·7					Roots drooping, corn broke well.	
						Kiln	Corn.	Pit.			
" 16			E. 8		7·2		82	112		Higher heat would have given more flavour. As the tempera- ture of atmosphere increases, so should your drying heat.	
" 17			M. 11				90	140			
			E. 4		off						

11.

Twenty-six quarters of barley measured; the swimmings and screenings measured 3 bushels, consequently the nett quantity steeped was 25 quarters 5 bushels.

1849.			Area 1643		Area 1733		Temperature of			Observations.
Date.	Hours.	Quantity steeped.	Cistern.		Couch.		Corn.	Floor.	Atmosphere.	
			Gauge.	Nett Charge.	Gauge.	Nett Charge.				
May 5	72									
	M. 8	25.5	12.0							
" 6	M. 8		13.9				58	70	73	Drained.
" 7	M. 10		14.8	24.6						Water being partially discoloured, drew off about half, and pumped in fresh.
" 8	M 11		16.1	26.7			55	54	59	Drained, and pumped in fresh water to cleanse, and emptied cistern.
	E. 1				15.4					
" 9	M. 9				15.4	27.1				Duty being 29l. 8s. 7d. equal to 23s. per quarter on barley steeped, and 21s. 8d. on malt made.
	E. 1				Floor					Broke couch.
					3.0					
" 10	M. 5				2.4		56	56		Turned.
" 11	M. 5				2.3					Ditto, corn fresh, the bud showing.
	E. 6						58	57		Bud evenly developed and bold.
" 12	M. 4				2.0					Fresh and strong vegetation, with 2 or 3 roots.
" 13	M. 7									Turned.
	E. 4						66	64	66	Ditto, vegetation even, 4 to 6 roots three-fourths length of corn. Spire bold one-third over.
" 14	M. 4				3.0					Turned.
" 15	M. 5				3.5					Ditto, vegetation at extreme strength far more even than first steep.
" 16	M. 5				4.0		65	64	66	Roots the length of corn, and acrosspire half over.
" 17	M. 7				6.0					Acrosspire five-eighths over.
" 18	M. 9				6.5					Turned.
" 19	M. 5				8.5		66	66		Turned, acrosspire three-fourths over.
	E. 10				Kiln				Pit.	Roots drooping, corn broke well.
					7.2					On kiln.
" 20	M. 6						90	110		Turned.
" 21	M. 5						100	140		Turned.
	M. 12									Rounded up.
	E. 3									Off—dressed and measured 27.1. Sold and delivered 20 quarters, weighed 163 lbs. per sack.

PROPORTIONS AND MATERIALS FOR BUILDING
MALTHOUSES.

Every malthouse should be constructed to work not *less* than 15 quarters each steeping, and calculated to steep every four days, inasmuch as 15 quarters is the quantity suited, and always allowed for one man's work. When building a two-man malthouse, allowance should be made for an extra 5 quarters; that is, steep and work 35 quarters every four days.

The cistern should be at one end of the malthouse, and the kiln at the other.

CISTERN.

All cisterns should be 40 inches in depth, with a drain down the centre 6 inches deep, 14 inches wide, covered over with cast-iron plates with holes therein. (*See Laws.*) No cistern should exceed 100 inches in breadth; and for this reason, that the cistern should not be of greater breadth than will allow the workmen conveniently to throw every shovelful of corn into its proper place in the couch without a second shifting.

In calculating the dimensions of a cistern, allowance must be made for a head of water covering the extreme gauge of corn and swell, *of 3 inches*. For instance, if the first or dry gauge of a 50 quarters' steep be 32 inches, the last gauge, after absorbing the 50 hours' water, would be about 37 inches in depth, and as the law imposes a penalty if corn is not kept covered with water, it would be necessary to have your cistern 3 inches deeper than the best corn gauge, that is 40 inches deep.

Bricks set in Portland cement, with a facing of the same cement, I find the best material for cisterns.

There must be a clear open space above the cistern of 48 inches.

COUCH, WITH THREE PERMANENT SIDES.

The couch must not exceed 30 inches in depth, and the boards which form the outer part of the frame, must not be less than 2 inches in thickness, and such board must be supported with uprights to prevent any bending from the pressure of the corn. It is usual to have a 3-inch drain down the centre to carry off superfluous water; but this is unnecessary if the *cistern* drains well.

There must be the same open space above the couch as cistern, *viz.* 48 inches. (*See Laws*).

FLOORS.

The number of square feet of floor room for working the corn is 200 to every quarter of cistern capability. Thus, if your cistern is capable of steeping 35 quarters, you should have 7000 feet of flooring; this quantity of floor room is necessary to suit all exigencies. The floors should be wide, in proportion to the length, and for this reason. In very cold weather, should your floors be long, in proportion to the width, you have unnecessary labour (and to the evident injury of the corn) to get the corn to the end of floor. But if the width be wide in proportion to the length, you have a perfect command of your work, as you can regulate the *width* of your pieces at pleasure. The width of floors should be about one half the length, but if the breadth exceed 50 feet, the corn vegetates unequally.

The material best suited for working floors are slate, or Portland cement* and sand, the latter I greatly prefer.

The bottom or ground-floor should have a foundation of from two to three inches of concrete made of clean gravel and cement, upon which should be laid one inch of Portland cement and sharp sand; if the cement is fresh one part of cement to two parts of sand—if doubtful then mix in equal proportions.

THE COST OF CEMENT FLOOR.

(*Copy of Contract, Jan. 21, 1862.*)

“To lay on cement and sand in equal proportion one inch thick and faced off by smooth trowelling, 2s. per yard.”

“Concreting with cement and gravel 1s. per yard three inch thick: total, 3s. per yard complete.” (*London prices.*)

Price of materials:—Portland cement, 2s. per bushel, which will cover one square yard of surface one inch thick.

Sand, about 2d. per bushel, but this varies with the locality.

Labour, from 6d. to 1s. per yard.

This floor of cement and sand absorbs moisture to a small extent and gives it out, and whilst the corn is upon it maintains a genial sweat, corresponding with the corn in operation.

My objection to slate is, that it is a conductor of heat; hence in cold weather it is as cold as the atmosphere, and in mild weather dry, having a constant tendency *in the young floors* to draw out the roots of those corns immediately in contact; if at all neglected or imperfectly

* The Portland cement referred to and recommended is that made by Messrs. White and Son, Millbank, Westminster.

turned the corn in contact with the slates will mat together, resembling ivy against a wall.

The objection to stone slabs, or tiles, is from the difficulty of laying and keeping the floors perfectly level, and the mortar from working out of the joints.

If there be two or more floors, the upper ones will not require the concrete, being firmly supported by timbers and iron columns (*see Plan of 90-quarter Pale Maltkiln*), in which plan I have given three floors with cistern and couch elevated to the level of second or middle floor, thereby economizing labour and preventing much bruising of corn.

But if the floors are constructed upon the permanent principle as given in Plan, No. 1, with upper floor constructed upon brick arches upon iron girders and columns, then it will be desirable after levelling the surface to give a concrete foundation of one-and-a-half or two inches before laying the cement floor three quarters thick. (*See Plan, No. 1.*)

WINDOWS.

Windows should *not be glazed* (let the colour of the glass be what it may), but plain well-made louvre-boards to fit quite close; the advantage of louvre-boards are, that you can regulate the supply of light and air to any degree required.

MALT STORES.

Upon the top of the foundation walls upon a level with the surface, slates should be laid bedded in cement, this effectually prevents the damp rising, and hence your store walls are kept dry.

In addition to which I recommend the walls being

lined with feather-edged board; wood being a non-conductor, whilst brick, stone, and mortar are affected by every change of atmosphere. It is of the greatest importance to keep malt perfectly dry.

ROOF OF MALTHOUSE.

The roof of a malthouse and stores should be of the most secure description.

The most perfect is that of slating upon boards ploughed and tongued, and underneath should be lathed and rough plastered; it is the most effective in keeping out heat, cold, and moisture. The ventilators on roof are made of strong glass set in wood or iron frames.

KILNS.

Kilns should not have less than 20 superficial feet for every quarter of malt to be dried, to be enabled to dry off the entire steeping at once.

But if 25 feet be allowed, the whole steep can be dried off in three days.

The reason wove-wire is considered the best for drying malt or grain upon is, that it offers the least possible resistance to the current of heated air passing through.

If laid in the most approved style, will last above thirty years. I know one that has been in regular work thirty-two years, and now in good working order; I likewise know of one *improperly* laid only lasted seven years. The cost of the wove-wire plate is now 1s. per foot. There are many ways of laying the wire plate, fitting and fixing the iron work, and as many prices; in fact it is done at a total varying from 2s. to 3s. 6d. per foot.

The best mode of preserving the plate when not in use,

is to cover it with oat husks about 8 inches deep, or with straw 18 inches.

Other materials are used for drying malt. Hair cloth the oldest, and to which no objection can be urged but the cost, as it so soon wears out. The next, Tiles,—the objection to which is offering so great resistance to the amount of heated air and the holes continually filling and breaking. Punched iron plate is much used, being cheaper than wove wire. I had one in use fifteen years, the objection to which is the same as to cast-iron plates, as offering so great resistance to the air passing, and often spots the malt.

DIMENSIONS FOR CISTERNS, COUCH, FLOORS, AND KILNS.

Allowing room for extra (Five Quarters above the Quarters named) in cold weather, or upon occasion of having missed a day, the dimensions for Floor is calculated at 200 feet for each Quarter Cistern capability where as in cold weather, 180 to 190 is sufficient, and Three Inches is allowed for head of Water in Cistern.

CISTERNS.

	15 Qrs. Steep.	30 Qrs. Steep.	45 Qrs Steep.	60 Qrs. Steep.	90 Qrs. Steep.
L	120 inches	230 inches	330 inches	430 inches	630 inches
B	90 "	90 "	90 "	90 "	90 "
D	40 "	40 "	40 "	40 "	40 "
Area	4868	9331	1338	1744	2556

COUCH.

	15 Qrs. Steep.	30 Qrs. Steep.	45 Qrs. Steep.	60 Qrs. Steep.	90 Qrs. Steep.
L	150 inches	265 inches	377 inches	494 inches	714 inches
B	90 "	96 "	96 "	96 "	96 "
D	30 "	30 "	30 "	30 "	30 "
Area	6086	1146	1627	2137	3094

DIMENSIONS FOR CISTERNS, &c.—(continued).

FLOORS.

		15 Qrs. Steep.	30 Qrs. Steep.	45 Qrs. Steep.	60 Qrs. Steep.	90 Qrs. Steep.
If only one Floor . . }	L	100 feet	120 feet	145 feet		
	B	30 "	50 "	60 "		
If two Floors {	L	..	80 "	90 "	120 feet	150 feet
	B	..	37 "	50 "	50 "	60 "
If three Floors . }	L	..	66 "	80 "	88 "	120 or 100
	B	..	30 "	37 "	45 "	50 " 60

KILNS.

		15 Qrs. Steep.	30 Qrs. Steep.	45 Qrs. Steep.	60 Qrs. Steep.	90 Qrs. Steep.
If one Kiln {	L	18 feet	25 feet	31 feet	35 feet	45 feet
	B	18 "	25 "	30 "	35 "	41 "
If two Kilns {	L	..	..	..	..	34 "
	B	..	..	..	..	31 "

Kilns for dry Brown Malt are not required to be so large, from the small quantity dried at a time. (See Drawing, No. 1.)

HEIGHT OF KILN PLATE FROM GROUND.

For White Malt	17 feet.
„ Pale	16 "
„ Amber	14 "
„ Brown	10 "

KILN FIRES.

For a 30-quarter Kiln, the width of Fireplace should be 21 inches.

„ 45 „ „ „ „ „ 24 „

In some cases 2 to 4 more inches will be necessary.

CIRCULAR KILN.

Messrs. Corcoran's dimensions for Circular Kilns are as follows:—

For 31 quarters, 20 feet in diameter.

„ 49 „	25 „
„ 71 „	30 „
„ 96 „	35 „

DOME, DIMENSIONS OF

The diameter above the plate depends upon the quantity to be dried, as explained in dimensions of kiln. The height of dome should in no case, for a 15 quarters, be less than 26 feet, and for 45 quarters 36 feet above wire plate.

The *opening at top of dome* for a kiln of 24 feet diameter should be at least 5 feet 8 inches; 30 feet kiln, 6 feet 8 inches.

COWL.

The backbone of a wood cowl for a kiln 6 feet 8 inches at opening should be 18 feet long.

The opening at the top of dome, and the appliance for conveying away the steam, so as to prevent any downward current of cold air, is of the greatest consequence in the construction of a maltkiln. Having tried very many plans, I have only found the cowl, as shown in drawing, to perfectly succeed if the cowl is properly constructed so as to work with ease, and perfect in its operation.

The cupola, with louvre-board around it, is the most *imperfect*; but is the most in use from its being the least costly. I know of one new malting of 240 quarters' steep, the kiln of which is 100 feet long by 50 feet wide, but it is with difficulty they can dry off 160 quarters *sound* in the four days, the failure arises exclusively from the imperfect construction of the opening on top of kiln; it is of louvre-board from end to end, the steam and heat cannot get off; the side to the wind admits a strong current of cold air, *which cowls perfectly exclude*, at the same time effect a saving in fuel of above 20 per cent.

Cowls are generally made of wood, and vary in price, according to size and material, from 6*l.* to 36*l.*

Copper cowls are getting in much favour from their being *not one-half the weight*, much *less cost*, and working easier and more durable, the prices varying from 6*l.* to 16*l.*

COST OF ERECTING A MALTHOUSE.

This must be regulated by a variety of circumstances, prices of labour, and material; but taking the average of the kingdom it will be about 800*l.* for every 15 quarters' capacity, that is, if you wish a house to *steep* 15 quarters every four days; *total cost of malthouse, 800*l.**, in best style; 30 quarters' steep, 1600*l.*; 60 quarters steep, 3200*l.*; the most substantial is that shown in Plan No. 1., with top working floors of brick arches on iron girders.

MALT COOMBS.

The average quantity made is 10 sacks to every 100 quarters malt. Selling price varies from 3*s.* 6*d.* to 5*s.* per sack; it is much used for cows and lambs; and malt-dust much sought after for manure, particularly turnips. Usual price, from 3*s.* to 4*s.* per sack.

EXPENSES OF MALTING.

Rent, if conveniently situate for delivery of Barley and Malt (thereby saving portorage), per quarter, including taxes	12 <i>d.</i> to 14 <i>d.</i>
Fuel	4½ <i>d.</i> „ 9 <i>d.</i>
Wages	9 <i>d.</i>
Utensils, Oil, &c.	2½ <i>d.</i>

REFERENCES TO DRAWINGS.

PLAN, No. 1.

1. Front Elevation of 45 quarters Brown Malthouse.

2. Sectional Elevation, showing position of—

Cistern	A.
Couch	B.
Ground Floor	C.
Second Floor	D.
Barley Stores	E & F.
Kiln	G.
Kiln Plate	H.
Heat disperser (dotted line)	I.
Slopes	J.
Dome	K.
Cowl	L.

3. Ground Plan, showing—

Cistern	A.
Drain for Cistern	A ¹ .
Couch	B.
Drain for Couch	B ¹ .
Ground Floor	C.

With nine Cast-iron Columns, marked 1, 2, 3, 4, 5, 6, 7, 8, 9,
for the support of Iron Girders, carrying the 4½-inch
Brick Arches of 10 feet space.

Kiln	G.
Slopes	J,J,J.
Kiln Pit	M.
Fire	N.

	L.	B.	D.	Area.	Dimensions.
Cistern, in inches	330	90	40	1338	A.
Couch „	377	96	30	1627	B.
Two Floors, each	1080	600	.	.	C,D.
Kiln	228	228	.	.	G.
Height of Kiln wove-wire					
Plate from Floor	120	.	.	.	H.
Height of Disperser	78	.	.	.	I.

REFERENCES TO DRAWINGS—(continued).

	L.		Dimensions.
Length of Disperser	150	. . . . .	I.
Breadth of ditto	60	. . . . .	"
Kiln Pit length, from the walls of which spring the arches for Slopes	144	. . . . .	M.
Breadth of Pit	54	. . . . .	M.
Depth	34	. . . . .	"
Fireplace, breadth	24	. . . . .	N.
" height	60	. . . . .	"
Slopes	54	. . . . .	J.
Ventilators on Roof . . . . .	.	. . . . .	Z.

DOME OF KILN K.

The Square Wall, as shown in Ground Plan, is carried 16 feet high, leaving 6 feet above Kiln-wove Plate, the four corners of Kiln being gradually drawn in to form a complete circle for Dome.

4. Section Plan of construction of Kiln Plate for Brown or Porter Maltkiln, showing wove-wire Plate A, strained through the four Walls.

Straining Bar B, round which the Wire Plate is laid.

Straining Bolts to tighten Plate, C.

Wall Plate to cover four courses of Bricks, D.

Cast-iron Skirting Plate, to prevent Grain passing behind Straining Bars, E.

Bolts to fasten ditto to Wall, F.

This Brown or Porter Maltkiln is likewise applicable to the drying of Dark Amber Malt, of which not more than 3 inches of Corn is loaded at one time, but the weight is apt to strain the Wire in the centre; it is therefore necessary to have four Standards, G, four Foundation Plates, H, to support two Bearing Girders, J, fitted to Cross Girders, K, upon which is fitted six $\frac{3}{4}$ -inch Round Bars in centre of Kiln to carry the Plate in case of being so strained in centre, L, M, N.

Cross Girders, K, fitted into Cast-iron Chairs, P, in Walls.

REFERENCES TO DRAWINGS.

PLAN 2.

For 90 quarters Pale Malt.

Front Elevation.

Sectional Elevation, showing positions of—

Cistern	A.
Couch	B.
Three Floors	C,D,F.
Barley Stores	G,H.
Lobby for winching up Barley	J.
Kiln	K.
Wove-wire Plate	L.
Heat Disperser (in dotted lines)	M.
Slopes	N.
Dome	O.
Cowl	P.

Ground Plan, showing position of two rows of Iron

Columns 10 feet apart to support Cross Beams for

Upper Floors	A.
Two Kilns	A & B.
Slopes	N,N,N.
Kiln Pit	R.
Fireplace	S.

DETAIL OF SECTIONS OF FLOORING.

Cross-Beams	A & B.
Longitudinal Beams or Joists	C.
Battens $2\frac{1}{2}$ + 1 inch	D.
Plain Tiles on ditto $12 + 6 + \frac{5}{8}$	E.
Cement and Sand Floor, 1 inch	F.

SECTION OF KILN.

*Kiln for Pale Malt, showing the Position of Plate, Standards,
Girders, &c.*

Foundation Plate	A.
Standard bolted to Cross Girder	B.
Cross Girder fitted to Long Girder	C.
Long Girders, drilled half-holes to receive Flooring Bars	D.

REFERENCES TO DRAWINGS—(continued).

Chairs in Walls to receive Girders	E.
Round Flooring Bars 2½ inches apart	F.
Wove-wire Plate strained through all the Walls	G.
Straining Bar, round which the Wire is laced or sewn	H.
Straining Bolt to tighten Plate	I.
Tye Plate or Washer to cover four courses of Bricks	J.
Cast-iron Skirting Plate to prevent the grain passing behind Straining Bar	K.
Bolt to fasten Skirting Plate	L.
Fire Place for Pale Malt Kiln	S.
Fire Bars	A.
Bearers	B,B.
Front Plate	C.
Plan of Dampers, or Sliding Draught Plate, in front of Fire	A.
Grooves for ditto	B,B.
Chain	C.
Pulley	D.
Balance Weight	E.

DIMENSIONS OF 90 QUARTERS' PALE MALT HOUSE AND KILNS.

	L.	B.	D.	Area.	
Cistern, in inches	630	90	40	2556	A.
Couch „	715	96	30	3094	B.
Three Floors, each	1200	720	.	.	C,D,F.
Two Kilns, each	408	372	.	.	K.
			Inches.		
Height of Kiln Plate from Ground			168	.	L.
„ Disperser „			90	.	M.
Length „ „			180	.	M.
Breadth „ „			144	.	M.
Kiln Pit length, from the Walls of which spring the Arches for Slopes			300	.	R.
Kiln Pits, breadth			130	.	R.
„ „ depth			36	.	R.
„ Fireplace, breadth			24	.	S.
„ „ height			60	.	S.

L

REFERENCES TO DRAWINGS—(continued).

DOME OF KILNS.

The square Walls V, as shown in Ground Plan, are carried 19 feet high, leaving 5 feet above Kiln Plate, the four corners being gradually drawn in to form a complete circle for Dome at opening.

Height of Dome from Kiln Plate to opening, 34 feet.

Diameter of opening, 6 feet 8 inches.

The Bavarian beer having created much attention, I have considered it both interesting and useful to give their system of malting.

MALTING IN MUNICH.

“The barley is steeped till the acrospire, in embryo, or seed-germ, seems to be quickened; a circumstance denoted by a swelling at the end of that ear which was attached to the foot-stalk, as also when, *on pressing the two fingers against the thumb-nail, a slight projection of the embryo too firm is perceptible.* As long, however, as the seed-germ sticks to the husk, it has not been steeped enough for exposure to the underground malt-floor: nor can *deficient* steeping be safely made up for afterwards by sprinkling the malt couch with a watering-can, which is apt to render the malting irregular. The steep-water should be changed repeatedly, according to the degree of foulness and hardness of the barley; first, six hours after immersion, having previously strained the whole mass several times: afterwards, in winter, every twenty-four hours; but in summer, every twelve hours. It loses none of its substance in this way, however vulgar prejudice may think to the contrary. After letting off the

last water from the cistern, the Bavarians leave the barley to drain in it during four to six hours. It is now taken out and laid on the couch floor, in a square heap, 8 to 10 inches high, and it is turned over morning and evening with dexterity, so as to throw the middle portion upon the top and bottom of the new made couch. When the acrospire has become so long as the grain itself, the malt is carried to the withering (welkboden) or drying floor, in the open air, when it is exposed (in dry weather) during from eight to fourteen days, being daily turned over three times, with a winnowing shovel. It is next dried on a well-constructed cylinder or flue-heated malkiln, at a gentle, clear heat, without being browned in the slightest degree, while it turns friable, into a fine white meal. Smoked malt is entirely rejected by the best Bavarian brewers. Their malt is dried on a series of wove-wire horizontal shelves, placed over each other, up through whose interstices or perforations, streams of air, heated only to 122° F. rise from the surface of hot sheet-iron pipe flues, arranged a little way below the shelves. Into these pipes the smoke and burned air of a little furnace on the ground are admitted. The whole is inclosed in a vaulted chamber, from whose top a large wooden pipe issues for conveying away the steam from the drying malt. Each charge of malt may be completely dried on this kiln in the space of from eighteen to twenty-four hours, by a gentle, uniform heat, which does not injure the diastase or discolour the beer."

HISTORY OF THE LAWS.

PREVIOUS to giving a minute account of the laws as now in force, which govern the malt trade, I will give some of the leading features of the various Acts. The first is the most singular, as it imposes no duty, but simply for the purpose of compelling the maltster to make his malt better. It was evidently of so bad a quality at that period, as to require legislative interference, hence it is but reasonable to infer that should the whole duty upon malt be taken off, we should have malt of very inferior quality forced upon the public; and it is too true that a majority of the brewers of the kingdom are very indifferent judges of malt—this particularly applies to those parts of England where the beer brewed is by private families, licensed victuallers, and other retail brewers. The fact of the duty being the same upon inferior malt as upon the best, or, in plainer words, upon malt yielding by the sacharometer, 70 lbs. as upon that yielding 96 lbs., causes the malt now made in England to be of so superior a character to that made in any part of the world. And I must here observe, that the object of the proprietors of our large brewing establishments seeking in 1806, and since, to prohibit or *limit* the time of sprinkling the malt in operation on the floor, was in consequence of the ABUSE of that practice.

In further confirmation of this view, in those parts of

Europe where a tax is levied upon malt, although so small as about 5s. per quarter, there malt is vastly superior to that made where no duty exists.

I cannot find an Act containing a clause repealing this singular and first Act regarding malt-making.

2 & 3 Edward VI.
c. 10, 1549.

“No barley malt is to be made for sale unless the malt shall be in making and drying three weeks at least, except in June, July, and August, and then it must be in operation seventeen days at least, upon forfeiture of two shillings for every quarter.”

“No person, except for the use of his own household, is to mix any malt not well made, or made of mow-burnt or spired barley with other good malt, for sale, upon forfeiture of two shillings for every quarter.”

“No person to sell any malt not well trodden, rubbed, and fanned, whereby there may be conveniently fanned out of one quarter, half-a-peck of dust or more; incurs a forfeiture of twenty pence per quarter.”

“And the bailiffs and constables of market towns survey all malt put for sale there, and may, with the advice of a justice of the peace, cause malt that is ill-made to be sold at a reasonable price.”

NATURE AND ORIGIN OF THE EXCISE.

Excise, from the Latin *excisum*, to cut off, as a part of the profit cut from the whole, is a duty or imposition upon home-made goods or commodities, as distinguished from Customs, which is a duty upon goods imported from another country.

The Excise system of taxation was first resorted to as a temporary mode of supplying the wants of the country; but, like the present income-tax, was found too productive a source of revenue to be again relinquished.

Cromwell's Act, in 1657, declares the imposition of the Excise to be the most easy and indifferent levy that can be laid upon the people.

And to the present date the charges of levying, collecting, and managing the Excise duties are considerably less in proportion than any other branch of the revenue, excepting only the income-tax. But the Excise has this great advantage over the income-tax, the consumers pay it, and it is little felt.

The first establishment of Excise in this country was by the Long Parliament, and was upon liquors only ; it was then declared that all Excise should be abolished at the end of the war, but was afterwards extended to bread, meat, salt, and many other necessary articles, but that on bread and meat was soon repealed.

When the Parliament took the entire government of the country into their own hands, care was taken to sequester the public revenue, and to appropriate it to their own purposes, and the profits of wardships, fines of alienation, and other feudal prerogatives, hitherto held to be inseparably annexed to the Crown, were rigorously exacted. Purveyance alone was given up, a useless privilege for a republic, and so obnoxious that Charles II., after his restoration, abandoned it.

1685.—In James II. a patent was granted by the Crown for the sole licensing of inns and alehouses ; but by the interposition of Parliament this monopoly was annulled ; the objection was not as to the propriety of the tax, but the legality of the imposition ; accordingly it was one of the new duties which it resolved to impose. The tax, it was imagined, would not only prove productive in respect to income, but would operate as a neces-

sary regulation of the police, by preventing improper persons from keeping houses open for the reception of the public.

1660.—But in 12 Charles II., an Act was passed under this head:—

An Act for taking away the Courts of Wards and Liveries, and Tenures *in capite*, and by Knights' Services and Purveyance, and upon settling a Revenue upon His Majesty in lieu thereof:—

For every Barrel of Beer or Ale, above 6s. the Barrel, brewed by Common Brewer, or other person, who shall sell, or tap out Beer or Ale	15d.
For every Barrel of Beer or Ale of 6s. or under	3d.
For Ale, Cyder, and Perry, sold by retail, upon every hogshead	15d.
For every Barrel of Beer, commonly called Vinegar	6d.
For every Gallon of Strong Water, or Aqua-vitæ	1d.
For every Tun of Cyder or Perry imported	5s.
For every Barrel of Beer or Ale imported	3s.
For every Gallon of Spirits made of Wine or Cyder, imported	2d.
For every Gallon of Strong Water, perfectly made, imported	4d.
For every Gallon of Coffee made and sold, to be paid by the maker	4d.
For every Gallon of Chocolate, Sherbet, and Tea made or sold	8d.

In the reign of William III. cap. 22, the Excise was extended to the distillery, and on malt, 1697.

This was considered to be only a temporary impost, as by the Treaty of Union with Scotland, it was agreed, that during the continuance of the duty on malt, which existed in England, but expired in 1707, Scotland should not be charged with it; nor was that country included in the Malt Act until 1713, and then the Government

assumed a dispensing power, and gave direction that it should not be levied, and when first absolutely imposed upon the country, 1725, considerable riots resulted, and were with difficulty suppressed. The tax for England alone, at 6*d.* per bushel, was calculated at 750,000*l.* a year, and this was far below the quantity, for the average of eight years, ending 1724, was 755,000*l.* per annum, equal to a charge upon 3,755,000 quarters, with a population of only 5,565,000.

There are several clauses in various Acts, to which I have referred in this introduction to the Laws, not all in operation, but interesting, as showing the periods of the principal restrictions and penalties being imposed, and then having given, in the most explanatory form, those Laws and Regulations absolutely now in force.

In 1702, the 1st Anne, was the first settled Excise duty levied upon malt, of 6*d.* per bushel; for the power and authority attending the collecting, &c., reference is here given to the 12 Charles II. upon beer.

As the *greater* part of the regulations and penalties (with this difference, that the amount of penalties are increased) continue at this time in force, I will give a summary of the whole Act.

“ 1st Anne, 1702. It was enacted that any appointed officer shall, at all times of the day, be permitted, upon their request, to enter the house, malthouse, and other places whatever, belonging to, or used by, any such maltster, and to gauge such cisterns, utensils, and other vessels. Refusing officer to so enter, gauge, &c., forfeit 20*l.*

“ The officer to leave a true copy of such report, in writing, with the maltster.

“ Every maltster shall make monthly entry at the Office of Excise of all malt made in such month respectively, on pain to forfeit, for every neglect, 100*l.*

“Every maltster to pay and clear off, within three months after such entry, all the said duty due from him.

“To forfeit double the sum of said duty if he neglect or refuse to pay such duty ; and no such defaulter shall sell any malt until he has paid and cleared off his aforesaid duty.

“Not to alter any cistern, kiln, or utensil, or place, without first giving notice at the next Office of Excise ; nor any private cistern, &c., on pain to forfeit such cistern, &c., all malt in possession of maltster liable to duties due and penalties.

“That any person may compound for such malt duties at the rate of 5s. per annum for every head of the family of such person.

“That out of every twenty bushels so charged in cistern, or other utensil, there shall be an allowance made to the maker of such malt, or upon the floor, within forty-eight hours after the same be *thrown* out of cistern of four bushels, *in consideration of the difference between the quantity of such corn when it is wet and swollen, and the quantity thereof when it is converted into dry malt.*

Thus establishing the fact of its being a duty upon the malt made.

“And that out of every 20 bushels charged upon the floor, after 48 hours or more, and before dried off, *eight bushels, in consideration of the difference between the quantity when upon the floor, and the quantity when it is dried, and perfectly made malt.*

“That every officer leave a true copy of each gauge, and quantity thereof, in writing, with each maltster at the time of taking, upon demand.”

9th Anne, 1711. And by 9th Anne, it was enacted that if any maltster shall press, tread, ram, or otherwise force together the corn in cistern or couch, he shall forfeit.

1 Geo. III. 1761. The penalty for illegally compressing the corn in couch was raised. “And *proof* being made thereof shall be deemed conclusive evidence of the fact.”

The next clause imposes the penalties for fraudulently

conveying away from cistern and mixing. Penalty 100*l*.

Geo. III. 1787. Enacted that malt made for exportation, for every 20 quarters of barley made into malt, there should be allowed 30 quarters.

All malt made for exportation, "all places for keeping such malt to be cleared out within 15 months from commencing to use the same."

42 Geo. III. 1802. This Act imposes several additional penalties.

For obstructing officers, or concealing malt before duties charged; for every offence 100*l*.

Malt removed or concealed may be seized, and persons not giving notice of such malt being in their custody; forfeit 40*s*. per bushel.

That no maltster shall begin to wet any grain except between the hours of seven morning and four afternoon, or take any corn out of cistern at any other time than between eight morning and two afternoon; 100*l*.

Then follows the first limitation to sprinkle.

That no malt shall be sprinkled on floor, until the expiration of 12 days. Penalty 200*l*.

That any maltster wetting any malt after taken from kiln. Penalty 100*l*.

Geo. III. 1806. Sprinkling allowed at expiration of nine days.

Power of appeal granted to Quarter Sessions.

Penalty for concealing malt increased to 200*l*., and for compressed couch 100*l*.

Geo. III. 1808. Maltster to keep barley book; imposing ten penalties from 50*l*. to 100*l*. each.

Sprinkling again forbid until the expiration of twelve days. Penalty 200*l*.

Geo. III, 1812. Limited the maltster not to have more than five floors of malt arising from the same cistern at one time, with directions as to laying floors in succession, according to seniority.

And not to empty more than once in 96 hours, and all cisterns under one roof to be emptied at same time.

And limited not to keep corn in steep exceeding 55 hours. In the same year it was increased to 65 hours; if exceeded, penalty 100*l*.

DIGEST OF THE LAWS IN FORCE,
MAY, 1862.

MALT ACTS referred to, being in part, or wholly in force.

- 12 Anne.
- 12 Geo. I.
- 1 Geo. IV.
- 3 Geo. IV. c. 18.
- 3 Geo. IV. c. 30.
- 6 Geo. IV. c. 58.
- 7 & 8 Geo. IV. c. 58.
- 11 Geo. IV. c. 17.
- 11 Geo. IV. c. 31.
- 1 & 2 Will. IV. c. 55.
- 1 Vic. I. c. 49.
- 3 Vic. I. c. 17.
- 5 Vic. I. c. 30.
- 18 & 19 Vic. I. c. 94.
- 19 & 20 Vic. I. c. 34.
- 23 & 24 Vic. I. c. 113.

I. DUTIES, &c.

Duty on Barley malt, and duty on malt made from bear, or bigg, in Scotland (6 Geo. IV. c. 58). In Ireland (11 Geo. IV. c. 31). All under the management of Commissioners of Excise (6 Geo. IV. c. 58, and 11 Geo. IV. c. 31).

II. MALTSTERS IN GENERAL.

Every person making malt, to make entry of his rooms, places, and utensils (7 & 8 Geo. IV. c. 52), which (with certain exceptions) are not to be used for more purposes than one (11 Geo. IV. c. 17). And every cistern for steeping more than eight bushels at any one time to be rectangular, and of no greater depth than 40 inches, with an even bottom, of no more inclination for the drip than half-an-inch in each foot, and to be so placed as to be easily and conveniently gauged (7 & 8 Geo. IV. c. 52, and 11 Geo. IV. c. 17). And before being used, a certificate of examination must be obtained from the Supervisor (7 & 8 Geo. IV. c. 52). And every couch-frame to be rectangular, and permanently constructed. But cisterns and couch-frames not so constructed, may be used under certain regulations, if they were in use before 2nd of July, 1827 (11 Geo. IV. c. 17). Officers empowered to take account, and trader to assist when necessary (7 & 8 Geo. IV. c. 22). Specimens to be kept on premises (1 Vic. c. 49). Penalty on obstructing officer (s. 9). Twenty four hours' notice to be given of the particular hour when it is intended to wet grain (11 Geo. IV. c. 17), maltster to begin to steep only between the hours of 7 o'clock a.m. and 5 o'clock p.m. (23 & 24 Vic. c. 113), and having begun to steep the maltster must cover the whole of the grain with water, within three hours after the time for beginning, and continue the same so covered forty hours; except that on notice he may draw off the water once in that time, for not exceeding an hour: and fresh grain is not to be added after an

account has been taken by the officer (11 Geo. IV. c. 17, and 7 & 8 Geo. IV. c. 52), and if the time specified in the notice of intention to wet or steep be later than three o'clock in the afternoon, the corn shall be covered with water within one hour from the time so specified (23 & 24 Vic. c. 115, s. 22). Corn not to be taken out of the cistern, so that it cannot be gauged in couch-frame, under a penalty (s. 31); but must be emptied out between 7 a.m. and 4 p.m. (s. 27), and not before the day on which 96 hours expired from the last preceding emptying (s. 30); all cisterns in malt-houses having any internal communication, to be emptied on the same day (23 & 24 Vic. c. 113), and not to be laid deeper in couch than 30 inches, and to be laid flat and level, and kept in the couch-frame 20 hours at least (s. 23); and if the corn shall not be gauged within that time, any gauge taken before the end of 24 hours, to be deemed a couch gauge, and such corn not to be entitled to the allowance as a floor gauge (23 & 24 Vic. c. 113). No maltster to tread, or force together any corn in the cistern or couch-frame; and an officer suspecting it to be so trodden, or forced, may have it returned; and if any increase shall be found in the gauged quantity, after been again laid level, in a greater proportion than five per cent., within 8 hours, or six per cent. after that time and within 16 hours, or seven per cent. afterwards, a penalty is incurred (7 & 8 Geo. IV. c. 52, and 1 Vic. c. 49). Corn, after having been emptied out of the cistern, not to be wetted or sprinkled before the end of 12 days (23 & 24 Vic. cap. 113), unless all the corn on the floor of the malthouse, shall have been steeped fifty hours; in which case, a floor may, on notice, be

sprinkled at the end of 4 days or 96 hours (23 & 24 Vic. c. 113). No maltster to have at one time more than six floors, including the couch-frame and kiln, in operation at the same time, and worked in the same cistern or couch-frame; but floors may be divided for working separately (7 & 8 Geo. IV. c. 52, 1 Vic. c. 49). And all floors to be levelled, and laid in succession, according to seniority of age (7 & 8 Geo. IV. c. 52). And to be laid in straight lines, if they cannot otherwise be conveniently gauged (11 Geo. IV. c. 17). Gaugers to measure corn making into malt by the gauge only (12 Anne, stat. 1, c. 1). The quantity taken by gauge, to be charged as so many bushels of malt (s. 7). The following allowance to be made upon the gauges of corn, or grain, making into malt, *viz.* upon every gauge taken in the cistern, or couch-frame, an allowance of $18\frac{1}{2}$ bushels in every 100; and upon every gauge taken on the floor, or kiln, after the expiration of 20 hours, if a previous gauge has been taken, or 24 hours, if no such previous gauge have been taken, an allowance of one half; and the duty to be charged upon the best gauge after such allowances have been made (1 Vic. c. 49, and 23 & 24 Vic. c. 113, s. 22). And the officer to make a return of such duty every six weeks, and the same is to be paid and cleared off within six days after the return; unless the maltster shall have entered into bond, with sufficient sureties, for the due payment of his duties, within six weeks after the return (23 & 24 Vic. c. 113, s. 2); and in certain cases, a copy of the charge to be given to the maltster (s. 4). No maltster to mix corn of different wettings or steepings, either on floor or kiln (7 & 8 Geo. IV. c. 25). Not to mix unmalted corn with malt

(1 Geo. I. s. 2, c. 2). Not to wet or damp corn after being taken off the kiln (7 & 8 Geo. IV. c. 52); nor fraudulently to conceal malt, or corn making into malt, from the sight of the officer (s. 40); nor to remove malt before it has been charged with duty; and no person to receive malt, knowing the same to have been so removed (s. 41). If any maltster's servant shall, with intent to injure his master, commit any offence against the Malt Acts, he may be arrested, and on conviction, committed to gaol; but the maltster is liable to the penalty, unless he prosecutes, and produces a certificate of conviction (7 & 8 Geo. IV. c. 52, 11 Geo. IV. c. 17). In case of loss or damage of malt by fire or accident, an allowance of the duty, under certain regulations, to be made to the proprietor (7 & 8 Geo. IV. c. 52, and 11 Geo. IV. c. 17). Maltsters allowed to dry raw grain on a malkiln, on giving 24 hours' notice for that purpose (11 Geo. IV. c. 17, and 1 Vic. c. 49). Malt and utensils, &c., to be subject to duties and penalties (7 & 8 Geo. IV. c. 52). Repeal and general clauses (s. 80, 81, 82).

III. MALTSTERS, FROM BEAR OR BIGG, IN SCOTLAND OR IRELAND.

Maltsters from bear or bigg, in Scotland, to make entry and to keep utensils, &c., used for making such malt, separate from other utensils, &c. (3 Geo. IV. c. 30). Entry to remain in force until notice of withdrawal is given (s. 3), and until all the bear or bigg be made into malt, and the duty paid (s. 4). Maltsters from barley, not permitted to make entry as maltsters from bear or

bigg, until the barley malt is charged and removed, or *vice versâ* (s. 5). Places entered for bear or bigg malt, to be apart from places for barley malt (s. 6.) No bear or bigg to be brought into the possession of the maltster, without notice to the officer, and certificate from the grower or seller, that the same is not mixed with other grain (s. 7). Penalty for giving false certificate (s. 8). Such bear or bigg to be kept separate from any other, and not to be steeped for twenty-four hours, until the officer shall inspect it (s. 9, 10). The officer empowered to inspect and take samples (s. 11). Barley and barley malt found in possession of bear or bigg maltsters, to be forfeited (s. 12). Maltsters from bear or bigg, liable to the same regulations as other maltsters, and entitled to the same allowances (s. 13). In case of seizure of grain the proof that it is not bear or bigg, or that it has paid the higher duty, to lie on the claimant (s. 17). Provisions of 3 Geo. IV. c. 30, extended to Ireland (11 Geo. IV. c. 31). The bear or bigg mentioned in the Acts, to be of the growth of Scotland or Ireland only (s. 4).

IV. MALTING DUTY-FREE FOR DISTILLERY.

Malt may be made and used free from duty in distilling spirits (18 & 19 Vic. c. 94, s. 5). Special entry to be made of malthouse (s. 6). Persons other than distillers making duty-free malt to give security against frauds (s. 7). Malt may be removed for exportation (s. 8). Every maltster or distiller to make entry of his malthouse, and provide a kiln adapted for securing the malt whilst drying (s. 11). Distillers to make entry

M

of kiln used for drying barley or other corn or grain (s. 12). If malthouse more than a mile from a market town maltster or distiller to provide lodgings for officer (s. 13). Secure rooms to be provided for the purpose of depositing malt on removal from the kiln (s. 14). A storeroom at the distillery for malt on removal from malthouse. Also a mill-room at the distillery for grinding malt (s. 14). All fastenings (except locks) for the security of kilns and other rooms to be provided at the expense of maltster. Penalty for refusing to defray such expenses, or for removing or damaging locks or fastenings (s. 15). Commissioner may revoke approval of malt-house, kiln, or storerooms, and require alterations or additional fastenings (s. 16). Allowance on cistern or couch gauge to be 17 per cent. (s. 17). Maltster to give notice to officer to attend when it is intended to load kiln (s. 18). Maltster to give notice for turning corn on kiln, but not oftener than four times in one day (s. 19). Notice to be given for removal of malt from kiln (s. 20). Malt to be measured, and *if any deficiency the same to be charged with duty* (s. 20). Twenty-four hours' notice to be given for removal of malt from storeroom at malthouse to storeroom at distillery (s. 21). Malt to be removed from malthouse to distillery, in sacks containing 4 bushels, or 168 pounds each (s. 22). Twelve hours' notice to be given for removal from store to millroom; four hours' ditto for removal of malt to mash-tun (s. 23). Maltster or distiller to enter in book particulars of malt received into and removed from their storerooms (s. 24). Malt remaining in storeroom to be measured, and a balance struck of account of malt received and delivered; if a *deficiency*, duty to be charged

on the quantity; if an *excess*, the same to be forfeited (s. 25). Malt to be either measured or weighed, or both, as the Commissioners may order (s. 26). Distillers and maltsters to provide a correct bushel, scales, and weights, and assist officer in measuring and weighing malt (s. 27). Every maltster and distiller to designate their malt-house by painting certain words on principal entrance; penalty on neglect (s. 29). Distillers prohibited from selling malt (s. 30.) Penalty (s. 31). Commissioners may revoke licences on a second conviction of certain offences (s. 31). Persons unlawfully removing malt from a distiller's malthouse or distillery, may be arrested and summarily dealt with (s. 32). Commissioners to make regulations with respect to corn or grain, making into malt for distillers (23 & 24 Vic. c. 113).

V. MALTING FOR EXPORTATION.

for distillation substituted see page 2110

No malt made for exportation only to be charged with duty, and no drawback to be allowed on the exportation thereof (12 Geo. I. c. 4). Malt for exportation not to be made within six days before or after the making of other malt (s. 50). Notice to be given before wetting grain to be made for exportation (s. 49, 58). And such grain to be kept separate from all others (s. 49). And each steeping to be kept separate (3 Geo. IV. c. 18). The officer empowered to gauge and take account (12 Geo. I. c. 4). Notice to be given when malt is taken off kiln, and if not immediately exported, to be locked up in the presence of the officer (ss. 51, 58, and 3 Geo. IV. c. 18). Storehouses not to be opened without the consent of the officer (s. 14). Notice of removal to the port of export-

ation to be given (12 Geo. I. c. 4). Officer to grant certificate to accompany the malt on its removal (s. 54). Storehouses to be cleared at certain periods (3 Geo. IV. c. 18). Notice of shipping to be given (12 Geo. I. c. 4). The officer may attend the measuring of the malt, &c. (s. 55). The hatches of the ship to be locked down when the goods are not actually shipping (s. 56). Penalty on breaking open the hatches (s. 58). Penalty on relanding malt, &c. (3 Geo. IV. c. 18). Allowance for storehouses, &c. (12 Geo. I. c. 4). Maker of malt from bear or bigg for exportation, to be liable to the same regulations as to other makers of malt for exportation (3 Geo. IV. c. 30, s. 14). Drawback allowed on exportation of duty charged malt (23 & 24 Vic. c. 113). Exportation to be made under such rules and regulations as the Commissioners of Inland Revenue may make, and under the conditions specified in this clause (23 & 24 Vic. c. 113, s. 28). Maltster to provide measures, scales and weights, and assistance in measuring and weighing (23 & 24 Vict. c. 113). Debentures to be given to exporter one month after exportation. In calculating quantity of malt $7\frac{1}{2}$ per cent. to be deducted (23 & 24 Vic. c. 113, s. 30). Malt exported not to contain unmalted grain (s. 31). Penalties for breach of the provisions of this Act (s. 33).

VI. MALT ROASTERS.

Malt not to be roasted for sale, or sold, except by persons duly licensed (5 Vic. sess. 2, c. 30). Roasters of malt, and dealers in roasted malt, to take out license (s. 2). Duty on licences to be under the management of the Commissioners of Excise (s. 3). Roasters of malt to

make entry (s. 4.); and to mark their premises and utensils (s. 5). Officers of Excise empowered to survey (s. 6). Malt roasters not to receive any other grain than unroasted malt, and dealers no other than roasted malt (s. 7). A malt-book to be delivered to every malt roaster and dealer, in which to enter all malt received, roasted, and sent out (s. 8). Stock account to be taken (s. 9). Book may be made up before taking the account (s. 10). Malt not to be roasted at night (s. 11). A certificate book to be delivered to every malt roaster, and all roasted malt to be sent out by certificate (s. 12). Brewers intending to use roasted malt, to provide deposit rooms, and deliver up certificates (s. 13). All malt received by any roaster, to be roasted on his premises, and all roasted malt to be sent out unground (s. 14). No roasted malt to be bought of any but a licensed roaster (s. 15). No maltster, at his malthouse or within one mile of it, or any druggist or grocer, to be a roaster of malt or dealer in roasted malt (s. 16). Power of Commissioners to except maltsters whose premises were within the prohibited distance before 1st April, 1842 (s. 17). Malt roasters subject to like prohibitions, as to certain adulterating articles, as brewers of beer (s. 19). Grain in possession of a malt roaster, what shall be deemed unmalted (5 Vic. c. 30, s. 19).

LAWS AND REGULATIONS IN FORCE
AUGUST, 1862.

Arranged under their respective Heads.

ENTRY.

Entry, 7 & 8 Geo.
IV. to be made
under penalty of
100*l.* and forfeit-
ure of all malt
found therein.

That every maltster shall make true and particular entry, in writing, of his home and place of abode, and of every building, place, cistern, couch-frame, kiln, and other vessel and utensil, by such maltster intended to be used in or for the making or keeping of malt, or for the keeping of corn to be made into malt; describing in such entry the particular use or purpose for which such building, place, cistern, couch-frame, or other vessel or utensil is intended to be used, at the next Office of Excise; and if any maltster shall use any building, place, cistern, couch-frame, kiln, or other vessel or utensil, in or for the making or keeping of malt, or for the keeping of corn or grain to be made into malt, without having made a true and particular entry, in writing, thereof, at the next Office of Excise; or if any maltster shall, without due notice first given at such next Office of Excise, use any building, &c., for any other or different purpose, in or for making or keeping of malt, or for the keeping of corn or grain to be made into malt, than the particular use or purpose for which the same shall have been entered; every maltster so offending shall forfeit the sum of 100*l.* for every building, place, cistern, couch-frame, kiln, or other vessel or utensil so used. And all malt and corn, or grain, which shall be found in such building, &c., shall be forfeited, and shall or may be seized by any officer of Excise: *Provided always, that any entry made of any building, place, cistern, couch-frame, kiln, or other vessel or utensil, for any more than one such particular use or purpose as aforesaid, shall be void to all intents and purposes as aforesaid.*

Those parts of this clause in *italic*, are partially, or wholly repealed by the following clause.

11 Geo. IV. c. 17,
s. 1. That it shall and may be lawful for any maltster who shall have made, or who shall make entry as above, of any room or place, for the keeping of malt therein, or for the keeping of corn or grain to be made into malt, to make use of any such room or place entered for keeping malt, and to store and keep therein corn or grain to be made into malt, and to make use of such room or place which shall have been so entered for keeping corn or grain, and to keep and store therein, malt, or any other corn, grain, or seeds, and anything in the said Act 7 & 8 Geo. IV. to the contrary notwithstanding; provided that all malt, corn, grain, and seeds be kept separate and apart, so as to prevent the mixing of any such corn, barley, or other grain, or seeds with malt; provided also that nothing herein contained shall extend to authorize any distiller or maltster, in Scotland or Ireland, who shall have made, or who shall make entry, as a maker of malt for the sole purpose of being consumed in distillery, low wines, or spirits, from malt only, to keep any corn or grain in any room or place intended for keeping or entering malt, or to keep any malt in any room or place entered for storing corn or grain.

LICENCE.

Malt licence.	Every maltster or maker of malt, if the quantity of malt made by such maltster within the year ending 5th day of July in each year, shall not exceed 50 qrs. . . .	£0	7	6
	If the same shall exceed 50 qrs., and not exceed 100 qrs. . . .	0	15	0
	" " 100 " " 150 " "	1	2	6
	" " 150 " " 200 " "	1	10	0
	" " 200 " " 250 " "	1	17	1
	" " 250 " " 300 " "	2	5	0
	" " 300 " " 350 " "	2	12	6
	" " 350 " " 400 " "	3	0	0
	" " 400 " " 450 " "	3	7	6
	" " 450 " " 500 " "	3	15	0
	" " 500 " " 550 " "	4	2	9
	And if the same shall exceed 550 quarters	4	10	0

Every person who shall first become a maltster or maker of malt in taking out such licence as aforesaid, for that purpose shall pay the sum of 7*s.* 6*d.*, and, within ten days after the 5th day of July next, after taking out such licence, pay such further additional sum, as with the said sum of 7*s.* 6*d.*, shall amount to the duty hereinbefore-mentioned, according to the quantity of malt made within preceding year or period for which such licence was granted £0 7 6

An additional 5*l.* per cent. is charged upon each rate by 3 Vic. cap. 17, s. 1.

6 Geo. IV. c. 81,
s. 25. Maltsters
to put up over
their premises
their names and
trade. Penalty,
20*l.*

That all persons required by any Law of Excise to make entry of his premises, in order to carry on therein any trade or business for which an Excise Licence is required, and who shall have taken out such licence, shall paint or shall place, and fix in letters publicly visible, at least one inch long, in and upon his entered premises, his name at full length (or when there are partners, or more than one person engaged in carrying on jointly the same trade or business, the name, or style of the firm or partnership), and after such name or names, the word "Licensed," adding thereto the words necessary to express the trade or business for which the licence has been granted. And such person shall cause such letters to be placed and fixed in some conspicuous place outside of the front of his said premises, over the principal outward door, gate, or entrance door thereto, and not more than three feet from the top of such door or gate. And any person not so painting and fixing as aforesaid, or shall not repaint or renew the same as often as necessity shall require, for the purpose of keeping the same in good order, he shall forfeit for every such offence 20*l.* And if any person not being licensed to exercise any trade for which a licence is required by this Act, shall put up such letters as aforesaid upon his premises, or any letters importing that he does exercise or carry on any such trade, without a licence to do so, shall forfeit the sum of 20*l.*

Penalty for not
taking out li-
cences, 100*l.*

That if any person shall make or manufacture any goods or commodities hereinafter mentioned, or shall

carry on any trade or business hereinafter mentioned, for the making or manufactory, or for the exercising or carrying on of which trade or business, a licence is required by the Act, without taking out such licence, or is in that behalf required, shall forfeit the sum of 100*l*.

Here is enumerated the various trades or businesses, amongst which are those of maltsters, or makers of malt, brewers or retailers of beer.

Penalty on not producing licence on demand of officer, 20*l*. 6 Geo. IV. c. 81, s. 28.

That if any person licensed to exercise or carry on any trade or business, or make or sell any goods for which no 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 such officer shall demand the production thereof, such person shall forfeit the sum of 20*l*.

6 Geo. IV. c. 81, s. 10. Maltster may carry on his business at different and distinct premises under one licence.

That no one licence taken out by any person *except maltster* and auctioneer, shall authorize such person to carry on the trade or business mentioned in such licence, in more than one separate and distinct set of premises.

CISTERN.

Construction of cistern used by maltster for steeping above eight bushels at one time, 7 & 8 Geo. IV.

That any cistern used by any maltster for steeping corn to be made into malt, who shall steep more than eight bushels at any one time, shall be permanently made, with the sides and ends thereof straight and at right angles to each other, and of no greater depth in any part than forty inches, and having an even bottom with no more inclination for the drip than half-an-inch for every foot in length of such drip; and that every cistern shall be placed in a situation where the officer gauging therein shall have sufficient light and a clear open space of forty-eight inches at the least above every part of such cistern; and every maltster shall provide for the use of the officer full and sufficient means to enable such officer easily, safely, and conveniently to have access and to gauge the corn contained in such cistern, in every part thereof: Provided always, that every vessel, thing, or place used to steep corn, to be made into malt, shall be deemed and taken to be a cistern.

This clause was altered and amended by the following clause in favour of cisterns constructed previous to the passing the above Act.

11 Geo. IV. c. 17,
s. 3. Cisterns may
be used although
not constructed in
manner directed
by 7 & 8 Geo. IV.

That it shall be lawful for any maltster, with the approbation of the Commissioners of Excise, and under such regulations as the said Commissioners shall order and direct, to make use of any cistern which shall have been made and constructed, and in use before the passing of said Act, notwithstanding such cistern shall not have a clear open space of forty-eight inches at the least above any part thereof, so that there be sufficient head-room and light, and means to enable the officer to safely and conveniently have access and to gauge the corn contained in every part of such cistern; and a certificate in and by the said Act required shall, with such approbation as aforesaid, be granted for the use of such cistern.

Maltster to obtain certificate from Supervisor that cisterns are duly constructed.
7 & 8 Geo. IV.

That no cistern shall be used for steeping corn to be made into malt, by any maltster who shall steep more than eight bushels at any one time, which shall not be made or constructed, and placed in such situation, and have full and sufficient means provided, by this Act before directed. And every maltster, before any corn shall be by him steeped in any cistern, shall first obtain a certificate in writing from the Supervisor of the district in which such cistern be situated, that he has surveyed and examined such cistern, that the same is made, constructed, and placed in such situation, and has full and sufficient means provided as by the Act directed. And if any maltster shall steep in any cistern without having first obtained such certificate, or in any cistern in which, or in the dimensions or situation whereof, or in the means provided as aforesaid, any change has been made after such certificate has been obtained, without notice thereof to such Supervisor, and a new certificate obtained for the same, every such maltster shall be deemed to have steeped without notice, and shall be liable to be sued for every such offence as aforesaid, the penalty by this Act imposed for wetting and steeping without notice. That if any maltster having obtained such certificate, shall not maintain, and at all times place and keep the means by him, provided

Steeping corn without such certificate shall be deemed a steeping without notice.

Maltster not keeping the requisite

means for the use of officer, or not assisting them to gauge the cistern 100l. 7 & 8 Geo. IV. c. 52, s. 4.

as directed, and for which certificate shall have been granted, or shall not aid and assist to the utmost of his power, and with his servants, any officer in using such means, so that such officer may be thereby enabled easily, securely, and conveniently to gauge the whole of the corn contained in any cistern by him used, every such maltster so offending shall, for every such offence, forfeit One Hundred Pounds.

COUCH-FRAME.

Couch-frame to be constructed as specified, 100l.

That every couch-frame that shall be used by any maltster shall be made with the sides and bottoms thereof straight and at right angles to each other, and having three of such sides permanently made, and the other side thereof formed by movable boards or planks, of the substance of two inches at the least in thickness, such couch-frame to be supported on the outside in every part thereof, so that the same and every part thereof may be of sufficient strength not to bend or curve, or fail to preserve, when filled with corn, the same dimensions which such couch-frame shall have had when empty, and so that the officer may be enabled easily and conveniently to gauge in every part thereof, the corn contained therein; and if any such maltster shall use any couch-frame which shall not be made or constructed as aforesaid, every such maltster so offending shall forfeit One Hundred Pounds, and all the corn which shall be found in any couch-frame so made shall be forfeited, and shall and may be seized by any officer of Excise.

Couch - frames may be used although not constructed in manner directed. 10 Geo. IV. c. 52, s. 3.

Any maltster with the approbation of the Commissioners of Excise, and under such regulations as they may order and direct, may use any couch-frame made and constructed before the passing of said Act, notwithstanding such couch-frame shall not have the three sides thereof permanently made or constructed, provided that the movable sides of couch shall be made with boards, or planks of the substance of two inches in thickness at the least, and supported on the outside in every part so that the frame retain the same dimension in every part, when filled as when empty.

No penalty for using cistern or couch in use before the passing

That no maltster who shall use any cistern for steeping corn, or any couch-frame which shall have been used before the passing of this Act, shall, so long as the same

this Act, if remain unaltered. 7 & 8 Geo. IV. c. 52, s. 6. shall remain unaltered, be subject to any penalty for or by reason of such cistern or couch-frame not being made in the form or dimension by this Act directed, or by reason of such maltster laying any corn in any such cistern of any greater depth in any part thereof than forty inches, or by reason of such maltster laying any corn in couch-frame of greater depth than thirty inches, if such couch-frame shall have been used before the passing of this Act, shall not be of sufficient size to contain the corn emptied from the cistern, without the same being laid therein to a greater depth than thirty inches, and such couch-frame cannot, without enlarging such malthouse, or other cause shown to the satisfaction of the Commissioners of Excise, be made of such sufficient size as aforesaid (such cause and satisfaction being stated in certificate of Supervisor).

SPECIMEN.

Specimen to be kept by officer on the premises of maltster, and not to be removed or destroyed, altered in the entries, or obliterated. 200l. 7 & 8 Geo. IV. c. 52, s. 8. That the Supervisor of Excise in whose district any maltster shall be, or the officer of Excise under whose survey such maltster shall be, may leave and deposit, in some conspicuous part of the building or place entered by the maltster, a book or paper called specimen, for recording therein minutes of entries made by the officers who survey such malthouse, in the books of such officers, of the state of the manufacture, and of the account of the survey thereof, at any time taken by such officers, and the names and minutes of survey and observations of any other officer who may visit or inspect such premises; and every officer shall at all times have free access to such paper, with liberty and power to remove or take away the same, leaving a new book or paper for the like purpose in lieu thereof; and if any maltster, or other person not being an officer of Excise, shall remove or take away, or shall conceal or withhold any such book or paper, or shall damage or destroy the same, or alter, deface, or obliterate any entry therein, or shall make any entry therein, every such maltster or other person so offending shall forfeit Two Hundred Pounds.

OBSTRUCTING OFFICER.

Penalty on obstructing officer, 300l. 7 & 8 Geo. IV. c. 52, s. 9.

That if any maltster or other person shall resist, molest, obstruct, or otherwise hinder any officer of Excise, or any person employed in the revenue of Excise,

or acting in the aid or assistance of any person so employed in the due execution of any of the powers or authorities by this Act given or granted to such officers or persons so employed, every maltster or other person so offending shall, for every such offence, forfeit Three Hundred Pounds.

STEEP.

Notice to wet required to be given by maltster. 1007. 11 Geo. IV. c. 17, s. 7, and 1 Vic. c. 49, s. 2.

That every maltster, before beginning to wet or steep any corn or grain, shall give to the officer of Excise under whose survey such maltster shall then be, twenty-four hours' notice at least, in writing, of the day and hour of the day when such maltster intends to wet or steep his corn to be made into malt, and if any maltster shall begin to wet or steep without giving such notice, or shall steep before the hour specified in such notice, every maltster so offending shall forfeit, for every offence, the sum of One Hundred Pounds.

And in case any maltster shall not, pursuant to such notice, begin to steep the corn mentioned in such notice, and cover the whole thereof with water at the day and hour mentioned in such notice, or before the expiration of three hours from the hour mentioned in such notice, every such notice shall be and is hereby declared null and void.

Respecting notices required to be given by maltsters. 1 Vic. c. 49, s. 2.

That in all cases in the said recited Acts respectively in which any maltster or maker of malt shall be required to give any notice to an officer of Excise, the time for giving such notice shall be the same as is required to be given where the malthouse is situate in a city or market town, or in the suburbs thereof, notwithstanding the malthouse of the maltster or maker of malt giving such notice may not be so situated.

HOURS FOR STEEPING.

Hours of wetting corn in cistern. Penalty 1007. 23 & 24 Vic. c. 113, s. 22.

No maltster shall begin to wet or steep any corn or grain to be made into malt at any other time than between the hours of seven o'clock in the morning and five o'clock in the afternoon, and if the time specified in the notice of intention to wet or steep be later than three o'clock in the afternoon, the corn or grain shall be covered with water within one hour from the time so specified; and if any maltster shall begin to

steep any corn or grain at any other time than as aforesaid, every such maltster so offending, shall forfeit the sum of One Hundred Pounds.

Maltster to put the grain in cistern covered with water for at least forty hours, 100L. 11 Geo. IV., c. 17, s. 13.

That every maltster shall continue the grain by him steeped in the cistern to be made into malt, covered with water for a space of time not less than forty hours from the time of such grain being first wet or steeped, and if any maltster shall drain or draw off the water from such cistern, before the expiration of forty hours from the time of such corn or grain being first wet or steeped, every maltster so offending shall forfeit the sum of One Hundred Pounds. (Except as provided in next clause.)

DRAIN.

Water may be once drained during steeping on due notice having been given, provided the corn be again covered within one hour. 11 Geo. IV. c. 17, s. 14.

That it shall be lawful for any maltster to draw off the water from any corn steeped in cistern to be made into malt, once during the time such corn shall be continued in steep, although the same shall not then have been covered with water for the space of forty hours, without any penalty being incurred for so doing, provided such maltster shall, in the notice by him given, of his intention to steep, by the Act required, express his intention to drain off the water from such corn as aforesaid, and the particular day and hour of the day, between the hours of eight in the morning and two in the afternoon, when such maltster shall intend so to do, provided always, that such corn be again completely covered with water, before the expiration of one hour from the time of the water being begun to be drained.

No corn to be added to that in steep after the account has been taken. Penalty 100L. 7 & 8 Geo. IV., c. 52, s. 26

That if any maltster shall add any corn to the corn steeped in any cistern, to be made into malt, after the officer of Excise shall have taken an account thereof, every maltster so offending shall, for every such offence, forfeit the sum of Two Hundred Pounds.

HOURS OF EMPTYING.

Corn to be emptied only between 7 morning and 4 afternoon. Penalty 100L. 7 & 8 Geo. IV. c. 52, s. 27.

That it shall not be lawful for any maltster to empty or take any corn out of cistern at any other time, than before the hours of seven in the morning and four in the afternoon; and if any maltster shall empty any corn from, or out of cistern, at any other time, every maltster so

offending shall for every such offence, forfeit the sum of One Hundred Pounds.

All cisterns in malthouses having any internal communication to be emptied on the same day. 23 & 24 Vic. c. 113, s. 24.

And if in any building, or in any two or more buildings having any internal communication between them, there shall be more than one cistern used at the same time for wetting or steeping corn or grain, all such cisterns shall be emptied of the corn or grain therein during the hours prescribed and limited in that behalf in one and the same day; provided that where the corn or grain in two or more of such cisterns is emptied into one couch-frame, it shall be taken account of by the officer therein, and thenceforth as one and the same wetting or steeping, and the emptying of the last of such cisterns shall be finished within the space of three hours from the time of beginning to empty the first of such cisterns.

Penalty in taking corn out of any cistern, within 96 hours of the last emptying of any cistern, under the same roof, 200l. 7 & 8 Geo. IV. c. 52.

That it shall not be lawful for any maltster to empty any cistern in any building or place having the same roof, or any internal communication between them, until the expiration of ninety-six hours from the time of the last emptying, or take any corn out of any cistern therein; and if any maltster shall empty from any such cistern until the expiration of such time, shall for every such offence forfeit the sum of Two Hundred Pounds. Provided always such maltster shall not be liable to any such penalty if such corn be emptied or taken out *on the day in which such ninety-six hours shall expire*, and not before seven of the clock in the morning of such day.

Penalty on conveying from cistern that it cannot be gauged in couch-frame, 200l. 7 & 8 Geo. IV. c. 52, s. 31.

That if any maltster shall take or convey away from any cistern, any corn making into malt, so that no gauge thereof can be taken by the officer of Excise in the couch-frame, every maltster so offending shall forfeit for every such offence, the sum of Two Hundred Pounds.

COUCH.

Removal of grain from cistern to couch-frame, and time of remaining therein. 23 & 24 Vic. c. 113, s. 23.

All corn and grain which shall be wetted to be made into malt shall be removed directly from the cistern into the couch-frame, and shall be laid flat and level therein by the maltster, and of no greater depth in any such couch-frame than thirty inches in any part thereof, except where by any Act now in force a greater depth is expressly

allowed, and such corn or grain shall be kept and continued so laid in the couch-frame for the space of twenty hours at the least from the time of being removed from the cistern: Provided always, that all such corn or grain shall for the purpose of being gauged and charged with duty be deemed to be in couch for the space of twenty-four hours from the time of its removal from the cistern, and shall be gauged and taken account of by the officer as in couch during the said space of twenty-four hours although such corn or grain may have been removed from the couch-frame, *unless the same shall have been previously gauged by the officer.*

FORCING CORN IN COUCH OR CISTERN.

Penalty on treading or forcing together corn in cistern or couch frame, 100l. 7 & 8 Geo. IV. c. 52, s. 33.

That if any maltster shall tread or force together any corn making into malt, in the cistern or couch-frame, or if any corn making into malt shall be found in any cistern or couch-frame, so hard, close, and compact as it could not have been unless the same had, by some means or other, been trodden or forced together; every maltster who shall tread or force together such corn, or in whose cistern or couch-frame shall be found so hard, close, and compact, shall for every offence forfeit One Hundred Pounds.

Officer of Excise suspecting any cistern or couch to be trodden or forced together, may have the same turned out and returned, when increase to be deemed conclusive evidence of treading or forcing together, 100l. 1 Vic. c. 49, s. 5.

That when any officer of Excise shall suspect the corn in any cistern or couch has been trodden or forced together, or if so hard, close, and compact as it could not have been unless the same had been by some means or other trodden or forced together, it shall be lawful for such officer to direct the maltster or his workmen and servants, to throw all such corn from and out of the cistern or couch-frame, and for such officer, and any person or persons in his aid and assistance, which aid and assistance the maltster or servants shall also give, if required, to return all such corn into the cistern or couch from which the same shall have been thrown, and to lay the whole of such corn level again in such cistern or couch, and if any increase shall be found in the gauge or quantity of such corn, after being returned and laid level, over and above the former gauge taken before the same was thrown out, in any greater proportion than five bushels in every one hundred bushels, previously to such corn having been emptied

eight hours from the cistern, or six bushels in every one hundred bushels if such corn shall have been emptied from the cistern eight hours and not exceeding sixteen hours, or seven bushels in every hundred bushels, if such corn shall have been emptied from cistern sixteen hours or upwards. The increase so respectively found as aforesaid shall be deemed conclusive evidence of such corn having been trodden or forced together, and the Court of Justice before whom such evidence shall be given, shall thereupon convict the maltster in the penalty imposed by the said Act of 7 & 8 Geo. IV. ; and any maltster who, or whose servants or workmen shall when directed by any officer of Excise, refuse to throw out any corn making into malt from any cistern or couch, or to aid or assist, if required so to do, in returning the same into the cistern or couch from which the same shall have been thrown, shall forfeit One Hundred Pounds, provided always, that it shall be lawful to prove by any other or different evidence, that such corn had been trodden or forced together.

EXCISE ORDER.

Corn to be returned in the ordinary manner of working. Excise order, Feb. 2, 1849.

That in throwing corn out of the couch-frame, for the purpose of ascertaining whether it has been illegally compressed, no objection be made to its being thrown back into cistern, and returned into the couch-frame, provided the cistern be empty and upon the same floor, with the couch; and so placed that the grain can be conveniently thrown back into it with the shovel in the ordinary manner of working. That in all cases in which grain shall be removed from and returned to the couch-frame in the presence of two officers, each officer shall gauge the grain before and after the said operation, and the maltster have the benefit of any difference between their respective gauge, that is to say the greater of the two before the grain is removed from the couch, and the lesser gauge of the two after the grain is returned thereto.

ALLOWANCES IN CISTERN, COUCH, AND FLOOR.

Allowance to be made on gauging corn for charge of duty. 1 Vic. c. 49, s. 9.

That there shall be made upon the corn, if taken whilst the same is in operation; or in process of making into malt, upon every gauge taken by the officer of Excise in the cistern during the time such corn shall be kept and con-

tinued in such cistern, or in the couch, or on the floor during the period as directed to be deemed in couch, and gauged and taken account of as in couch, an allowance shall be made by such officer of eighteen bushels and one half-bushel in every one hundred bushels of the whole quantity of corn as found by such gauge; and upon every gauge taken of such corn, in the floor or on the kiln, after the expiration of twenty hours, an allowance shall be made by such officer of one-half of the whole quantity of such corn so found by such gauge, before the said corn shall be wholly dried off and removed from the kiln; and the duty of excise on malt, when charged by gauge upon the corn in a state of operation, or in process of making into malt, shall be charged on the best of the several gauges so taken, after such allowance shall have been made respectively.

FLOORS.

Maltster may have six floors including the couch and kiln in operation at the same time, 100L. 1 Vic. c. 49, s. 10.

That no maltster is allowed at one time to have more than six floors or quantities of corn making into malt in the couch-frame, or on the floor or kiln in all or any of them, steeped in and arising from, or pretended to have been steeped in and to have arisen from or denoted by its place of deposit in the malthouse, or have been steeped in and to have arisen from one or more cisterns, emptied into one and the same couch-frame, under a penalty of Two Hundred Pounds: Provided always, that nothing herein shall be deemed to extend to subject any maltster to said penalty by reason of his dividing any one or more of his floors or quantity, either into two or more pieces, for the purpose of working such pieces separately and apart from each other, in the same malthouse, or such corn shall have been steeped, or for dividing the oldest of his floor, for the sole purpose of removing the same to the kiln, to be immediately dried thereon.

Floors to be in regular form and level, and laid in succession, according to seniority of age, under penalty 100L. 7 & 8 Geo. IV., and 11 Geo. IV. c. 17, s. 19.

That every maltster shall deposit and have all such floors or quantities of corn, making into malt, level, and lay the same in regular succession one before the other, according to the seniority in age of such floor or quantities of corn, making into malt, upon the floor; and if any maltster shall not deposit and have any such floor or quantity of corn as aforesaid, or if the maltster or any of his servants, shall not level or lay the same in such form that they

may be conveniently gauged, every such maltster so offending shall, for every such offence, forfeit the sum of One Hundred Pounds.

Penalty on mixing corn of different steepings, 200L. 7 & 8 Geo. IV.

That if any maltster shall mix with, on the floor, or in the kiln, any corn of one steeping, with or amongst any corn of another or different steeping, every maltster so offending shall, for every such offence, forfeit the sum of Two Hundred Pounds.

SPRINKLING.

When grain making into malt may be sprinkled. 23 & 24 Vic. c. 113, s. 25.

It shall not be lawful for any maltster to water or sprinkle any corn or grain making into malt before the expiration of two hundred and eighty-eight hours after the same shall have been taken out of the cistern, unless the same shall have been kept covered with water in the cistern for the full space of fifty hours from the time of such corn or grain being first wetted or steeped, in which case it shall be lawful to water or sprinkle such corn or grain at the expiration of ninety-six hours after the same shall have been taken out of the cistern, upon the maltster giving to the officer twenty-four hours' previous notice in writing of his intention to do so.

CHARGE.

Officer to enter on specimen the number of bushels charged on each steeping. 11 Vic. c. 11, s.

That every officer of excise shall, in respect of every wetting, at his next visit after the quantity of corn so wetted shall have been dried off and removed from kiln, enter on the specimen the number of bushels with which the maltster shall be chargeable in such wetting, according to the best gauge had on such corn, showing in such entry whether such charge had arisen from the cistern, couch, floor, or kiln.

Officer to give a copy of his charge if demanded at any time by the maltster. 11 Geo. IV. c. 7, s. 4.

That every officer who shall take an account of, and charge the duty on corn making into malt at the malt-house of any maltster, and make a return thereof to the Commissioners of Excise, shall in all cases when the minutes of the entries made by him in taking such account, shall not appear on the book or specimen left at the premises of such maltster, give a true copy of such charge, in writing, to the maltster whose corn

shall be charged, if such copy *shall be demanded in writing* by or on behalf of such maltster, notwithstanding such demand may not be made at the time of taking such account.

Officers may enter any building used by maltsters, gauge vessels, &c. and take account of grain and malt, and make a return, which shall be a charge of duty, leaving a copy thereof if required. 7 & 8 Geo. IV. c. 52, s. 7.

That it shall be lawful for any officer, or person in his aid, at any time, either by night or day, to enter into and remain so long as such officer may think fit, for the purposes hereinafter mentioned, in any building or place belonging to, or used by any maltster for keeping or making malt, and to gauge all vessels and utensils therein used by such maltster for steeping any corn to be made into malt, and to examine, gauge, or measure, and take account of all corn in any such building or place, whether such corn be in operation or not, and such officer is authorized and required to charge duty imposed by any Act relating to the revenue of Excise on malt, upon all malt or corn making into malt by such maltster, found therein, and of such account and charge of duty to make a return or report in writing to the Commissioners of Excise, in such form as the Commissioners of Excise may direct. Such officer will in all cases when the minutes of the entries made by him in taking such accounts, shall not appear in the book or specimen left at the entered premises of such maltster, giving (if demand be made thereof in writing, at the time of taking such account) a true copy of such charge in writing, to such maltster, and any such return, or report of such officer shall be taken to be a charge of duty upon the maltster.

ROUNDS AND CREDIT.

Officers of Excise to make a return of duty charged on the maltster every six weeks; the amount of such return to be paid in six days, unless security shall have been given.

That the officer of Excise under whose survey any maltster shall be, or any other officer appointed so to do, shall, from time to time, at the expiration of every six weeks, or at such other times as the Commissioners of Excise shall direct to make out and deliver to the Collector of Excise, or to such person as the Commissioners of Excise shall appoint to receive the same, an account or return in writing of the quantity of malt made by such maltster, and for which he shall have been chargable with duty in such preceding six weeks, or period, of all the duty payable thereon, and the return or account of such officer shall be a charge

on every such maltster ; and such maltster shall pay and clear off the duty appearing by such return or account to have become due within six days after such return or account shall have been made, unless such maltster shall have given and shall maintain, and shall renew from time to time as he may be required by the Commissioners of Excise, or persons appointed by them for that purpose, to renew the same, security approved by the Commissioners of Excise, by bond, in double the value of the duties which such commission shall judge likely to arise, or be charged on and become due from such maltster within any six weeks for the due payment at the end of every six weeks after such account or return as aforesaid shall be made of all such duties as shall arise or be charged on and become due from such maltster ; and if any maltster who shall not have given such security, or who shall not maintain and renew, when required so to do, such security, shall neglect or refuse to pay and clear off such duties within six days, every such maltster shall, for every such offence, forfeit double the sum which such duties so neglected or refused to be paid or cleared off shall amount to.

Double duty. 11
Geo. IV. c. 17,
s. 26.
Period of credit
for payment of
Excise duty on
malt reduced to
six weeks. 23 &
24 Vic. c. 113,
s. 2.

The time limited by the Act passed in the last Session of Parliament, Chapter Eighteen, for payment of the duty of Excise on malt by every maker of malt who shall have given security by bond as by law required in that behalf, shall in respect of all malt begun to be made on or after the First day of October One thousand eight and sixty be further limited to six weeks in lieu of twelve weeks after the making of such account or return as in the said Act is mentioned or referred to ; and every bond which shall have been given or entered into for securing the payment of such duty according to the direction of the said Act shall remain and continue in force against the principal and sureties who shall have made or entered into the same, as a security for payment of the said duty at or within the period limited by this Act, unless the said parties, or some one of them, shall before the said First day of October give notice to the Commissioners of Inland Revenue of his desire to withdraw from such bond, in which case the maltster shall not be entitled to any credit for payment of the duty of Excise on any malt made or begun to be made by him on or after the said last-mentioned day until he shall have given fresh security in that behalf to the satisfaction of the said Commissioners.

SPRINKLING MALT AFTER DRIED.

Penalty for wetting or dampening malt after taken from kiln, 100*l*.

That if any maltster shall wet, water, sprinkle, or damp, any malt, after the same shall have been taken or thrown off the kiln, and before such malt shall be delivered into the possession of the brewer, or other person, who shall have purchased the same, for so offending shall forfeit One Hundred Pounds.

CONCEALING, &c.

Penalty on fraudulently depositing, concealing, or conveying away malt; all malt and 200*l*.

That if any maltster, or other person, shall fraudulently deposit, conceal, or convey away, from the sight of the officers of excise, any malt, corn, or grain, making into malt, every maltster, or other person, so offending shall forfeit the sum of Two Hundred Pounds; and all such malt, corn, or grain, making into malt, so fraudulently deposited, concealed, or conveyed away, shall be forfeited, and shall be seized by any officer of Excise.

Penalty for removing or receiving malt before account taken and duties charged; all malt and 200*l*.

That if any maltster shall remove, carry, or send away any malt, from any building or place where the same shall have made, before such malt shall have been taken account of and charged with duty by the proper officer of Excise; or if any person shall receive, or have in his custody or possession, any malt so removed, carried, or sent away as aforesaid, knowing the same to have been so removed, carried, or sent away, every maltster or person so offending shall, for every offence, forfeit the sum of Two Hundred Pounds, and all the malt so removed, carried, or sent away, shall be forfeited, and shall or may be seized by any officer of Excise.

LOSS BY FIRE OR WATER.

In cases of loss or damage by fire or water, the Justices of Quarter Sessions, or the Commissioners of Excise upon proof thereof, and that

That if any malt shall be destroyed or damaged by fire, or shall perish or be damaged by the casting away of, or by any inevitable accident happening to any barge or vessel in which such malt shall be transporting, or shall have been transported from any part of the

the duties have been paid thereon, shall grant a certificate of such loss or damage and the duties shall be repaid.

United Kingdom to any other part, or on which such malt shall have been put on board for that purpose, it shall be lawful for the proprietor of such malt to make proof of such accident, and the cause thereof, on the

oath of one or more witnesses, and of the duty upon such malt having been duly charged and paid by the maltster, before the Justice of Peace at Quarter Sessions where such malt shall have been made, or at the next adjoining to the place where such accident shall have taken place, or shall have been first discovered; or when the vessel on which such malt shall have been loaded, or before the Commissioners of Excise, or any three of them, who are authorized and required to examine any witnesses thereupon upon oath (which they are authorized to administer), and upon proof being made before them by such witnesses, or by legal documents, that such malt had been entirely lost or totally destroyed, and that the duties thereupon had been duly charged and paid, to grant a certificate thereof, and of the amount of such duties, under their respective hands; upon the production of which certificate, such collector shall and is authorized and required to pay, or allow the proprietor, out of the monies arising from the duties of Excise upon malt in his hands, so much money as the sum specified in such certificate; or upon proof being made that the malt, though not entirely lost or totally destroyed, had been damaged, and the duties thereupon had been duly charged and paid, it

7 & 8 Geo. IV. c. 52, s. 26.

shall be lawful for such Justices or Commissioners to

adjudge and determine the quantum of such damage, and to grant a certificate of the sum to be repaid for or in respect of such damage (such re-payment bearing the same proportion only to the whole duty charged and paid upon such malt so damaged, as the damage thereof shall bear to the value of such malt before it was damaged), and upon the production of such certificate, to the Collector of Excise, he shall and is authorized and required to repay or to allow to the proprietor of such malt, so damaged, out of the money arising from any duties of Excise upon malt in his hands, so much money as specified in such certificate.

Notice to be given on application for relief in case malt destroyed or damaged. 11 Geo. IV. c. 17, s. 37.

That no person shall be entitled to any relief under the above clauses for any malt destroyed or damaged by fire, or inevitable accident, unless a notice in writing, describing the nature, cause, and extent of such accident

shall be delivered to the Commissioners of Excise, or to the Supervisor

of Excise of the district in which such loss shall have taken place, or shall have been first discovered, within fourteen days next after the same shall have come to the knowledge of the person claiming such relief; and unless such person, or the agent of such person, shall also give or leave notice in writing of his intention to apply for such relief, with the Collector or Supervisor of Excise of the collection or district where the Quarter Sessions are to be held, at which he intends to apply for such relief, or to the Solicitor of Excise for England when such application shall be intended to be made, ten days at the least before the beginning of such Quarter Sessions, or before such application to such commission, nor unless such person shall also apply for such relief within four calendar months after such accident shall have come to his knowledge.

Decision of Justices, &c., to be final. 7 & 8 Geo. IV. c. 52, s. 77.

That after such Justices of the Peace, or Commissioners of Excise shall have once examined and ascertained such loss or damage, their decision thereon shall be final.

LIABILITIES.

All malt utensils and vessels to be subject to arrears of duty, penalties and forfeitures. 7 & 8 Geo. IV. c. 52, s. 79.

And in order to secure the duties of Excise on malt due and owing from any maltster on whom such duties shall have been charged, or by whom they have become payable, and for the enforcement of all penalties incurred by such maltster, for any offences committed against the Acts relating to the revenue of Excise on malt; that all corn, and all vessels and utensils, and utensils for the making or keeping of malt, in the custody or possession of such maltster, or in the custody or possession of any other person, to the use of or in trust for such maltster, shall be and remain subject and liable to, and the same are made chargeable with all the duties of Excise on malt which, during the time of any such custody or possession, shall have been charged, or shall become chargeable upon, or to be in arrear, or owing from such maltster for or in respect of any malt by him made during such time as aforesaid, and shall also be and remain subject and liable to all penalties and forfeitures which, during such custody or possession shall have been incurred by such maltster, for any offence committed by such maltster against any Act relating to the revenue of Excise. And all such malt and corn, or grain, and all

such vessels and utensils as aforesaid, shall be and remain subject and liable to all duties, penalties, and forfeitures, into whose hands soever the same shall afterwards come, or by what conveyance or title whatsoever the same shall afterwards come, or by what conveyance or title whatsoever the same shall be claimed; and it shall be lawful in all cases to levy thereupon such duty, penalties, and forfeitures, and to use such proceedings for the recovery of such duties and penalties as may be lawfully done in cases where the debtor or offenders are the true and lawful owners of such goods, utensils, or vessels.

Repeal of provisions of recited Act shall not revive the provisions of any previous Act.

That the repeal of any provisions of other Acts shall not extend to revive or put in force any provision contained in any former Acts; but that all such enactments, clauses, and provision, as by this Act 11 Geo. IV.

cap. 7, directly or indirectly repealed, shall be and are hereby declared to continue repealed and of no effect.

PUNISHMENT OF SERVANTS.

Punishment of servants. 7 & 8 Geo. IV. c. 52, s. 41.

That if any workman, servant, or labourer employed by or in the service of any maltster, shall *maliciously, and with intent to injure such maltster*, begin to wet any

corn to be made into malt, at any other time than between the hours of eight in the morning and two in the afternoon, *or shall maliciously and with such intent*, empty or take any corn from the cistern at any other time than between the hours of seven in the morning and four in the afternoon, *or shall maliciously*, wet, water, or sprinkle any corn making into malt, before the expiration of twelve days after the same shall have been emptied from cistern (if steeped less than fifty hours, or before the expiration of four days if steeped fifty hours), or mix, either on the floor, or on the kiln, any corn of one wetting with or amongst of another or different wetting; and whereas it is expedient

11 Geo. IV. c. 17, s. 35.

to extend the said provision to other offences which such workmen, labourers, or servants may commit.

That if any such employed by, or in the service of any maltster, shall *maliciously* omit to give any notice, *or do any act, matter, or thing* required by such Act or Acts to be given or done, or shall do any act, matter, or thing prohibited to be done by said Act, or commit any offence against any of the provisions of said Act or this Act, whereby

such maltster shall be injured or damnified, or subject to any penalty imposed by said Act or Acts, every such workman shall or may for 7 & 8 Geo. IV. any such offence, be arrested and conveyed by any constable or other lawful peace officer, before one or more of Her Majesty's Justices of the Peace for the county, shire, division, city, town, or place, wherein such workman shall be found, and it shall be lawful for any such Justices of the Peace, on the confession of the party or by proof, on the oath of one or more witnesses, made of such offence, to convict every such workman, &c. so offending, and upon conviction, by warrant either under his or their hands, to commit such workman, &c. to the common gaol, or house of correction of the county, shire, division, city, town, or place in which such conviction shall take place, for any length of time not exceeding twelve, and not less than three months from the day of commitment; and such workman, &c. shall, for and during the whole time for which he shall be committed, be kept to hard labour, and shall not, under any pretence, or by reason of any authority, or order, be discharged until the expiration of the time for which such commitment shall have been made.

Maltster to be liable for penalties to such offence unless he shall prosecute such servant to conviction.

Provided always that nothing herein contained shall extend to repeal, alter, or affect any penalty on the maltster in whose service, or premises any such workman as aforesaid shall be employed, by reason of any such offence, but that every such maltster shall still continue liable to all such penalties, anything herein-before contained to the contrary thereof notwithstanding, unless such maltster shall forthwith prosecute such workman as aforesaid to conviction, and shall, before the recovery of any such penalty, produce to the Commissioners of Excise, a certificate of such conviction, and of the workman, &c., so convicted having suffered, or being in prison under such sentence, and suffering such punishment.

11 Geo. IV. c. 17, s. 35.

Provided always that warrant and conviction shall take place or be made for any offence committed by such workman against any provision of the said Acts, after the expiration of *one month from the discovery of the offence.*

Former regulations which are inconsistent with 7 & 8 Geo. IV. to be repealed.

That all laws, powers, authorities, regulations, restrictions, exceptions, provisions, clauses, matters, and things provided for and contained in any Act or Acts in force at or immediately before the commencement of this Act (7 & 8 Geo. IV.), relating to the revenue of Excise on malt made in

any part of the United Kingdom of Great Britain and Ireland, or relating to penalty for removal of malt, or to any matter or thing expressly provided by this Act, which is or are repugnant to, or inconsistent with the several matters, clauses, provisions, and regulations of this Act, or any of them, shall be hereby from the 10th October, 1827, repealed, and shall after that day be no longer put in force, *save and except as to the recovery of any penalty or forfeiture before that day incurred.*

Act 7 & 8 Geo IV.
to remain in force
when not repeal-
ed, 11 Geo. IV.
c. 17, s. 13.

That all clauses, enactments, provisions, restrictions, regulations, matters, and things in the said Act (7 & 8 Geo. IV.) contained, *not hereby repealed, shall remain in full force and effect.*

Fines, penalties,
&c., to be recover-
ed, mitigated,
and distributed as
by former laws.

That all fines, penalties, and forfeitures, imposed by these Acts, shall be sued for, recovered, levied, mitigated, and distributed (except where other provisions are by this Act specially made) by such ways, means, methods, and in such manner in Great Britain and Ireland respectively, as any fines, &c. imposed by any Act relating to the revenue of Excise in Great Britain and Ireland respectively, may be sued for, recovered, levied, mitigated, and distributed.

LAW OF ARREST.

Persons taken be-
fore a Justice
charged with an
offence against
laws of Inland
Revenue may be
remanded or ad-
mitted to bail. 23
& 24 Vic. c. 113,
s. 39.

When any person shall be arrested and detained under any Act relating to the Inland Revenue charged with any offence for which he may be liable to conviction on immediate arrest, it shall be lawful for the Justice before whom such person shall be taken, in his discretion, from time to time to remand the person accused for further examination for such time as the said Justice shall deem reasonable (not exceeding eight clear days) to the common gaol or house of correction or other place of security in the county, riding, division, liberty, city, borough, or place for which such Justice shall then be acting, or such Justice may in his discretion, instead of detaining the accused person in custody during the period for which he shall be remanded, discharge him upon his entering into a recognizance, with or without a surety or sureties, at the discretion of such Justice, conditioned for his appearance at the time and place appointed for the continuance of such exa-

mination ; and if such accused person shall not afterwards appear at the time and place mentioned in such recognizance, the said Justice, or any other Justice who may then and there be present, shall certify on the back of the recognizance the non-appearance of such accused person, and shall transmit such recognizance to the clerk of the peace of the county, riding, division, liberty, city, borough, or place within which such recognizance shall have been taken, to be proceeded upon in like manner as other recognizances forfeited at Quarter Sessions may now by law be enforced, and such certificate shall be deemed sufficient *prima facie* evidence of such non-appearance of the said accused person.

ROASTED MALT ACT.

Prohibiting the roasting of malt for sale, or the selling thereof except by persons duly licensed. 5 Vic. c. 30.

And whereas malt prepared by being roasted in cylinders after the process of malting has been completed, and commonly known as roasted malt or roasted amber malt, has been found to be a preferable material in brewing for darkening or improving the colour of beer and ale ; but from the difficulty of distinguishing unmalted grain when roasted from roasted malt great frauds may be committed on the revenue of Excise on malt by the use of such roasted malt ; and it is therefore expedient to provide regulations for the preparation, sale, and use of the same : Be it therefore enacted by the Queen'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 from and after the commencement of this Act no malt shall be roasted for sale, nor shall any roasted malt be sold, sent out, or delivered by any person, other than a roaster of malt or dealer in roasted malt duly licensed and entered under the provisions of this Act.

LICENCE.

Roasters of malt and dealers in roasted malt to take out a licence. 5 Vic. c. 30, s. 2. Penalty 100*l.*

That from and after the Fifth day of July, One thousand eight hundred and forty-two, every roaster of malt before he shall begin to roast any malt, and every dealer in roasted malt before he shall sell, send out, or deliver

any such malt, shall take out an Excise licence, authorizing such person to carry on the trade or business of a roaster of malt or dealer in roasted malt, and shall at the expiration of such licence, and yearly from year to year so long as such person shall carry on the said trade or business respectively, renew the same, paying yearly for such licence, if a roaster of malt, the sum of Twenty Pounds, and if a dealer in roasted malt the Sum of Ten Pounds, and every such licence shall be in force until the Fifth day of July in each year, and shall then expire ; and every person who shall carry on the trade or business of a roaster of malt, by roasting any malt, or selling, sending out, or delivering any roasted malt, or of a dealer in roasted malt, by selling, sending out, or delivering any quantity thereof, without having taken out or renewed and having then in force such licence as aforesaid, shall forfeit One Hundred Pounds.

Duty on licences to be under the management of the Commissioners of Excise who shall grant the same. 5 Vic. c. 30, s 3.

That the duties by this Act imposed on licences to be taken out by roasters of malt and dealers in roasted malt, shall be under the management of the Commissioners of Excise for the time being, and shall and may be raised, levied, collected, answered, and recovered, paid over and accounted for, in such and the like manner, and in or by any of the general or special ways, means, or methods by which any other duties of Excise on licences are or may be raised, levied, collected, answered, or recovered, paid over and accounted for ; and every such licence shall be in such form as the Commissioners of Excise shall direct, and shall be granted by the said Commissioners, or their officers duly authorized to grant licences under any law or laws of Excise ; and all enactments, provisions, regulations, pains, penalties, and forfeitures under any law or laws of Excise relating to licences, shall extend to and be put in force in respect of such licences, and the duties thereon, and the persons required to take out and renew the same respectively, as fully and effectually as if such enactments, provisions, regulations, pains, penalties, and forfeitures were repeated and re-enacted in this Act.

ENTRY.

Roasters of malt to make entry of their premises and utensils. 5 Vic. 30, s. 4. Penalty 200l.

That every roaster of malt shall, before beginning to roast any malt, make a true and particular entry in writing, signed by such roaster of malt, of every warehouse, storehouse, shop, room, or other place, and where

situated, intended to be made use of by him for the receiving, preparing, roasting, and keeping of malt, and also of every furnace, cylinder, or other utensil to be made use of in roasting malt, by delivering such entry to the officer of Excise in whose survey his premises shall be situated; and in every such entry every warehouse, storehouse, shop, room, or other place, and every furnace, cylinder, and other such utensil as aforesaid, shall be distinguished by a particular number or letter, or number and letter or letters, and in default thereof every such roaster of malt shall, for every unentered warehouse, storehouse, shop, room, or place, furnace, cylinder, or other such utensil, forfeit Two Hundred Pounds; and every unentered furnace, cylinder, or other utensil, and all malt found therein, shall be forfeited; and every dealer in roasted malt shall, before receiving, selling, sending out, or delivering any roasted malt, in the same manner make a like entry of every warehouse, storehouse, shop, room, and place to be made use of by him for receiving, storing, or keeping any roasted malt, on pain of forfeiting the like penalty; and all malt of any description, unroasted or roasted, found in any unentered warehouse, storehouse, shop, room, or other place, made use of by any roaster of or dealer in roasted malt, shall be forfeited.

Roasters of malt to mark their premises and utensils corresponding to their entry. ⁵ Vic. c. 30, s. 5.

That every roaster of malt and every dealer in roasted malt shall mark and number, and at all times, on demand in writing of the Supervisor of Excise, legibly re-mark and re-number, every warehouse, storehouse, shop, room, and other place, and every furnace, cylinder, and other utensil required to be entered by such roaster of malt or dealer respectively, with a distinguishing number or letter, or number and letter or letters, corresponding to the description thereof in the entry of such roaster of malt or dealer respectively; and every warehouse, storehouse, shop, room, or other place, furnace, cylinder, or other utensil, made use of for receiving, preparing, roasting, or keeping malt, which shall not be so marked or numbered, or re-marked or re-numbered, or which shall not correspond with the description thereof in the entry, shall be deemed and taken to be unentered.

Officers of Excise empowered to enter the premises of roasters of malt. ⁵ Vic. c. 30, s. 6. Penalty, 200*l*.

That it shall be lawful for every officer of Excise at all times to enter into any warehouse, storehouse, shop, room, and other place made use of by any roaster of malt for receiving, preparing, roasting, selling, or keeping of unroasted or roasted malt, or by any dealer in roasted malt for

receiving, storing, keeping, or selling any roasted malt, and to remain therein, and to examine and inspect every such warehouse, storehouse, shop, room, and other place, and also all furnaces, cylinders, and other utensils therein, and to examine and take an account of all malt received or kept, or roasting or roasted, in any such warehouse, storehouse, shop, room, or other place, and to take a sample or samples of any such malt (unroasted or roasted); and every roaster of malt and dealer in roasted malt into and in whose warehouse, storehouse, shop, room, or other place as aforesaid any officer of Excise shall, on his request or application, be prevented or hindered from entering or remaining, or examining or taking such account, or taking any such sample or samples as aforesaid, shall forfeit Two Hundred Pounds.

Roaster of malt not to receive any other grain than unroasted malt, and dealers no other than roasted malt. 5 Vic. c. 30, s. 7. Penalty, 300*l*.

That it shall not be lawful for any roaster of malt to roast, or to receive or take into his custody or possession, any corn or grain, other than unroasted malt which shall have been made by an entered and licensed maltster, and purchased and received from such maltster or from a malt factor, nor for any dealer in roasted malt to receive or take into his custody or possession any corn or grain, other than roasted malt which shall have been roasted by a licensed and entered roaster of malt, and purchased and received from such roaster of malt, with such certificate as hereinafter mentioned; and every roaster of malt who shall receive or take into any warehouse, storehouse, shop, room, or place made use of by him for receiving, preparing roasting, or keeping malt, or in any house or premises connected therewith, or shall receive or take into any such warehouse, storehouse, shop, room, or place, or house or premises, or have in his or their custody or possession, any malt not made by an entered and licensed maltster, or not purchased or received from such maltster or a malt factor, and every dealer in roasted malt who shall receive or take into any warehouse, storehouse, shop, room, or place made use of by him for receiving, storing, or keeping roasted malt, or in any house or premises connected therewith, or have in his custody or possession, any unroasted malt, or any roasted malt not roasted by and purchased and received from a licensed and entered roaster of malt, and accompanied with a true and lawful certificate, and every roaster of malt and dealer in roasted malt respectively who shall receive or take into any such warehouse, storehouse, shop, room, or place, house or premises, as aforesaid

respectively, or have in his custody or possession, any raw or unmalted corn or grain of any description, roasted or unroasted, mixed or not mixed with any malt, shall forfeit Three Hundred Pounds, and all such malt (roasted or unroasted), corn, or grain shall be forfeited; and if upon the trial of any information for the recovery of the said penalty, or for the condemnation of any malt (roasted or unroasted), corn, or grain, or on the trial in any action brought against any officer of Excise for the seizure of any malt (roasted or unroasted), corn, or grain, any question shall arise whether the commodity in dispute is malt made by an entered and licensed maltster, or bought of such maltster or a malt factor, or is other malt, or whether the same is roasted malt, roasted by a licensed and entered roaster of malt, and purchased or received from such roaster of malt, or whether the same is raw or unmalted grain, the proof shall lie on the defendant in such information or plaintiff in such action, as the case may be.

STOCK ACCOUNT.

A malt book to be delivered to every roaster of malt and dealer in roasted malt, in which they shall respectively enter all malt received, roasted, and sent out by them, 5 Vic. c. 30, s. 8.

That a book, prepared with proper and distinct columns for such purposes as hereinafter mentioned, shall be delivered by the proper officer of Excise to every roaster of malt and dealer in roasted malt, and every roaster of malt shall, on the same day on which he shall receive any malt into his possession, write and enter in such book, and in the proper columns prepared for such purposes respectively, the day when and the number of bushels of malt which he shall have so received, and the christian and surname of the person or persons, or the name of the firm (if a partnership), and whether maltsters or malt factors, from whom and the place from which he shall have bought and received such malt, and shall upon the next survey or attendance of the officer of Excise produce to him the bill or bills of parcels or invoices for or the delivery note or notes accompanying such malt, and shall show him the said malt, or so much thereof as shall be remaining in case of any part thereof having been roasted and sent out before the survey of the officer, and such officer shall thereupon examine the said malt so received, and shall indorse the said bills of parcels or invoices, or delivery note or notes, with his name and the date of his inspection; and every such

roaster of malt shall, on or at the close of the same day on which he shall roast any malt, and before the hour of nine o'clock in the evening, write and enter into such book as aforesaid, and in the proper columns prepared for such purpose respectively, the number of bushels of malt he shall have roasted on that day, and shall also, whenever he shall send out or deliver to any person any quantity of roasted malt, on the same day write and enter in like manner in the said book the day and hour of the day when and the number of bushels of such roasted malt which he shall so send out or deliver, and the christian and surname of the person, or the name of the firm (if a partnership), to whom and the place to which such roasted malt shall be sent; and every dealer in roasted malt shall, on the same day on which he shall receive any roasted malt into his possession, write and enter in such book, and in the proper columns prepared for such purposes respectively, the day when and the number of bushels of roasted malt which he shall have so received, and the christian and surname of the roaster of malt from whom and the place from which he shall have bought or received such roasted malt, and the date of the certificate accompanying the same, and shall on the next survey or attendance of the officer of Excise produce to him the certificate which shall have accompanied such roasted malt, and shall show him such roasted malt, and such officer shall thereupon examine the said roasted malt, and shall indorse the said certificate with his name, and the date of his inspection, or shall take up and retain the same, as he shall see fit; and every such dealer in roasted malt shall, on the same day on which he shall send out or deliver to any person any quantity of roasted malt, write and enter in like manner in the said book the day and hour of the day when and the number of bushels of such roasted malt which he shall so send out or deliver, and the christian and surname of the person, or the name of the firm (if a partnership), to whom and the place to which such roasted malt shall be sent; and every such roaster of malt and dealer in roasted malt respectively shall keep such book, with all entries made therein, in some public and open part of his entered premises, for the inspection of the officers of Excise; and every roaster of malt or dealer in roasted malt respectively who shall receive any unroasted or roasted malt, or shall roast any malt, or send out or deliver any roasted malt, and shall not write and enter such particulars thereof in such book as aforesaid, or shall not deliver up the same to any officer of Excise, on demand, or who shall obstruct or hinder any officer of

Excise in making any minute therein or extract therefrom, or shall convey away or conceal the same, or destroy or tear out any leaf therefrom, or destroy or fraudulently alter any entry, or make any false entry therein, and every roaster of malt or dealer in roasted malt respectively who shall receive any malt, and shall not on the next survey or inspection of the officer of Excise produce to him the bill of parcels or invoices, or delivery note or notes, in the case of a roaster of malt, or certificate in case of a dealer in roasted malt, for such malt respectively, and show such malt to such officer, or who shall hinder or obstruct any officer of Excise in examining such malt, shall forfeit Two Hundred Pounds.

Stock account of
malt to be taken.
5 Vic. c. 30, s. 9.
Penalty, 200*l.*

That every roaster of malt shall, when and as often as he shall be thereunto required by any officer of Excise, level and cast all the malt, unroasted and roasted (not being in sacks), in any warehouse, storehouse, shop, room, or place entered by him for keeping malt, in or into such regular form as may enable the officer of Excise easily and conveniently to gauge and take account of the same, for the purpose of ascertaining and checking the quantity of malt in the possession of such roaster of malt; and every dealer in roasted malt shall, when so required, level and cast all roasted malt in his possession, not being in sacks, into the like form for the like purpose; and where any part of the stock of unroasted or roasted malt of any roaster of malt, or of roasted malt of any dealer in malt, shall be contained in sacks, such roaster or dealer respectively shall, when so required as aforesaid, declare to the officer of Excise the quantity of malt, unroasted or roasted, as the case may be, contained in such sacks or any of them, or the quantity of malt which any one or more of such sacks is capable of containing; and it shall be lawful for any officer of Excise, at any such time as he shall think fit, to measure all malt, unroasted and roasted, contained in sacks, in the possession of any roaster of malt or dealer in roasted malt respectively, with a just and correct bushel measure of the dimensions prescribed by law, to be provided and supplied by such roaster of malt or dealer in roasted malt, who, with his servants respectively, is hereby required to give all necessary aid and assistance to the officer of Excise in gauging and measuring the stock of such roaster or dealer; and if upon any such gauge or measurement or gauge and measurement, the quantity of malt shall be found to exceed the quantity which such roaster of malt or dealer in roasted malt respectively ought to have in

his possession, according to the entries contained in such books respectively as aforesaid, such roaster of malt or dealer in roasted malt shall forfeit Two Hundred Pounds, as having received malt without having made entry thereof in the said book, and all such excess shall be forfeited; and if the quantity of malt shall be found to be less than the quantity which such roaster of malt or dealer in roasted malt respectively ought to have had, according to the entries contained in such books respectively as aforesaid, such roaster of malt or dealer in roasted malt shall be deemed to have sent out roasted malt without having entered the same in such book, and shall forfeit Two Hundred Pounds; Provided always, that no roaster of malt shall be liable to the said penalties respectively in any case where such increase or decrease shall not exceed ten per centum on the quantity of malt, unroasted or roasted, formed by the balance left on the last account taken and the quantity of unroasted malt since brought into stock; and no dealer in roasted malt shall be liable to the said penalties when such increase or decrease shall not exceed three per centum on the quantity of roasted malt found in like manner, and the quantity since brought in; and every roaster of malt or dealer in roasted malt who shall, when required by any officer of Excise neglect or refuse to level or cast any malt, unroasted or roasted, into such regular form that the same may be easily and conveniently gauged and taken account of by such officer, or to declare the quantity of malt contained in any sack or sacks, or the quantity of malt which any sack or sacks is capable of containing, or shall falsely declare the same, or to provide such just and correct bushel measure as aforesaid, or with his servants to give all necessary aid and assistance to the officer in the gauging or measuring of all the malt in his possession, or who shall oppose, hinder, or obstruct any officer in taking an account of the same, shall forfeit Two Hundred Pounds.

Book may be made up before taking the account, and malt in the cylinders may be included.
5 Vic. c. 30, s. 10.

That it shall be lawful for any such roaster of malt and for any dealer in roasted malt, before any officer of Excise shall take such account of malt as aforesaid, to enter up in such book all malt which he shall have received in the course of the day on which such account shall be proposed or intended to be taken; and all malt which shall at the time of the taking of any such account of the stock of any roaster of malt be roasting in any cylinder or other utensils shall be included in and taken into such account.

Malt not to be roasted at night. 5 Vic. c. 30, s. 11. Penalty, 100*l.* and all malt.

That it shall not be lawful for any roaster of malt to roast any malt at any time between the hours of seven of the clock in the evening and five of the clock in the morning from the Thirty-first day of March to the First day of September, and the hours of seven of the clock in the evening and six of the clock in the morning from the Thirty-first day of August to the First day of April in every year; and every roaster of malt who shall roast any malt between the said prohibited hours shall forfeit One Hundred Pounds, and all the malt so roasted or roasting.

CERTIFICATE.

A certificate book to be delivered to every roaster of malt, and all roasted malt to be sent out by certificate. 5 Vic. c. 30, s. 12. Penalty, 200*l.* and all malt.

That a certificate book, prepared with proper printed forms for such purposes as hereinafter mentioned, shall be delivered by the proper officer of Excise to every roaster of malt, and to every dealer in roasted malt, and no roasted malt shall be sold, sent out, or delivered by any roaster of malt, or by any dealer in roasted malt, without a certificate filled up and cut out progressively from the printed forms and titles contained in such book, signed by the roaster of malt or dealer in roasted malt selling, sending out, or delivering the same, or by some person on his behalf, with his occupation of roaster of malt or dealer in roasted malt, as the case may be, certifying the place from whence, and the day and hour of the day when sent or delivered, the number of bushels of such malt, describing the same as roasted malt, the christian and surname of each person, or the name of the firm (if a partnership), to whom sold, and the place to which the same shall be sent; and every roaster of malt, or dealer in roasted malt, shall at the same time make a correspondent entry to such certificate, and containing the same particulars, in the book and counterpart thereof from which such certificate shall be cut; and every such certificate shall accompany such roasted malt on the removal thereof, and shall be left with the person to whom such malt shall be sold, sent out, or delivered; and every roaster of malt and dealer in roasted malt shall keep the said book, with all entries therein, in some public and open part of his entered premises, for the inspection of the officers of Excise; and every roaster of malt and dealer in roasted malt who shall sell, send out, or deliver any roasted malt without such certificate as aforesaid, or shall not leave such certificate as aforesaid, or who shall

make use of the same a second time, or to accompany any other roasted malt than the roasted malt for which it was first cut out of such book as aforesaid, or any other corn or grain purporting or pretended to be roasted malt, or shall not at the same time make a correspondent entry to such certificate as aforesaid, or shall not keep such book as aforesaid, or shall not deliver up such book to any officer of Excise demanding the same, or shall hinder or obstruct any officer of Excise in examining such book, or making any minute therein or extract therefrom, or shall convey away or conceal any such book, or shall destroy or tear out any leaf therefrom, or cancel, obliterate, or destroy or fraudulently alter any entry therein, or make any false entry therein, shall forfeit Two Hundred Pounds; and all roasted malt sold, sent out, or delivered, or removed or removing, or received, without such certificate as aforesaid, shall be forfeited.

BREWERS' STOCK.

Brewers intending to use roasted malt to provide deposit-rooms in which all roasted malt to be deposited, and the certificate delivered up to the officer of Excise. 5 Vic. c. 30, s. 13. Penalty, 200*l.* and all malt.

That every brewer of beer intending to use roasted malt shall provide and make special entry with the officers of Excise of a deposit room or rooms in his brewery for depositing therein all such roasted malt as he shall receive, and all such malt shall be accompanied by such certificate as is by this Act required from the roaster of malt or from the dealer in roasted malt from whom the same shall be purchased or received; and every such brewer shall, on receiving any quantity of roasted malt, cause the same to be forthwith deposited and stored in one of such entered rooms in which no other description of malt shall be kept, and shall on the next survey of the officer of Excise deliver up to him the certificate which shall have accompanied such malt, and shall at the same time show to such officer all the roasted malt which shall have been received, or so much thereof as shall remain in case any part thereof shall have been used; and it shall be lawful for such officer, if he shall see fit, to examine and take an account of such roasted malt, and to take any sample therefrom; and every brewer who shall knowingly receive any roasted malt without such certificate as aforesaid, or who shall not deposit and store any such roasted malt received by him in such deposit-room as aforesaid, or who shall neglect or refuse to deliver to the officer of Excise on his next survey

any certificate received by him, or who shall return to any roaster of malt or dealer in roasted malt, or knowingly deliver to any person but the proper officer of Excise, any such certificate, or who shall neglect or refuse to show to any officer of Excise any roasted malt received by him, or shall obstruct or hinder any officer of Excise at any time in examining or taking an account of any roasted malt, or in taking any sample thereof, shall forfeit Two Hundred Pounds; and all roasted malt which shall be received by any brewer unaccompanied by a true and proper certificate, as required by this Act, or which shall be found in the custody or possession of any brewer in any place (except in the mill or mill-room for grinding, or in the mash-tun), other than such entered deposit-room as aforesaid, shall be forfeited.

All malt received by any roaster shall be roasted on his premises; and all roasted malt shall be sent out unground.
5 Vic. c. 30, s. 14. Penalty, 100*l.* and all malt.

That all malt received by any roaster of malt shall be used by him by being roasted on his entered premises, and all roasted malt shall be sold and sent out by such roaster of malt and by every dealer in roasted malt whole and unground; and every roaster of malt who shall send out or deliver from any premises in which he

shall roast malt any unroasted malt, and every roaster of malt and dealer in roasted malt who shall sell, send out, or deliver any ground or bruised roasted malt, shall forfeit One Hundred Pounds; and all unroasted malt so sent out or delivered by any roaster of malt, and all ground or bruised roasted malt sold, sent out, or delivered by any roaster of malt or dealer in roasted malt, shall be forfeited.

No roasted malt to be bought of any but a licensed roaster.
5 Vic. c. 30, s. 15. Penalty 100*l.* and all malt.

That no brewer or other person shall buy, take, or receive any roasted malt from any other person than an entered and licensed roaster of malt or dealer in roasted malt, on pain of forfeiting One Hundred Pounds, and all the roasted malt so bought, taken, or received.

No maltster at his malthouse, or within one mile of it, or any druggist or grocer, to be a roaster of malt or dealer in roasted malt.
5 Vic. c. 30, s. 16.

That no maltster or maker of malt, nor any malt factor or dealer in malt, shall, at his malthouse, or on any premises on which such maltster, malt factor, or dealer shall make or keep any malt, or on any premises within one mile of the same by the nearest public or private road or footpath, nor shall any druggist or vendor of drugs, or grocer, carry on the trade or business of a roaster of malt or dealer in roasted malt; but every entry made by any maltster, malt factor, or dealer in malt within such distance as aforesaid, or by any druggist or vendor of drugs, or by any grocer, for

the purpose of carrying on such trade or business respectively, and every licence taken by any such person for the like purpose, shall be null and void to all intents and purposes.

Power of Commissioners to except maltsters whose premises were within prohibited distance before 1st April, 1842. 5 Vic. c. 30, s. 17.

That where any maltster, malt factor, or dealer in malt shall, before the First day of April, One thousand eight hundred and forty-two, have carried on the business of a roaster of malt or dealer in roasted malt on any premises within the said prohibited distance, it shall be lawful for the Commissioners of Excise, under such further regulations as they shall prescribe, to permit and allow the said business to be continued and carried on on such premises, anything hereinbefore contained to the contrary notwithstanding.

Roasters, &c. of malt subject to like prohibitions as to the custody, &c. of certain articles, &c. as brewers of, or dealers in, or retailers of beer. 5 Vic. c. 30, s. 18.

That it shall not be lawful for any roaster of or dealer in roasted malt to receive into or have in his custody or possession any of the articles, ingredients, preparations, materials, matters, or things (except roasted malt) prohibited to be received by or to be in the custody or possession of any brewer, dealer in or retailer of beer,

in Great Britain and Ireland respectively, by the said recited Acts of the fifty-sixth year of the reign of his said late Majesty King George the Third and eighth year of the reign of his said late Majesty King George the Fourth, or to sell, send out, or deliver to any licensed brewer, dealer in or retailer of beer, any of the said articles, ingredients, preparations, materials, matters, or things, on pain of being subject to the respective penalties and forfeitures in the said Acts respectively contained, which are hereby extended to and shall be put in force in respect to roasters of and dealers in malt.

Grain in the possession of a malt roaster.

What shall be deemed to be un-malted. 19 & 20 Vic. c. 34, s. 19.

And whereas an Act was passed in the second session of Parliament holden in the fifth year of Her Majesty's reign, chapter thirty, to provide regulations for preparing and using roasted malt in colouring beer, and by the same Act any roaster of malt or dealer in roasted

malt is prohibited under the penalties and forfeitures therein mentioned from having in his custody or possession any raw or unmalted corn or grain of any description, roasted or unroasted, mixed or not mixed, with any malt: Be it enacted, that all corn or grain found in the custody or possession of any roaster of malt or dealer in roasted malt, which corn or grain shall not have germinated to such a degree that the plumule thereof shall have been elongated to the extent of

one-half of the length of the grain, shall be deemed to be unmalted corn or grain within the meaning of the said last-mentioned Act; but no penalty or forfeiture shall be incurred in respect of any malt by reason of its being found to contain a proportion not exceeding five per cent. of grain which may not have germinated to the extent aforesaid, provided reasonable evidence shall be adduced to prove that such last-mentioned grain has been subjected to the usual legal process for the making of malt.

DISTILLERS' DUTY-FREE MALT ACT.

and Exportation
 Malt may be made and used free from duty in distilling spirits. 18 & 19 Vic. c. 94, s. 5.
 And from and after the passing of this Act, it shall be lawful for any distiller, or for any other person who shall give such security as hereinafter required in that behalf, such distiller or other person taking out a proper licence as a maltster, to make malt, under the provisions of this Act, in a malthouse approved by the Commissioners of Inland Revenue, for the sole purposes of being consumed, on or after the First day of October One thousand eight hundred and fifty-five, in the distilling of spirits; and all malt which shall be so made by a distiller and consumed in his distillery, and all malt which shall be made by such other person, and delivered into the storeroom of a distiller at his distillery, shall respectively be free from the duties of Excise chargeable on malt: Provided always, that the provisions, regulations, penalties, and forfeitures contained in the several Acts of Parliament and now in force in relation to maltsters, or the making of malt, shall (except so far as the same are repealed, altered, or superseded by the express provisions of this Act), be observed, applied, and enforced with respect to distillers or other persons making malt, and to the making of malt, under the provisions and regulations of this Act.

ENTRY.

Special entry to be made of malthouse. 18 & 19 Vic. c. 94. s. 6.

Every malthouse to be used for the making of malt under the provisions of this Act shall be specially entered for that purpose, and no such entry shall be withdrawn whilst any malt or any corn or grain making into malt shall be in such malthouse, or in any storeroom belonging thereto.

SURETIES.

Persons other than distillers making duty-free malt to give security against frauds. 18 & 19 Vic. c. 94, s. 7.

Every person, other than a distiller, who shall intend to make malt duty-free, under the provisions of this Act, shall enter into a bond to Her Majesty, with two or more sufficient sureties, to the satisfaction of the Commissioners of Inland Revenue, and in such sum as the said Commissioners shall think proper, conditioned to the purport or effect following; (that is to say,) that such maltster shall duly make into malt all corn and grain which shall be received into any such malthouse as aforesaid belonging to him, and shall not sell any such malt to any other person than a distiller, or take, send out, remove, or deliver from any such malthouse as aforesaid any malt, or corn or grain, except malt duly removed to a distillery under a permit duly granted in that behalf, and shall not convey away, hide, or conceal any malt, or corn or grain, contrary to any of the provisions of this Act or of any Act in force in relation to maltsters or the making of malt; and the condition of such bond shall also contain all such further terms and stipulations as the Commissioners of Inland Revenue shall deem to be necessary or proper for preventing frauds in relation to the malt to be made by such maltster; and such maltster shall give a fresh bond, with such sureties as aforesaid, when and as often as he shall be required so to do by the said Commissioners, and in default thereof he shall not be entitled to make malt duty-free, under the provisions of this Act.

EXPORT.

Malt may be removed for exportation. 18 & 19 Vic. c. 94, s. 8.

Provided always, That it shall be lawful for any maltster to remove malt from any such malthouse for exportation under such regulations as the Commissioners of Inland Revenue shall make in that behalf.

KILN.

Distiller and maltster to make entry of his malthouse, and to provide a kiln adapted for securing the malt whilst drying. 18 & 19 Vic. c. 94, s. 11.

Every distiller and maltster respectively who shall make malt to be consumed as aforesaid duty-free shall make due entry of every malthouse in which he shall make such malt as a place to be used for that purpose only, and shall provide therein a proper and secure

kiln, approved in writing by the proper collector and supervisor of the district, and to be entered and used for the drying of such malt, and for securing the same during the process of drying, and until it shall be removed from such kiln in the manner herein directed; and such kiln shall at all times be kept locked up by the officer, who shall not be required to unlock or open the same, except upon notice in writing to be given to him on behalf of the distiller or maltster, and for a reasonable and proper object, to be specified in such notice: Provided always, that it shall be lawful for any such distiller or maltster to use such kiln for the drying of barley, under such regulations and restrictions as the Commissioners of Inland Revenue may make in that behalf.

Distillers to make entry of kilns used for drying barley or other corn or grain. 18 & 19 Vic. c. 94, s. 12.

Provided always, That every distiller who shall have or make use of any kiln for the drying of barley or other corn or grain, wheresoever such kiln may be situated, and although the same may not be used for the drying of malt, shall make entry of such kiln with the proper officer of Excise as a building or place used by such distiller in carrying on his trade or business, under the penalty imposed by law in that behalf for any neglect or omission to make such entry.

MALTHOUSE.

If malthouse more than a mile from a market-town, distiller or maltster to provide lodgings for the officer. 18 & 19 Vic. c. 94, s. 13.

If any such malthouse as aforesaid shall be situated at a greater distance than one mile by the nearest highway from a market town, the distiller or maltster shall provide (if required so to do by the Commissioners of Inland Revenue) a house or lodgings or rooms fit and proper for the residence of the officer having the survey of such malthouse, the same to be situated within the distance aforesaid from such malthouse, and to be approved by the said Commissioners, and at a reasonable cost or rent, not exceeding Ten Pounds a year, to be paid by such officer for the same; Provided always, that such house, lodgings, or rooms shall not form any part of the dwelling-house, residence, distillery, or malthouse of such distiller or maltster.

STOREROOMS.

Secure rooms to be provided for the purposes here-

Every distiller and every such maltster as aforesaid shall also provide safe and secure rooms, ap-

in expressed; viz., a storeroom at the malthouse for the deposit of malt on removal from the kiln;

proved in writing by the proper collector and supervisor of the district, and to be entered and used by such distiller and maltster respectively for the several purposes hereinafter expressed; (that is to say,) a

room at the malthouse of such distiller or maltster to be entered and used as a storeroom for depositing malt therein immediately on the removal thereof from the kiln, and such room shall be so situated with respect to such kiln as that the officer attending the removal of malt from the kiln shall be enabled at one view to see the same taken from the kiln and carried directly into such storeroom, or if the situation of such storeroom will not admit of such view, then the communication between the kiln and the storeroom shall be by an enclosed and covered passage having no other communication, or otherwise the removal of all such malt from the kiln to the storeroom shall be ensured to the satisfaction of the Commissioners of Inland Revenue by such ways and means as they shall require or approve of, to be adopted by or at the expense of the dis-

a storeroom at the distillery for malt on removal from the malthouse;

also a mill-room at the distillery for grinding malt.

tiller or maltster; and if such storeroom shall not be at the distillery of the person making such malt, then the distiller shall also provide a room at his distillery, to be entered and used by him as a storeroom for depositing malt therein, on the removal thereof from the malthouse to the distillery, previously to the grinding of such

malt; and every distiller shall also provide a room at his distillery, to be called the millroom, and to be entered and used by him for the grinding of malt therein; and all malt to be used in the distillery shall be ground by metal rollers only; and the removal of such malt to and from such millroom, and the grinding thereof, and the depositing and securing of the same afterwards, shall be under and subject to such rules and regulations as the Commissioners of Inland Revenue may from time to time make in that behalf; and all such

All such rooms to be properly secured. 18 & 19 Vic. c. 94, s. 14.

rooms so to be provided as aforesaid shall be properly secured to the satisfaction of the said collector and supervisor, and shall be at all times kept locked by the

proper officer of Excise, and neither the distiller nor maltster nor their respective servants or workmen shall be admitted therein, except upon due notice in writing given to such officer, in the manner and for the purposes directed by this Act.

KILNS AND STORE LOCKED.

All fastenings (except locks) for the security of kilns and other rooms to be provided at the expense of the distiller

Penalty for refusing to defray such expense, or for removing or damaging locks or fastenings. 18 & 19 Vic. c. 94, s. 15.

Wherever any kiln, room, or place is by this Act directed to be kept locked or secured by the officer of Excise, all fit and proper fastenings (except locks) for the purpose of enabling such officer to affix locks thereto, or otherwise to secure such kiln, room, or place, shall be provided and affixed, and renewed from time to time, by the distiller or maltster, to the satisfaction of the proper collector and supervisor for the time being, or otherwise such collector or supervisor shall provide and affix or renew such fastenings, at the expense of such distiller or maltster; and if any distiller or maltster shall neglect or refuse to pay to such collector or supervisor the cost or expense incurred by him in providing, affixing, or renewing any such fastening, such distiller or maltster shall forfeit the sum of One Hundred Pounds; and if such distiller or maltster, or his servant or workman, shall wilfully destroy, damage, or injure any such fastening as aforesaid, by whomsoever provided or affixed, or any lock or key belonging thereto, or shall by any means open, take off, or remove any such lock or fastening, or make any way or entrance or improperly gain access or admittance into any such kiln, room, or place, such distiller or maltster shall for every such offence, whether committed by himself or his servant or workman, forfeit the sum of Two Hundred Pounds.

Commissioners may revoke approval of malthouse, kiln, or storerooms, and require alterations or additional fastenings. 18 & 19 Vic. c. 94, s. 16.

It shall be lawful for the Commissioners of Inland Revenue at any time to revoke the approval of any malthouse, kiln, storeroom, or millroom, or the mode of communication between any kiln and storeroom provided under this Act, which may have been approved of either by the said Commissioners or by the collector and supervisor of Excise, or either of them, and to require the distiller or maltster to provide another proper and secure malthouse, kiln, or room in lieu thereof, or to make any alteration therein, to the satisfaction of the said Commissioners; and in case of the refusal or neglect of the distiller or maltster to comply with any requisition of the said Commissioners in that behalf, all malt of such distiller or maltster then being at his malthouse or distillery, and all malt thereafter made by him, until he shall so comply, shall be charged with the proper

duty of Excise on malt, and the amount of such duty shall be paid to the proper collector immediately after the charge thereof shall have been made.

ALLOWANCES.

Allowance on cistern or couch-gauges to be 17 per cent. 18 & 19 Vic. c. 94, s. 17.

In respect of all corn or grain in process of making into malt in any such malthouse as aforesaid, the allowance to be made upon the gauges thereof during the time that the same shall be in the cistern, or in the couch-frame, whilst directed by law to be deemed and gauged as in couch, shall be at the rate of seventeen bushels only for every one hundred bushels of the whole quantity of the corn or grain so found by such gauge.

NOTICES.

Distiller, &c. to give notice to officer to attend, when it is intended to load the kiln. 18 & 19 Vic. c. 94, s. 18.

Every distiller and maltster who shall make malt under the provisions of this Act shall give six hours notice in writing to the proper officer of Excise of the day and the particular hour when he shall intend to place any grain upon the kiln, and shall specify in such notice the floor of corn or grain, and the particular portion thereof, whether the whole or the first or second portion, intended to be placed on the kiln, and for this purpose no floor shall be divided into more than two portions; and the officer shall attend pursuant to such notice, and unlock the door of the kiln, and permit the loading thereof with grain, conformably with such notice: Provided always, that the loading of the kiln shall not take place at any other time than between the hours of five o'clock in the morning and seven o'clock in the evening, and that such loading shall be completed within the space of two hours from the time specified in such notice; and in default thereof the door of the kiln shall be again locked by the officer.

TURNING KILN.

Officer to admit the workmen into the kiln to stir the grain from time to time, pur-

Immediately after the loading of the kiln, the officer shall again lock up and secure the same, but during the time that any grain shall be upon the kiln the officer

suant to notice.
18 & 19 Vic. c. 94,
s. 19.

shall attend and admit the workmen into the kiln, for the purpose of turning or stirring such grain, from time to time and at such times as shall be specified in any notice in writing which may be given to him for that purpose, on behalf of the distiller or maltster, six hours at the least before the attendance of such officer shall be required for the purpose aforesaid: Provided always, that the officer shall not be required to unlock the kiln oftener than four times in any one day, nor at any time between the hours of nine o'clock in the evening and five o'clock in the morning, or to allow the kiln to remain open or unlocked, for the purpose aforesaid, for a greater length of time than half-an-hour on any one occasion.

UNLOADING KILN AND MEASURING.

Notice to be given
for removal of
malt from the
kiln.

Malt to be mea-
sured, and defi-
ciency charged
with duty. 18 &
19 Vic. c. 94, s.
20.

Every such distiller and maltster respectively shall give to the proper officer twelve hours' notice in writing of the day, and particular hour of the day, not earlier than five o'clock in the morning nor later than seven o'clock in the evening, when such distiller or maltster shall intend to remove the malt from the kiln; and the officer shall attend according to such notice, and the malt shall be forthwith measured in his presence, and from the quantity of malt found according to such measuring a deduction shall be made at the rate of five per centum for heat, commings or roots, and the unclean state of such malt; and if the quantity after such deduction shall prove to be less than the quantity which was given by the highest gauge of the grain whilst in the process of making into malt, deducting the proper allowance in that behalf, the deficiency shall be charged with the duty of Excise on malt, and the distiller or maltster shall forthwith pay the amount of such duty to the proper collector of Excise; and all the malt upon the kiln, after having been so measured, shall be removed therefrom, and carried, in the presence of the officer, directly into the storeroom to be provided and entered by the distiller or maltster for that purpose as aforesaid, and shall be locked up and secured therein by such officer: Provided always, that it shall be lawful for the distiller or maltster, if he shall think fit, to screen such malt on the kiln before the same shall be measured, and if the same shall be so screened then no deduction

shall be made from the quantity found by such measuring, and the distiller or maltster shall be charged with duty in respect of so much only as the actual quantity so found shall be deficient of the quantity given by such highest gauge as aforesaid.

REMOVING MALT FROM STORE.

Removal of malt from the storeroom at the malthouse to the storeroom at the distillery. - 18 & 19 Vic c. 94, s. 21. Penalty, 200*l* and all malt.

When the distiller or maltster shall desire to remove any malt from the storeroom at his malthouse to the storeroom at a distillery, he shall give twelve hours' notice in writing to the proper officer of Excise of the time when and the rooms and places to and from which he intends to remove such malt, and the quantity thereof which he intends to remove; and such officer shall attend pursuant to such notice at the storeroom from which such malt is to be removed, to unlock the door thereof, and see measured or weighed out therefrom the quantity of malt expressed in such notice; and such officer may take samples of the malt to be removed, and shall grant a permit for the removal of such malt from and to the several storerooms expressed in such notice; and there shall be expressed in such permit the time for which the same shall be in force, such time being a reasonable and sufficient time for such removal, and also the measure or weight of such malt; and if such distiller or maltster shall not duly remove all such malt, and deposit the same, according to the terms of such permit, or shall remove the same or any part thereof to any other place than that expressed in such permit as the place to which such malt is to be removed, or if the weight of the malt deposited in such last-mentioned place shall differ by more than two-and-a-half per centum, or if the measure thereof shall differ by more than five per centum, from the weight or measure of malt expressed in such permit, such distiller or maltster shall forfeit the sum of Two Hundred Pounds, and all such malt shall be forfeited, and may be seized by any officer of Excise; and if any such malt shall be found removing or removed without being or having been accompanied by a permit duly granted, or accompanied by a permit expired or out of force, or which shall not agree with the time or manner of the removal of such malt, or in which the weight or measure of malt authorized to be removed shall differ more than after the respective rates aforesaid from the weight

or measure of the malt removing or removed under colour thereof, all such malt shall also be forfeited, and may be seized by any officer of Excise.

Malt to be removed from malt-house to distillery in sacks containing four bushels or 168 pounds each. 18 & 19 Vic. c. 94, s. 22.

All malt intended to be removed from a storeroom at the malthouse to a storeroom at the distillery shall be contained in sacks, and each sack shall contain the exact quantity of four bushels of malt by measure, or One hundred and sixty-eight pounds by weight, secured therein in such manner as the Commissioners of Inland Revenue may direct.

NOTICE TO REMOVE MALT.

Twelve hours' notice to be given for removal of malt from the storeroom to the millroom.

Four hours' notice for removal of malt to the mash-tun. 18 & 19 Vic. c. 94, s. 23.

And when the distiller shall desire to remove any malt from the storeroom at his distillery to the millroom, for the purpose of being ground, he shall give twelve hours' notice in writing to the proper officer of Excise, specifying in such notice the quantity of malt intended to be so removed; and the officer shall attend in pursuance of such notice, and see measured or weighed the quantity of malt specified in such notice, and such malt shall be forthwith conveyed, in the presence of the officer, into the millroom, and be there locked up and secured by the officer; and before the removal of any malt, after the grinding thereof, to the mash-tun, the distiller shall give to the proper officer four hours' previous notice in writing, specifying the quantity thereof to be mashed, and the officer shall attend accordingly and deliver out such malt, and the same shall be forthwith mashed in his presence.

STOCK ACCOUNT.

Distillers and maltsters to enter in books particulars of malt received into and removed from their storerooms. 18 & 19 Vic. c. 94, s. 24.

Books prepared with proper columns for such purposes as hereinafter mentioned shall be delivered by the proper officer of Excise to every distiller and to every such maltster, to be kept by them respectively at every such storeroom as aforesaid, and whenever any malt shall be received into or removed from any such storeroom, the distiller or maltster shall enter in such book as aforesaid, and in the proper columns prepared for the purpose, the quantity of malt,

in bushels, or in pounds weight, if the same shall be weighed, received into or removed from the storeroom, and in the case of malt removed the number of sacks or the weight of the malt contained therein, if the same shall be weighed; and he shall also enter in such book the particular day and hour of the day when any such malt was received into or removed from the storeroom, and the particular place from or to which the same was received or removed; and if any distiller or any such maltster as aforesaid shall not keep such book as aforesaid or shall not write and truly make therein all such entries as aforesaid, or shall make any false entry therein, or cancel, obliterate, or destroy or alter any entry therein, or shall not deliver up any such book to any officer of Excise demanding the same or shall refuse to permit such officer to make any minute therein, or to take any extract therefrom, or shall conceal or convey away the same, or destroy or tear out any leaf therefrom, such distiller or maltster shall for every such offence forfeit the sum of One Hundred Pounds.

Malt remaining in storeroom to be measured, and a balance to be struck of account of malt received and delivered; if a deficiency, duty to be charged on the quantity;

if an excess, the same to be forfeited. 18 & 19 Vic. c. 94, s. 25.

From time to time, when and as often as the officer of Excise shall deem it to be necessary or proper, and at least once in every year, the stock of malt remaining in any such storeroom as aforesaid shall be measured or weighed in the presence of the officer, and a balance shall be struck of the account of malt received into and delivered out of such storeroom; and if the quantity of malt then remaining in such storeroom, according to such measuring or weighing, shall be deficient by more than three per centum by measure, or one per centum by weight (computed as hereinafter mentioned), of the quantity which, according to the balance of such account, ought to be found therein, the distiller or maltster shall be charged with the duty of Excise on malt for the whole quantity deficient; and if at any time the whole of the malt shall be removed from any such storeroom, and upon striking such balance there shall appear to be any such deficiency exceeding the rate aforesaid, the distiller or maltster shall also be charged with the said duty on the whole of such deficiency, and in every such case as aforesaid the distiller or maltster shall forthwith pay the amount of the duty so charged upon him to the proper collector of Excise; and if at any time, upon striking such balance as aforesaid, there shall be found in any such storeroom a quantity of malt exceeding by more than three per centum the quantity which, according to the balance of such account, ought to

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be found therein, the whole quantity of such excess shall be forfeited, and may be seized by any officer of Excise; and on the striking of such balance as aforesaid the said respective rates per centum shall be computed and allowed on the whole quantity of malt received into the storeroom since the first entry and use thereof as such storeroom, if there shall have been no previous stock-taking, or on the whole quantity received since the last stock-taking, and also on the quantity then remaining in such storeroom, as the case may be; and for the purpose of charging the duty on any such deficiency as aforesaid, where the stock account of malt in any such storeroom shall be kept by weight, forty pounds weight of malt shall be deemed to be equal to a bushel of malt, and the duty of Excise chargeable on a bushel of malt shall be charged accordingly on every forty pounds weight of the quantity of malt deficient.

MALT TO BE WEIGHED OR MEASURED.

Malt to be either measured or weighed, or both, as the Commissioners may order. 18 & 19 Vic. c. 94, s. 26.

In all cases where malt in any storeroom, or on the removal thereof to or from any storeroom, is by this Act directed to be measured or weighed, it shall be lawful for the Commissioners of Inland Revenue, by any order or regulation from time to time by them in that behalf made, to determine and direct that such malt shall be either measured or weighed, or both measured and weighed, and that any account thereof shall be taken and kept either by measure or weight, as the said last-mentioned Commissioners shall think fit.

Distiller and maltster to provide a correct bushel measure and scales and weights; and assist officer in measuring and weighing malt. 18 & 19 Vic. c. 94, s. 27.

Every distiller and every such maltster as aforesaid shall provide and keep at his malthouse and also at his distillery, and in such proper and convenient place therein respectively as the Supervisor of Excise shall approve, a correct bushel measure, and also just and true scales and weights, properly adapted for the weighing of malt in sacks, and shall permit any officer of Excise to use such measure and scales and weights for the purpose of measuring, weighing, and taking an account of all or any malt in the possession of such distiller or maltster; and every such distiller and maltster respectively, with his servants and workmen, shall, whenever thereto required by any officer of Excise, measure and weigh, and aid and assist the officer in measuring and weighing and taking account of

such malt as aforesaid; and if any distiller or any such maltster as aforesaid shall refuse or neglect to provide and keep such bushel measure, or to provide and keep such scales and weights, in such place as aforesaid, or shall refuse to permit any officer of Excise to use the same, or refuse or neglect, whenever thereto required as aforesaid, with his servants or workmen, to measure or weigh any such malt, or to aid or assist the officer in measuring or weighing and taking account of the same as aforesaid, such distiller or maltster shall, for every such offence forfeit the sum of One Hundred Pounds; and if any measure which shall be provided or kept by such distiller or maltster at his malthouse or distillery as or for such bushel measure as aforesaid shall not be a true and correct bushel measure, or if any scales or weight which shall be so provided or kept as aforesaid shall be false or unjust, or if any distiller or maltster shall use or cause or permit or suffer to be used any false, unjust, or insufficient measure, scales, or weight in the measuring or weighing of any malt by or on the requisition of any officer of Excise, or shall practise any art, device, or contrivance by which any officer may be hindered or prevented from taking the just and true quantity, measure, or weight of any malt, such distiller or maltster shall forfeit the sum of Two Hundred Pounds for every such offence; and all false, unjust, or insufficient measures, scales, and weights respectively shall be forfeited, and may be seized and taken away by any officer of Excise.

Distiller to deliver an account of the malt, sugar, and molasses used in every distilling period, verified by declaration. Penalty, 200*l.* 18 & 19 Vic. c. 94, s. 28.

Every distiller shall, at the end of every distilling period, deliver to the proper officer an account, in writing, of the number of bushels of malt, and the true quantity of sugar and molasses (specifying the same and the quantities thereof respectively), actually used in making the wort or wash distilled during such period; and the officer shall transmit such account, together with a return, in writing, signed by him, to the Collector of Excise, specifying the number of bushels of malt, and the quantities of sugar and molasses respectively so used, and the quantity of proof spirits with which such distiller shall have been charged in respect of such wort or wash; and the distiller or the principal manager of his distillery shall make and subscribe a declaration to the truth of such account in the form or to the effect following:—

“ I, A.B., distiller [or principal manager, as the case may be], of
“ the distillery at do solemnly declare, that

remove any malt from his malthouse (except malt duly removed therefrom to his distillery under a permit granted in that behalf), or take or send out or remove any malt, sugar, or molasses from his distillery, or if any distiller shall not use all corn or grain received at his malthouse by making the same into malt, and consume all such malt in his distillery, or shall convey away, hide, or conceal any malt, or corn, or grain, or any sugar or molasses, such distiller shall, for every such offence, forfeit the sum of Two Hundred Pounds; and all malt, sugar, and molasses which shall be found in any distillery or the premises belonging thereto, otherwise than in the proper store-room or millroom, or in the mash-tun, or being duly removed to or from any such places in the manner directed or allowed by this Act, shall be deemed to be conveyed away, hidden, and concealed by the distiller, and shall subject him to the said penalty in that behalf; and all malt, corn, and grain, and all sugar and molasses, which shall be respectively sold, sent out, delivered, or received, or conveyed away, hidden, or concealed, contrary to any of the provisions of this Act, shall be forfeited, and may be seized by any officer of Excise.

Commissioners may revoke the licence of a distiller or maltster on a second conviction of certain specified offences. 18 & 19 Vic. c. 94, s. 31.

And if any distiller shall be convicted of any of the several offences specified in the last preceding clause of this Act, and shall afterwards be again convicted either of the like offence or of any other of the said several offences specified as aforesaid, or if after judgment shall be obtained against any maltster upon the bond entered into by him under the provisions of this Act, by reason of any breach of the condition thereof, he shall do any act which shall be a breach of the condition of any such bond subsequently entered into by him, and by reason thereof judgment shall be obtained against him upon such last-mentioned bond, it shall be lawful for the Commissioners of Inland Revenue, and they are hereby empowered to revoke and annul the licence granted to such distiller or maltster, as the case may be, and to refuse to grant to him any further licence, either as a distiller or a maltster, at any time thereafter, and also to refuse to grant during the space of one year any such licence to any such person to exercise the like trade or business at the same premises where the act or offence which shall be the ground of such second conviction or judgment as aforesaid was done or committed.

Persons found unlawfully removing malt from a

And if any person shall be found taking or removing malt, or any corn or grain making into malt, from any

distiller's malthouse or a distillery may be arrested and taken before a Justice, and summarily dealt with. Penalty, 100*l.* 1*s.* & 19 Vic. c. 94, s. 32.

malthouse or premises on the principal or outer gate whereof the words "entered to make malt to be used in distilling spirits only" shall be painted, fixed, or placed, unless in the case of malt, the same shall be removed under and accompanied by a permit granted under the provisions of this Act, or if any person shall be found taking or removing any malt, sugar, or molasses, or any wort or wash, from any distillery or the premises therein belonging, it shall be lawful for any officer of Excise to arrest and detain such person, and to convey him before a Justice of the Peace residing near the place where such arrest shall be made; and such justice is hereby authorized and required to hear and determine, as soon afterwards as practicable, the charge against the person so arrested, and on the confession of such person, or on due proof upon oath of such offence, to convict such offender in the penalty of One Hundred Pounds; and the person so convicted shall forthwith pay the said penalty into the hands of the said officer, for the order and direction of the Commissioners of Inland Revenue, and in default thereof such justice shall commit such offender to any gaol or prison of the county, there to be kept to hard labour for any period not exceeding six calendar months nor less than two calendar months, unless such penalty shall be sooner paid.

Commissioners to make regulations with respect to corn or grain making into malt for the distillation of spirits. 23 & 24 Vic. c. 113, s. 26.

In respect of all corn and grain which shall be making into malt in any malthouse used for the purpose of making duty-free malt for the distillation of spirits, it shall be lawful for the Commissioners of Inland Revenue to make rules and regulations as to the period of time during which any particular denomination of corn or grain shall be kept covered with water in the cistern, and also the time that it shall remain in the couch-frame; and also to fix and determine the rate of allowance to be made upon the gauges of such corn and grain during the time that it shall be in the cistern and couch-frame respectively or whilst the same is by law to be deemed and gauged as in couch; and in default of compliance with any such rule or regulation the full duty of Excise on malt shall be charged on the corn or grain with respect to which such default shall be made, as in the case of barley malt, and the malt made from such corn or grain shall be used in the distillation of spirits only.

**MALT MADE IN BOND DUTY FREE FOR
EXPORTATION.**

for Distillers substituted see page 210

No malt entered for exportation only shall be charged with the duties on malt, nor any drawback allowed. 12 Geo. I. c. 4, s. 44.

And whereas it hath been found by experience that the drawbacks given by the several Acts of Parliament relating to the duties on malt out of the duties by the said Acts granted for and upon the exportation of malt from Great Britain to parts beyond the seas do very much exceed the duties charged upon the same malt at the time of making thereof, by means whereof the makers of such malt are encouraged to run out their malt into combe, and thereby in the making thereof increase the same, before it be dried, to more than double the quantity which the same individual parcel of malt so exported did contain by gauging or measure when the same was gauged and charged by the officers for the duties chargeable thereon, and notwithstanding the allowances and abatements made by the said act, out of every twenty bushels of malt at the time that the duties charged thereon are paid, that is to say, an abatement or allowance of four out of every twenty bushels of malt which shall be charged by the officer by a gauge taken in the cistern or in the couch, and in case the charge shall be made from a gauge which shall be taken upon the floor then an allowance or abatement of the duties of ten bushels out of every twenty bushels which shall be so charged from such floor-gauge, notwithstanding which abatements and allowances so made out of the said duties as aforesaid, yet nevertheless the said exporters do demand and insist upon it that they are to have a drawback of Sixpence for every bushel of malt so by them exported as aforesaid, although the same malt so exported by their fraudulent way of working the same is worth little more than the drawback paid and allowed on the exportation thereof, to the great disparagement of the British malt in foreign parts, and the diminution of His Majesty's duties upon malt: For remedy whereof be it enacted by the authority aforesaid, That from and after the Twenty-fourth day of June One thousand seven hundred and twenty-six, no malt which shall be entered and made for exportation only in the manner by this Act prescribed and directed shall by virtue of this Act be charged or chargeable or subject or liable to any

of the duties by this Act charged or imposed upon any malt to be made in Great Britain, and that no drawback out of the duties on malt by this Act granted shall be paid or allowed for any malt whatsoever which from and after the said Twenty-fourth day of June One thousand seven hundred and twenty-six shall be made and exported from any part of Great Britain to parts beyond the seas.

Maltsters to enter all malt intended for exportation.

And be it further enacted by the authority aforesaid, That, from and after the said Twenty-fourth day of June One thousand seven hundred and twenty-six, all

and every maltster and maker of malt for exportation shall from time to time before he, she, or they shall begin to wet or steep any steeping of corn or grain to be made into malt for exportation, give or leave notice in writing with the respective officer or officers for the said duties on malt for the division or place where such malt is to be and shall be made of the respective quantities of corn or grain intended to be contained in each steeping so by him, her, or them intended to be made into malt for exportation to parts beyond the seas; which said corn or grain so intended to be made into malt for exportation shall

To be kept separate from other malt under penalty of 5s. for every bushel. 12 Geo. I. c. 4, s. 45.

from time to time be kept separate and apart by the respective makers thereof from all other corn or grain either made or to be made into malt for home consumption, on pain of forfeiting the sum of Five

Shillings for every bushel of grain contained in any steeping so entered to be made for exportation which shall be found mixed with any corn or grain made or to be made into malt for home consumption.

When malt for exportation shall begin to be wet. 12 Geo. I. c. 2, s. 46. Penalty, 5s.

Provided always, and be it further enacted by the authority aforesaid, That no maker or makers of malt whatsoever shall begin to wet or steep any corn or

grain to make into malt for exportation above the space of six days before all the corn he, she, or they may have working on their respective floors to make into malt for home consumption shall be dried off, nor shall the persons aforesaid begin to wet or steep any corn to make into malt for home consumption above the space of six days before all the corn or grain he, she, or they may have working on their respective floors to make into malt for exportation be fully dried and locked up, in the manner by this Act directed and expressed, on pain of forfeiting the sum of Five Shillings for every bushel of

corn or grain wetted or steeped contrary to the manner herein prescribed and directed.

Such malt, when fully dried, to be carried directly on shipboard in presence of an officer, or to be locked up in a storehouse. 12 Geo. I. c. 4, s. 47.

And be it further enacted by the authority aforesaid, That when the malt so intended for exportation as aforesaid shall be fully made and dried, and fit for exportation, the same shall from time to time, in the presence of the respective officer or officers for the said duties in the said division or place where the same was

made, be measured and carried by the respective makers or proprietors thereof directly on shipboard if intended to be immediately exported, or else into one or more room or rooms, storehouse or storehouses, or other place or places, to be provided by and at the expense of the respective makers or proprietors of the said malt so made for exportation, there to be kept separate and apart from all other malt, under two locks and two keys to each place into which the said malt shall be carried; one of those locks to be provided by the respective makers or proprietors of the said malt, and the other lock to be provided by the supervisor or officer for the said duties in the division or place where the said malt shall be locked up, at the expense of the proprietor of the said malt, whereof one key of each place to be kept by the respective makers or proprietors of the said malt and the other key by the officer for the said duties for the time being of the division or place where the said malt shall be kept, until the same shall be delivered out for exportation.

Officers may gauge such malt in all its operations, till fully dried, &c. 12 Geo. I. c. 4, s. 48.

Provided always, and it is hereby enacted by the authority aforesaid, That it shall and may be lawful to and for the respective supervisors and officers for the said duties from time to time, during the wetting or

steeping the said corn or grain so intended to be made into malt for exportation, and until the same shall be fully made and dried and carried and locked up as aforesaid, to gauge and take an account thereof, in all its operations, in the same manner as they ought to do in case the duties charged upon malt made for home consumption were to be charged thereon, for the better discovering whether any of the malt so intended for exportation be not removed and carried away to be used for home consumption.

Officers, on notice, to attend at the storehouses at delivering out

Provided always, and to the intent that it may be known whether all the malt so entered, made, and

malt for exportation. 12 Geo. I. c. 4, s. 49.

locked up for exportation be accordingly exported, and not made use of for home consumption, be it further enacted by the authority aforesaid, That when any maker or proprietor of malt so made for exportation, and locked up and secured for that purpose, shall be desirous to take any of the said malt out of any of the said places where the same shall be locked up as aforesaid, in order to remove the same to some port or place for the exportation thereof, and shall thereof give notice in writing to the officer for the said duties of the division or place where such malt shall be so locked up, by the space of forty hours before the time he desires to take out the same as aforesaid, expressing in such notice the quantity of malt he, she, or they do then desire to take out, and the port or place to which the same is intended to be removed for exportation as aforesaid, then and in such case the respective officers for the said duties to whom such notice shall be given as aforesaid shall and are by this Act required to attend pursuant to such notice at the respective places where the said malt shall be locked up as aforesaid, and see the malt so desired to be taken out of the same measured and delivered out to the respective makers or proprietors thereof, or to their respective agents or servants by them appointed to receive and carry the same to the port or place from whence the same is intended to be exported as aforesaid.

Officers to keep an account of all malt so delivered out, &c. 12 Geo. I. c. 4, s. 50. Penalty, 50*l*.

And be it further enacted by the authority aforesaid, That the said respective officers do and shall from time to time keep a true account of all the malt which shall be so delivered as aforesaid, and of the person or persons to whom the same belongs, and shall and is hereby required to give to the person to whom or for whom each quantity of malt shall be so delivered out a certificate in writing, directed to the officer for the said duties in the division or place to which the same is intended to be removed in order to be exported, expressing the quantity of malt so delivered out, and the name or names of the respective makers or proprietors thereof, and the respective divisions or places from whence the same was so delivered out, which said certificate or certificates shall be signed by the respective officers giving the same, and shall be delivered to the respective officers for the said duties for the time being of the port or place where the said malt shall be so carried to be exported, who shall duly file and keep the same, and make an entry

thereof in a book or books to be respectively kept by him or them for that purpose, to the intent that upon inquiry and examination it may be discovered whether any maker of malt for exportation shall duly export all such malt as shall be entered by him or them respectively for exportation as aforesaid; and in case the maker or proprietor of such malt so removed from the place of making thereof shall neglect or refuse to deliver or procure to be delivered such certificate or certificates to such officer for the said duties of the division or place to which the said malt shall be removed in order to be exported, to the intent that the same may be filed and entered in the manner in this Act before expressed, then and in such case the maker or proprietor so refusing or neglecting to deliver the same shall for every such refusal forfeit and lose the sum of Fifty Pounds.

Officers at the port to attend the measuring the malt, and to continue on board till the ship be cleared off. 12 Geo. I. c. 4, s. 51.

And be it further enacted by the authority aforesaid, That it shall and may be lawful to and for any the officers for the duty on malt in such of the ports of this kingdom where any malt may, is, or shall be shipped in order to be exported to parts beyond the seas, not only to see and

attend the measuring of all malt which shall be shipped or laid on board any ship or vessel for exportation to parts beyond the seas in such port or ports respectively, but also to continue on board such ships or vessels on which such malt shall be laden or shipped until the same shall be respectively cleared their respective ports.

The hatches of the ship to be locked down when the ship is not loading, &c. 12 Geo. I. c. 4, s. 52.

And it is also hereby further enacted by the authority aforesaid, That from time to time during the shipping of malt for exportation on board any ship or vessel, at all such times as the respective proprietors or exporters

shall not be actually putting malt or other merchandises on board, the hatches of the said ships or vessels shall and may be kept locked down with two locks and two keys to each hatch, one of those locks to be provided and the key thereof kept by the respective proprietors or exporters, and the other lock to be provided and the key thereof kept by the respective officer or officers appointed to attend the said shipping, and that the said hatches be kept locked down in the aforesaid manner from the time the said ships or vessels shall be fully loaded until the time the same shall be ready to sail from their respective ports to foreign parts, to the intent that none of the malt put on board may be relanded.

Notice to be given to the officer of the port when the putting on board of malt is to be begun. 12 Geo. I. c. 4, s. 53.

And be it further enacted by the authority aforesaid, That every person or persons who shall intend to ship any malt for exportation shall, by the space of forty-eight hours at least before the beginning to ship or put on board any ship or vessel any malt for exportation, give or send to such officer or officers as aforesaid of the port or place where such malt shall be intended to be shipped or put on board, notice in writing of the particular day, and of the precise hour of such day, when such shipping or putting on board of such malt is intended to be begun, and also the name of the ship or vessel such malt is to be put on board, on pain to forfeit and lose the sum of Five Shillings for every bushel of malt which shall be shipped or put on board for exportation without such notice so given or sent, as aforesaid; and in case it shall appear that any of the malt so entered and made for exportation as aforesaid shall not, within the space of nine months next after the making and drying thereof, and carrying the same into such room or rooms, warehouses, storehouses, or other places, and there locked up and secured as aforesaid, be exported for parts beyond the seas, according to the purport, true intent, and meaning of this Act, then and in such case the proprietor of the malt not so exported shall for every bushel thereof forfeit and lose the sum of Five Shillings.

Malt not exported in nine months, proprietor to forfeit 5s. per bushel.

Maltster not entering the corn, nor providing storehouses, &c., to forfeit 50l.

Opposing officers, &c. forfeits 50l. 12 Geo. I. c. 4, s. 54.

And be it further enacted by the authority aforesaid, That if any maltster or maker of malt shall refuse or neglect to make such entry as aforesaid of their respective quantities of corn or grain so intended to be wetted or steeped for exportation, before the wetting or steeping thereof as aforesaid, or shall refuse or neglect to provide and keep such rooms, warehouses, storehouses, and other places, with locks and keys for securing the said malt so intended for exportation as aforesaid, or refuse or neglect to cause all the said malt so intended for exportation, from time to time, within the space of six days next after the same shall be dried, in the presence of the officer for the said duties for the division or place where the said malt shall be made, (who is hereby required, upon reasonable notice to be given to him, to attend for that purpose,) to be measured, carried, and locked up in such rooms, warehouses, storehouses, or other places as aforesaid, then and in every such case the said maker or proprietor of such malt

so neglecting or refusing shall, for every such neglect or refusal, forfeit and lose the sum of Fifty Pounds; and in case any person or persons whatsoever shall oppose, molest, hinder or obstruct any of the said officers in the due execution of the powers or authorities given or granted to such officer or officers by this Act, or shall break open the hatches of any ship or vessel locked down in the manner hereinbefore mentioned, without the knowledge or consent of the officer or officers appointed to attend the shipping of malt on such ships or vessels, every such person shall forfeit and lose for every such offence the sum of Fifty Pounds.

Allowances to maltsters on exportation of malt. 12 Geo. I. c. 4, s. 55.

Provided always, and be it enacted by the authority aforesaid, That in consideration of the extraordinary charges the maltsters or makers of malt for foreign exportation will be at for warehouses and storehouses for locking up of malt, and for the several admeasurements thereof, from the time of making such malt to the time of exportation thereof, there shall be allowed to the said maltsters and makers of malt the sum of Three Pence per quarter, out of the duties granted or continued by this Act, for every quarter of malt which shall be so made and locked up for foreign exportation, anything herein contained to the contrary notwithstanding.

Grain making into malt for exportation to be kept separate from other steepings, until measured in presence of the officer, on penalty of 50*l.* 3 Geo. IV. c. 18, s. 12.

And whereas maltsters and makers of malt for exportation do frequently mix the produce of two or more steepings of corn or grain that have been entered to be made into malt for exportation, on or as soon as it comes off from the kiln, by reason whereof the officers for the duties on malt cannot ascertain the real produce thereof, by which means great quantities of each steeping of malt are or may be privately conveyed away and made use of for home consumption, though the same has not been charged with the duty, as all malt made for home consumption ought to be; be it enacted, That all and every maltster or maltsters, or maker or makers of malt for exportation, shall keep the whole and entire quantity of his, her, or their corn or grain making into malt for exportation of one steeping or wetting, when the same shall be on the kiln, or after the same shall be taken off the kiln, separate and apart from all and every part of any other former steeping or wetting of corn or grain, until the same shall have been measured by such maltsters or makers of malt, in the presence of some

officer or officers for the duty upon malt, on pain of forfeiting and losing the sum of Fifty Pounds.

Notice to be given of the hour when malt for exportation is to be taken off the kiln.

Such malt to be carried immediately on shipboard, or secured, on penalty of 50*l.*
3 Geo. IV. c. 18, s. 13.

And be it further enacted, That all such maltsters or makers of malt for exportation shall give notice, in writing, to some officer or officers of the duties upon malt, or shall leave notice, in writing, at the next office of Excise where the journal is kept, of the hour when he, she, or they shall intend to take any malt off the kilns, that such officer or officers may attend the mea-

suring of such malt; and after such malt has been measured, the same shall be immediately carried on shipboard, if intended to be then exported, or else shall be immediately locked up and secured in some storehouse or other place belonging to such maltsters or makers of malt, in the presence of the said officer or officers, on pain of forfeiting the sum of Fifty Pounds.

Storehouse where such malt is secured not to be opened, or entrance made, without giving notice to the officer, on penalty of 100*l.*
3 Geo. IV. c. 18, s. 14.

And be it further enacted, That if any such maltster or maltsters, or maker or makers of malt, or any other person or persons whatsoever, by his order, privity, or direction, after any steeping or making of malt shall have been locked up and secured in any storehouse, or other place or places, in manner as aforesaid, shall

open any of the locks or doors, or shall make any way or kind of entrance into such storehouse, or other place or places, or shall remove any part whatsoever of the partition between any such storehouse or place, and any other place or places whatsoever next thereunto adjoining, or shall remove out of the said storehouse or other place, any quantity whatsoever of the malt that has been so locked up and secured, without the knowledge and consent of, or without first having given notice to some officer or officers for the said duties, he, she, or they shall respectively forfeit and lose the sum of One Hundred Pounds.

Storehouses used for securing malt for exportation to be cleared out every fifteen months after the 5th of July, on penalty of 50*l.*
3 Geo. IV. c. 18, s. 15.

And the better to enable the officers for the duties upon malt to discover whether all such malt made for exportation, and that has been locked up and secured in any storehouse, or other place or places to be exported, has been really exported; be it enacted, That all and every such maltster or maltsters, maker or makers of

malt, who shall at any time have any quantity of malt locked up and secured in any storehouse or any other place or places, as is before

directed, to be exported, shall, within fifteen months next after the Fifth day of July preceding, remove and clear out of his storehouse, or other place or places, all and every part and parcel thereof, that at any time after the said Fifth day of July shall be locked up and secured in such storehouse or other place, in order to be exported, and shall always, from time to time, in every fifteen months after the Fifth day of July, remove and clear out of such storehouse or other place, in order to be exported, all and every part or parcel of malt that at any time within the fifteen months next after the Fifth day of July preceding, shall be locked up and secured in any storehouse, or in any other place or places that shall be made use of by him, her, or them, for the keeping of malt for exportation, on pain of forfeiting and losing the sum of Fifty Pounds.

Malt, re-landed after being shipped, shall be forfeited, and treble its value. 3 Geo. IV. c. 18, s. 16.

And be it further enacted, That if after the shipping of any malt made to be exported, the malt so shipped to be exported, or any part thereof, shall be re-landed in any part of Great Britain, then, and in every such case, all the malt which shall be re-landed, and treble the value thereof, shall be forfeited (that is to say), one moiety thereof to the King, and the other moiety to the person or persons who shall seize, inform, or sue for the same; and such malt so re-landed shall and may be seized by any officer or officers of the Customs or Excise.

Recovery and application of penalties. 3 Geo. IV. c. 18, s. 18.

And be it further enacted, That all fines, penalties, and forfeitures imposed or created by this Act, shall be sued for, recovered, levied, or mitigated by such ways, means, or methods, as any fine, penalty, or forfeiture may be sued for, recovered, levied, or mitigated by any law or laws of Excise, or by action of debt, bill, plaint, or information in any of his Majesty's Courts of Record at Westminster, or in the Court of Exchequer in Scotland respectively; and that one moiety of every such fine, penalty, or forfeiture shall be to his Majesty, his heirs and successors, and the other moiety to him, her, or them who shall inform, discover, or sue for the same.

Powers of 12 C. 2, c. 24, and other laws relating to the Excise, extended to this Act. 3 Geo. IV. c. 18, s. 19.

And be it further enacted, That all and every of the powers, directions, rules, penalties, forfeitures, clauses, matters, and things, which, in and by an Act made in the twelfth year of the reign of King Charles the Second, intituled 'An Act for taking away the Courts of Wards and Liveries, and tenures in capite, and by knights service, and purveyance, and

for settling a revenue upon his Majesty in lieu thereof,' or by any other law now in force relating to his Majesty's revenue of Excise, are provided and established, shall be practised, used, and put in execution in and for the purpose of this Act, as fully and effectually to all intents and purposes, as if all and every the said powers, rules, directions, penalties, forfeitures, clauses, matters, and things were particularly repeated and re-enacted in this present Act.

EXPORTATION OF DUTY-CHARGED MALT.

Drawback allowed on exportation of duty-charged malt. 23 & 24 Vic. c. 113, s. 27.

Upon the exportation by any licensed maltster of malt upon which the full duties of Excise have been charged, and which shall be exported to foreign parts as merchandize, under the provisions of this Act, the maltster shall be entitled to be paid the drawback or allowance of the duty of Excise in respect of such malt in the manner hereinafter mentioned.

REGULATIONS.

Exportation to be made under such rules and regulations as the Commissioners of Inland Revenue may make, and under the conditions specified in this clause. 23 & 24 Vic. c. 113, s. 28.

The exportation of malt, and the payment of the drawback or allowance of duty thereon, shall be made under and subject to such rules, regulations, and securities, (by bond or otherwise) as the Commissioners of Inland Revenue may from time to time make and require respectively in that behalf, and under and subject also to the following conditions; (that is to say),

1. The malt shall be made from barley, and shall not be blown, roasted, ground, or crushed; and it shall be in the entered malthouse in which it shall have been made, and the full duties of Excise shall have been charged thereon:
2. The malt shall be thoroughly screened and cleansed from all comings and dust, and from all extraneous matter whatever, to the satisfaction of the officer of Excise who shall attend the packing of the same:
3. The malt, after having been so screened and cleansed, shall not be of less weight than thirty-nine pounds, nor of greater weight than forty-two pounds avoirdupois per bushel:

4. The maltster shall give twenty-four hours' notice of his intention to export malt to the officer of Excise in whose survey the malt-house shall be situated, stating the quantity of malt intended to be exported, the particular day and hour at which the same is to be packed, and the name of the port from which it is to be exported :
5. The malt shall be packed only between the hours of six o'clock in the morning and six o'clock in the afternoon, and in the presence of the proper officer of Excise, and shall be measured with a bushel measure into secure barrels, boxes, or bags, each containing not less than four bushels, and such barrels, boxes, and bags, shall be fastened and secured to the satisfaction of such officer.

Maltster to provide measures and scales and weights, and assistance in measuring and weighing. 23 & 24 Vic. c. 113, s. 29.

Every maltster who shall export any malt under the provisions of this Act shall provide for use at the malthouse from which such malt shall be exported, and also on board the vessel in which such malt is shipped, a bushel measure of the legal standard, with just and sufficient scales and weights properly adapted for the weighing of malt, and shall allow any officer of Excise or Customs to use the same in the measuring and weighing of malt respectively; and such maltster shall provide such officers with proper and sufficient assistance to enable them to measure and weigh such malt.

Debenture to be given to exporter one month after exportation.

In calculating quantity of malt $7\frac{1}{2}$ per cent. to be deducted. 23 & 24 Vic. c. 113, s. 30.

The proper officer of Excise at the port at which such malt shall be shipped for exportation shall, at the expiration of one month after the exportation thereof, give to the exporter, or to his authorized clerk or agent, a certificate or debenture expressing the quantity of malt so shipped, and the amount of the drawback payable thereon; provided that in calculating the quantity of malt upon which such drawback is to be paid a deduction shall first be made therefrom at the rate of seven-and-a-half per centum upon the quantity which shall have been ascertained by measure in the manner herein directed; and provided also, that where the malt shall have been exported to the Islands of Guernsey, Jersey, Alderney, or Sark, or to the Isle of Man, the drawback shall not be paid without the production of a certificate from the proper officer of Customs that such malt has been landed in the island to which it has been exported.

Malt exported not to contain unmalted grain. Penalty, 200*l.* and all malt, 23 & 24 Vic. c. 113, s. 31.

Two Hundred Pounds, and all such malt and corn, or grain mixed therewith, and also the package in which the same may be contained, shall be forfeited.

Provisions of former Acts relating to the exportation of exciseable commodities to apply to this Act. 23 & 24 Vic. c. 113, s. 32.

The drawback or allowance upon malt exported under the provisions of this Act shall be paid by the Commissioners of Inland Revenue; and the provisions of all Acts in force regulating or relating to the exportation of any exciseable commodities on drawback, and all fines, forfeitures, pains, and penalties, imposed by the said Acts, shall and are hereby directed and declared (except as altered by this Act) to extend to, and shall be respectively applied, practised, and put in execution for and in respect of the drawback or allowance upon malt thereby granted, upon the exportation thereof, in as full and ample a manner to all intents and purposes as if the said several provisions, fines, forfeitures, pains, and penalties were particularly repeated and re-enacted in the body of this Act with reference to the said drawback or allowance hereby granted.

Penalty for breach of the provisions of this Act, 100*l.* and all malt, 23 & 24 Vic. c. 113, s. 33.

For any act, neglect, or omission contrary in any respect to any prohibition, regulation, or direction contained in or authorized by any of the clauses of this Act in relation to the making or exportation of malt, for which no penalty is expressly provided by this Act, the maltster shall forfeit the sum of One Hundred Pounds; and all malt which shall be packed, produced, or shipped for exportation contrary to the provisions, regulations, or directions contained in or authorized by this Act shall be forfeited, with the packages containing the same.

Formerly a complete separation was established between the trades of malting for home consumption and that for exportation, so complete that although there might be in the market, no malt made expressly for exportation, but ample

stock of malt made for home consumption, a demand from abroad could not be met without surrendering all the drawback by the exporter. But in the Act allowing the drawback upon duty-paid malt provision is made to guard the Revenue from the danger the laws were supposed to afford.

FOREIGN MALT ADMITTED, 1860.

Amongst the various changes in the Malt Laws, foreign malt, which to that date was absolutely prohibited, is now admitted on payment of a Customs duty of 25s. per quarter.

(Copy of printed) General Orders issued by the Board of Inland Revenue, referred to in page 27, upon the mode of filling the Couch.

Excise Office, }
London. }

GENERAL ORDER.

ORDERED,

22nd February, 1849.

That in throwing grain out of the couch-frame at maltsters, for the purpose of ascertaining whether it has been illegally compressed, no objection be made to its being thrown back into the cistern in which it was steeped and returned into the couch-frame, provided the cistern be empty and upon the same floor with the couch-frame, and so placed that the grain can be conveniently thrown back into it with the shovel in the ordinary manner of working.

ORDERED,

26th April, 1858.

The Board have had under consideration the General Order of 27th September 1845, and direct that so much of that Order, as requires the officers to return the grain into the couch-frame in the form of one or more cones, be rescinded.

HOPS.

A Bill, dated 11th April 1862, having passed the Committee, I may assume it now the law. The main provisions of this Bill are important : first, to abolish the whole duty upon hops ; second to make up for loss to the hop duty, brewers for sale are charged an increase upon the licences equal to 1s. per quarter upon all the malt they consume.

The following are the clauses referred to :—

SCHEDULE (B).

Containing the Duties and Drawback of Excise granted and allowed respectively by this Act.

Duties on Licences to Brewers of Beer for Sale, to be taken on and after the *Eleventh Day of October One thousand eight hundred and sixty-two.*

For and upon every Licence to be taken out yearly by £. s. d.
any Brewer of Beer for Sale—

If the Quantity of Beer brewed by any such Brewer within the Year ending the Tenth Day of October next preceding the taking out of such Licence, shall not exceed Twenty Barrels, the Duty of . . . 0 12 6

And if the same shall exceed Twenty Barrels and not exceed Fifty Barrels, the Duty of . . . 1 7 6

And if the same shall exceed Fifty Barrels . . . 2 0 0

And if the same shall exceed One hundred Barrels and shall not exceed One thousand Barrels then for every Fifty Barrels, and for any fractional Part or Number of an entire Quantity of Fifty Barrels, over and above the First One hundred Barrels, the additional Duty of 0 15 0

And if the same shall exceed One thousand Barrels, £. s. d.
 and shall not exceed Fifty thousand Barrels, then
 in addition to the Duty chargeable in respect of
 One thousand Barrels, there shall be charged for
 every Fifty Barrels, and for any fractional Part or
 Number of an entire Quantity of Fifty Barrels, over
 and above One thousand Barrels, the further Duty of 0 14 0

And if the same shall exceed Fifty thousand Barrels,
 then in addition to the Duty chargeable in respect
 of Fifty thousand Barrels there shall be charged for
 every Fifty Barrels, and for any fractional Part or
 number of an entire quantity of Fifty Barrels, over
 and above Fifty thousand Barrels, the further Duty of 0 12 6

And for and upon every Licence to be taken out by any
 Person who shall first become a Brewer of Beer for
 Sale, the Duty of 0 12 6

And there shall be charged upon and payable by the said last-
 mentioned Person in respect of such Licence such further
 additional Sum as, with the said Duty of Twelve Shillings and
 Sixpence, shall amount to the Duty chargeable on a Licence in
 respect of the like number of Barrels of beer brewed by him
 during the existence of the Licence granted to him; and the
 said additional Charge shall be paid within *Ten* Days next
 after the Expiration of the said Licence.

The Duties aforesaid to be in lieu of the Duties now chargeable on
 Licences to be taken out by Brewers of Beer for Sale.

On a Victualler's occasional Licence; that is to say,— £. s. d.

For and upon every occasional Licence to be granted
 to any Person who shall be duly authorized to keep
 a common Inn, Alehouse, or Victualling House, and
 Licensed to sell therein Beer, Spirits, Wine, or To-
 bacco, to sell the like Articles for which he shall be
 so Licensed at any such other Place, and for and
 during such space or period of time not exceeding
 Three Days, as the Commissioners of Inland Re-
 venue shall approve, and as shall be specified in
 such occasional Licence, the Sum of 0 5 0

Drawback on Beer exported ; that is to say,—

For and in respect of every Barrel of Thirty-six Gallons, and so in proportion for any greater Quantity of Beer brewed or made by any entered or licensed Brewer of Beer for Sale in the United Kingdom, which, on or after the *Eleventh Day of October One thousand eight hundred and sixty-two* shall be exported to Foreign Parts as Merchandise, the sum of *Three-pence*, in addition to any drawback now payable by Law on Beer exported.

When licence of brewer of beer for sale exceeds 10℥, it may be paid in moieties.

Where the amount of duty chargeable upon any licence to brew beer for sale shall exceed the sum of Ten Pounds, such licence may, if required, be granted upon payment only of a moiety of the duty so chargeable, and in such case the other moiety of such duty shall be paid on the First day of March next after the commencement of the year for which such licence shall have been granted, or in default thereof the licence shall thereupon cease and determine, and be no longer in force.

Repeal of prohibition on extract of hops.

The prohibition of the importation of extracts and essences of hops and other concentrations thereof, contained in the third section of the Customs Duties Consolidation Act, 1860, shall, on and after the Sixteenth day of September One thousand eight hundred and sixty-two, cease.

ABSTRACT OF PROPOSED CONDITIONS FOR MAKING MALT IN BOND FOR HOME CONSUMPTION.

1. *That the same security be given as that imposed for the protection of the Revenue, as to entries, notices, fastenings, locks upon kilns, malt stores, &c., as is found effectual in the case of Malting in Bond for Exportation. (See Laws, pages 214 to 223.)*

2. *That the Duty to be paid, when notice is given to the Excise for all quantities expressed in the Notice to Officer, and in no quantities less than*
3. *That when the Duty is so paid, the Excise have no further charge of the said Malt; consequently the Excise are relieved from the trouble of issuing Certificate to the Receiver, hence there is only one Stock to check instead of two, as is the case of Distillers and Exportation.*
4. *That the Duty being charged by gauge, as in the case of Maltsters in general, should the Malt measured out as delivered be less than that charged by gauges, the Maltster be charged with deficiency.*
5. *That the Board have the power to refuse application for such Bonding Malthouses, if not properly secured; and*
6. *If Malthouses be more than a mile from a market-town, Maltsters to provide lodging for Officer.*
7. *All fastenings, except locks for securing of kilns and other rooms, to be provided at expense of Maltster.*
8. *All Duty charged upon Malt in Bonded Malthouses to be paid off on or before the month of in every year.*

ALE AND BEER.

HISTORY.

THE earliest indication of ale being in use in this country is found in 'Macpherson's Annals,' which states that 'Euminis,' in his panegyric upon Constantine, in the year 296, remarks,—“That Britain produced such abundance of corn, that it was sufficient to supply not only bread, but also a drink comparable with wine.” This was, without doubt, ale, for Diodorus takes notice of this drink in a passage where he says,—“That the Britons and Irish (instead of wine) use a liquor called *curini*, made of barley.” Again, in 694, Ini, king of the West Saxons, imposed a tax, according to the extent of the land farmed, of so many ambers, containing seven gallons each, of Welch ale. They had two kinds of ale, called common and spiced ales, and was thus esteemed:—“If a farmer hath no mead, he shall pay two casks of spiced ale, or four of common ale, for one of mead.” By this law, a cask of spiced ale, containing nine palms in height, and eighteen in diameter, was worth 7*l.* 10*s.* of our present money; and a cask of common ale, of the same contents, valued at 3*l.* 13*s.* At this period common ale was an article of such luxury, that amongst the Welch it could only be procured by the great and opulent. The Saxons and Danes believed, that “to drink large and frequent

First appearance
in English law.

See Mallet's
Northern Anti-
quities, Chap. VI.

draughts of it was one of the greatest pleasures enjoyed by the heroes admitted into the hall of Odin." There were formerly occasional drinkings, termed leet-ale, clerk-ale, church-ale, and bride-ale, the last of which still prevails in some parts of Scotland, under the name of "pecuniary bride-ale," a practice intended to assist those who are unable to defray the expenses of a wedding dinner. The Romans gave it the name of *Cerevisia*, as being the produce of corn, the gift of Ceres; and the most celebrated of this kind, in the old time, was the Pelusian potation, so called from the name of the town where it was made, at the mouth of the Nile; and Theophrastus justly denominates it the *wine of barley*. There is no doubt of its being the drink most in use in the temperate zone in the most ancient periods, and ever will be where the vine is not grown to advantage.

In 1256, during the reign of Henry III., the manufacture of ale was of considerable consequence, and the price was regulated in proportion to that of corn. A brewer might then sell two gallons for a penny in cities, and three or four for the same price in the country. In 1504, ale was sold at 3*d.* per gallon. In 1542, hops were introduced for cultivation into this country from the Netherlands, and are first noticed by the Government in 1552, 5 & 6 Edward VI., c. 5, at which period they were first planted in this country. In 1603, in the reign of James I., hops were grown to a great extent, but the greater supply was still derived from abroad, until 1690, 2nd of William and Mary, when a protecting duty of 20*s.* per hundredweight, over and above all other charges, was laid upon all imported; and in 1710, 9th Anne, a duty of 1*d.* per pound was imposed upon all hops grown

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in England, and 3*d.* upon foreign. In 1801, George III., the duty is further increased to 2*d.* per pound. There is no article of commerce which varies so much in the annual production as hops; it follows that there exists no article in which there is so great and constant fluctuation in price; hence the gambling speculations upon them are incredible, from the month of March to the month of November, when the amount of duty is declared by Government.

The hop counties, and the borough of Southwark, which is the principal hop market, exhibit such a series of gambling, as not to be equalled upon the Stock Exchange. As soon as the plant shows itself out of the ground the speculators and traders commence betting upon the amount of duty to be derived from that season's growth; and as the season advances, gambling increases: to use a Borough phrase, the "fly" arrives with every post during the growth of the plant. The fly here alluded to is very destructive to the plant. The Statistical Tables show the number of acres under cultivation for hops.

HOPS.

The best hops for strength and flavour are grown in Kent, called Golden Hops, having a golden yellow colour, slightly of a green shade; when rubbed in the hand leave yellow traces, with a powerful and agreeable aroma, and a glutinous, oily feel.

The hops much esteemed for flavour are those grown near Farnham, and are exclusively used for fine ales; they do not possess the strength of the best Kents. And the Worcester hops are of a very delicate flavour, but have

less strength than the Farnham, nor so full-flavoured. Those grown in Sussex are good and powerful, possessing much of the properties of Kent hops, and in many cases equal to the bulk of the Kent. The best hops are selected and closely packed in pockets made of strong canvas, weighing from $1\frac{1}{2}$ to $1\frac{3}{4}$ cwt. each. The darker and more highly-flavoured are packed in coarser bags, and called hop-bags, weighing 3 cwt., and used chiefly for porter-brewing. At one year old the hops lose much of the fine aroma, and are called yearlings; at two years old they retain little else than the bitter, and are termed old hops; and at three years are called old olds.

Since 1850 an important change has taken place in the Foreign Hops Trade: up to that date England for a long period exported more than was imported—1848 was the largest quantity imported for very many years, 164,304 lbs. weight; but in 1860 7,188,910 lbs. were imported, and in 1861 no less than 16,671,200 lbs. were imported, and 11,167,968 lbs. entered for home consumption. This great increase in the consumption of foreign hops has been caused by the great improvement in quality and reduction of duty, and the whole of duty being now taken off hops there can be little doubt importation will be greatly increased; on the 1st of January 1862 there were 11,991,264 lbs. of foreign hops in bond. The number of acres under cultivation for hops in England has varied from 38,218 to 58,000, and price of hops has varied from 27*l.* 10*s.*, average of the year 1817, to 2*l.* 15*s.* in year 1848.

The total expense of cultivation per acre, say the fourth year, is 24*l.*

The hop trade is mainly carried on in the borough of

Southwark, London, by hop merchants and factors, the first being the purchaser of hops from the planter, the other professedly the salesman for the planter.

THE ESTIMATED CROP OF HOPS IN EUROPE AND AMERICA.

The following is the estimated amount of hops for 1860 :—In Bohemia, 6500 bales ; Belgium, 18,500 bales ; France, 5000 bales ; Brunswick, 2500 bales ; Bavaria, 25,000 bales ; Poland, 3500 bales ; and Great Britain, 30,000 bales ; stock of hops in hand in Great Britain, 180,000 bales ; less one-third to be equal to new hops, 120,000 bales. The average crop ought to be :—Bohemia, 40,000 bales ; Belgium, 75,000 bales ; France, 100,000 bales ; Brunswick, 5000 bales ; Bavaria, 100,000 bales ; Poland, 7000 bales ; and Great Britain, 250,000 bales. In America the estimated crop of hops for this year is 60,000 bales ; stock on hand of old hops, after allowing one-third for old to be equal to new hops, 16,000 bales ; total supply in America, 76,667 bales ; and the annual consumption, 55,000 bales ; making a surplus of 21,667 bales of hops for America.

At the period when hops were first introduced, viz. 1542, distinction is made between the beverage manufactured with, and that without hops. Although it is certain the term beer was in use for malt liquor previous, as it is well known that various substitutes for hops was had recourse to, such as broom tops, wormwood, &c., still from the introduction of the use of hops, the substantial distinction is made in the character of the beer. Houses for the sale of ale were first licensed in 1552, 5 & 6 Ed-

ward VI., and James I., 1604. The power of granting licences for inns and alehouses, was by letters patent to certain individuals; but from the great abuse committed under this mode of collection, it was soon placed on the same footing as any of the other branches of Excise.

See Sinclair's History of the Revenue.

The duty of Excise, as well as the term, was first introduced by the Long Parliament, in 1643; and afterwards granted by Act of Parliament, in 1660, to Charles II., for every barrel of beer or ale above the value of six shillings the barrel, brewed by the common brewer, or other person for sale, fifteen-pence; and for every barrel of beer or ale of six shillings or under, threepence, which was granted to him and his heirs for ever; and a proportionable sum for certain other liquors, &c., in recompense for the relinquishment of certain revenues, and power arising from purveyances and presumption, together with the profits of his military tenure, to which most lands in the kingdom were subject.

First Excise on beer, 12 Charles II. 1660. No. 29.

Entry to be made by all common brewers once in every week, and victuallers and retailers of beer or ale, brewing the same, once in every month, at the Excise Office, of all beer or ale which they shall brew, make, or retail in such week or month respectively.

The penalties for not making such entries were—for common brewers, 10*l.*; innkeepers, 5*l.*; ale-house keepers, or other retailers, 20*s.*

Commissioners of Excise were allowed to compound for this duty with any innkeeper, victualler, alehouse-keeper, or retailer of beer. The Lords Commissioners of the Treasury were empowered to treat, contract, and agree

with any person for the farming the duties upon beer ale, &c., for the space of three years.

Clause forty-six is very important and should be inserted in every law inflicting penalties. It is as follows:—"That it shall be lawful for the Justices of the Peace, Commissioners of Excise, or any two of them, when they shall see cause, to mitigate, compound, or lessen such penalty or fine, as in their discretion they shall think fit, &c." About this period a great increase in the capital of the public brewers became necessary, in consequence of the taste of the public for mild ale giving way to the staler beverages; for by the more abundant use of hops, the brewer was enabled to keep a larger stock without the fear of spoiling; hence the necessary use of a larger number of casks, which the majority of brewers about this period first began to use to any extent, to his own charge; for previously the trade of brewer was greatly confined to brewing for individuals and sending the beer in the casks of the persons for whom it was brewed, as is still practised with cyder.

From this period the manufacture of beer and ale became of great importance, not only as an article of commerce, but of revenue, the gradual increase of which I have given in the Statistics, page . This revenue was farmed till James II., 1684, when it was placed under commissioners, and the duty was advanced to 2*s.* 3*d.* on strong, and 9*d.* on table.

History of Revenue, p. 234.

In the year 1688, the Excise on this article, clear of all deductions, amounted to 666,383*l.* The victuallers then sold ale at 2*d.* per quart.

By the 5th William and Mary, 1694, the duties were raised to 4*s.* 9*d.* on strong, and 1*s.* 3*d.* on table beer; the

victualler's price was $2\frac{1}{2}d.$ per quart. The duties being thus advanced, caused private families, to a great extent, to brew their own beer; the consequence was, a great reduction in the revenue derived from the licensed brewer, until the year 1746, from which period to the present it has been gradually increased, caused mainly by the high duties on malt; the price of ale and beer varied greatly in 1813 to 1817, the quality of porter selling as high as $6d.$ per quart, and other stronger beers from $8d.$ to $1s.$ per quart.

There are numerous characters and names for ales and beers, but those made exclusively from barley, malted, and hops, is by far superior to all others, let their combinations be what they may. Those most in use in the United Kingdom are—

Porter—the most celebrated, being that brewed in London and Dublin, the gravity by Dring and Fage's sachtrometer being from 21 lbs. to 22 lbs., the London price 33s. per barrel of 36 gallons.

Stout—a stronger description of Porter, formerly called brown Stout, but from the use now of roasted malt it has ceased to be brown, being now made nearly black, varying from 24 lbs. to 32 lbs.

Ales, brewed in London are chiefly of three qualities, designated as 36s., 48s., and 58s.; there are many others both of a weaker and stronger quality, but those named are the leading qualities and the name signifies the price; the first is most drunk and sold at fourpence per quart.

Ales—East India Pale, was originally made exclusively for the India market; first, to any extent, I believe, by Mr. Hodgson of Bromley-le-Bow; but for many years the most successful have been Messrs. Alsopps,

Messrs. Bass, and others of Burton. The great success of the Burton brewers in brewing this delicately flavoured ale, is generally attributed to the peculiarity of the water of the district—London and other brewers are competing for this. Pale Ales are in general favour, not only in England, but in India, Australia, and almost every country. In Burton alone above 2,500,000 bushels of malt, and nearly 5,000,000 lbs. of hops, are annually consumed.

Ale—Scotch and Burton are peculiar, having but little flavour of the hops, but of a rich luscious flavour, the gravities being from 28 lbs. to 40 lbs.

Ale—Table, and brewed from a gravity varying from 8 lbs. to 18 lbs.

The next description of beer and ale deserving notice are those brewed in various parts of the Continent of Europe; the first in estimation being "The Bavarian," mainly consist in conducting the fermentation of the work at too low a temperature, (commencing at $46\frac{1}{2}$ to 50,) to permit the acetification of the alcohol, and to cause all the *izotised* matter to be completely separated by the intervention of the oxygen of the air, and not by the sacrifice of the sugar.

The Bavarians are so much attached to the beer beverage, which they have enjoyed from their remotest ancestry, that they regard the use of distilled spirits, even in moderation, as so immoral a practice, as to disqualify dram drinkers for decent society.

Those beers in which other ingredients are used as a substitute for malted barley, such as potatoes, beet-root, sugar, molasses, &c., are of modern invention, and recourse but seldom had to them to any great extent, but in cases when barley malt exceeds a certain price.

But beer is likewise made from malted oats, wheat, maize, &c. : that from oats by far the best for quality, in fact, from the many experiments I have made, the ale brewed from it, was preferred to that from barley malt ; and I should have used it to some extent, but that it was so much more costly, for these reasons :—the cost of best potatoe oats being at all times within a few shillings of barley, and from the husk bearing so far greater proportion to the kernel than that of barley, the yield was equal to nearly 20s. per quarter less than that from barley malt. Beer made from malted wheat and maize is necessarily imperfect, and never will answer for stock beer or ales, and for this reason : the nature of the grain renders it impossible to make perfect malt of it, being the reverse of barley and oats, the husk being *too thin and tender* to retain the acrospire within its proper and necessary bounds, for before the acrospire has travelled half over the wheat, and one-fourth over maize, it bursts its bounds through the husk, consequently leaving respectively, one-half of the wheat and three-fourths of the maize little better than dried unmalted corn.

The husk of barley constitutes about one-seventh of the whole weight ; in oats above *one-third* ; in wheat not *one-tenth* ; and in maize not one-thirtieth.

Good beer may be brewed from a mixture of raw grain and malt, or of a mixture of raw grain only. But one thing is certain, the quality of such ale is neither so fine in flavour, nor does it possess the preservative properties of ale brewed from all malt. The most successful mixture of raw grain for brewing “is that of barley and good seed oats,” infused in liquor of about the temperature of about 190°, (this is quoted from the report of experiments

tried in Scotland by the Government; the temperature of liquor is much higher than I have used, never having succeeded at a heat above 148°. The barley should be skinned, or as it is termed purred; and it has always been a matter of surprise to me, that the distillers do not so purl their barley, as there is little doubt but the objectionable flavour in corn spirits is caused by the husk,) and the infusion is drawn off, after standing several hours. It becomes speedily sweet, and the wort drawn off was as sweet as wort from malt. Being fermented it makes excellent beer. Thus it is evident, that the starch in barley, when infused in hot water, is converted into sugar in a few hours."

BREWING.

It is little less difficult to describe every variety in brewing than in malting, in fact there exist greater diversity of opinion as to the process of brewing. Some advocating one mash, others four; some to mash with liquor at 171°, others at every point down to 160°; some pitching their tun at 45°, others at every degree to 85°; some cleansing in twenty hours, others in three weeks; some will run the hot wort, hops and all into casks direct from the copper, without adding any yeast or ferment. Some prefer malt so freely made as to weigh 37 lbs. per bushel, others varying to 43 lbs. Hence, to attempt a perfect history of the various systems, reasons for adoption, with their several errors, would constitute a volume of itself larger than the present combined work.

CLEANLINESS.

Cleanliness is the one thing needful, not only in the brewhouse, but of every utensil and thing connected therewith; in the absence of it, no success can be expected. All wort-pumps, pipes, and taps should be properly cleaned, quite as much as casks, stillions, &c., &c. Union screws should be attached to all piping, at convenient distances, to afford easy access for cleaning.

The success of a public brewer depends chiefly upon the *uniform* transparency, taste, flavour, colour, and

strength; the production of which depends upon the skill of the brewer.

The first point to be attended to, is the quality of the malt, to judge of which the malt must be perfectly *tender*, round, and full, the husk of the grain thin, and on each side of the acrospire should never assume the cridled appearance as in barley; when it does, it proves one of two errors, either it has been forced too much in the young stage of malting, hence, the conversion was not perfect: or that the heat upon the kiln was too high, before the steam was well off.

The acrospire should shew at *least* two-thirds over the corn, if *uniformly* seven-eighths the better; but when the acrospire has forced itself *out*, that is an evil of the other extreme.

The corn should be as uniform in size as possible, having no hard ricey ends, breaking freely from end to end between the teeth; possessing a pungent sweet taste. If good, will swim in water, if otherwise, it will sink; if partially malted it floats horizontally. Next as malt is sold by *measure*, and as that malt yields the greatest portion of soluble matter to hot water, which shews the greatest weight per bushel, it follows, that the main criterion is weight, *combined with the other good properties*; for if the loss in weight per bushel of barley in the process of converting it into malt, be above twenty per cent., or from barley weighing 54 lbs. to malt weighing 42 lbs., how is it possible if by working the malt more freely, or malting light inferior barley, we obtain a weight of malt of only 39 lbs., that the 39 lbs. of malt could yield as much extract as the 42 lbs.? The larger the grain the more productive, there being less husk, and the husk

itself being unproductive. No malt should weigh *less* than 160 lbs. per sack, or 40 lbs. per bushel, and *every pound weight above 40 lbs. per bushel*, I value at 1s. In explanation, suppose you have two brewings, of 20 quarters each, the first weighing 40 lbs. per bushel, the second weighing 41 lbs., the result will be:—First brewing 20 quarters, weighing 40 lbs., the produce cannot **BE LESS** than 80 lbs. per quarter.

From which if brewing a quality	}	80	(61½ barrels.
of 26 lbs. per barrel, the sell-		20	
ing price of which is, say, 36s.		156	
per barrel.		40	
		26	
		14	

Thus the product of the first is 61½ barrels.

The second brewing being 20 quarters, weighing 41 lbs. per bushel, the extract or produce from which could not be less than 86 lbs. per quarter.

86
20
26)1720(66 barrels.
156
160
156
4

Giving 66 barrels of the same strength, being 4½ barrels

more than the first, which at 36s. per barrel, equal to 162s. ; proving an increased value of the malt of 8s. per quarter to the brewer.

Good malt of 40 lbs. weight, will yield from 86 to 90 lbs. gravity, by Dring and Fage's instrument, the variation resulting from the quality of the barley malted.

Slack malt, or that which does *not* break crisp and flowery, should be avoided ; likewise malt that is hard at the end, but most particularly mouldy malt is the worst. It is not safe to purchase malt made between May and October. Malt should, in all cases, be well cleaned from roots and dust. And in the purchase of malt for ale brewing, care should be taken to select all of one uniform colour or shade.

Best Pale Malt should weigh from 160 to 172 lbs.

Amber	„	„	160 to 161
Brown or Porter Malt	„	„	136

Malt should, in all cases, be kept in bins of wood, or lined with wood ; stone or brick, being conductors of moisture, will injure the malt, cause it to be slack, and often mouldy, and is apt to breed the weavel.

All slack malt should be redried on kiln.

BREWERY.

It is far more easy to avoid evils than to cure them when suffered to occur. This applies especially to brewing and malting, for if the work be commenced in error, it cannot end with success. The first point to be considered is the brewery and plant.

The brewery should be in an airy situation ; that is, no building should adjoin that could impede the free

current of air, taking care that no open drains, or stagnant pools of water be near.

The coppers and meshing-tun should not be so situate as to cause the steam or heat to affect in the least degree any other part of the brewhouse.

The liquor-copper, or copper the water is boiled in, should command the mash-tun, and the mash-tun should command the wort-copper, the wort-copper commanding the hop-back. The copper having a copper back, the object of which back is, that the worts, as they run from the mash-tun, (after the required quantity is in the wort-copper,) are let direct into the back, and kept to a high temperature, thereby avoiding the risk of injury resulting from letting the worts lay in the underback, (often imprudently buried in the ground); as soon as the wort is off from copper, into the hop-back, then the wort-back is ready to supply the copper; such an arrangement is of great benefit in preserving the raw or return wort, and is of the further benefit of avoiding a wort-pump, which is found so difficult to keep pure. This plan of construction, counteracts the evil often complained of, as occurring between the mash-tun and copper; it is altogether the most simple of construction, and effective, causing a great saving of time and labour, at the same time giving the brewer a much greater command of the work. The hop-back should at all times be of sufficient dimensions to contain the entire charge of copper, and this hop-back should command the coolers, and the building be so constructed that the air should have free play from every part, to effectually carry off the steam, and thereby facilitate the cooling. The cooler and refrigerator should command the fermenting-tun, with as few metal pipes

and cocks as possible; and the tuns should command the tun-room for cleansing. The great objects attained by this simple arrangement of a brewery, are, first, that all pumps are avoided, excepting that for the liquor. Second, that the chances of electricity are to the greatest extent avoided; and third, a great saving of labour and time is effected.

The tun-rooms and cellar of every brewery should be so constructed, or placed, that the temperature should (like a good wine-cellar) be able to be kept, within a few degrees, the same in summer as winter.

This is what I consider a perfectly constructed brewery.

But the next plan, and that usually adopted, is to have two coppers at the same elevation; one a liquor-copper, which commands the mash-tun, the underback to receive the wort from the mash-tun, which is pumped up into second or wort-copper, leaving a copper back for the same purpose as before described, and the other arrangements likewise.

To have only one copper, is attended with great inconvenience and danger, additional labour and waste.

There has been another system introduced, which I have seen in use with advantage, and saving of expense in the cost of plant. That of boiling by steam—having no copper, but in lieu thereof, a tun or tuns made of wood only, the liquor and wort boiled by a coil of pipe, heated by steam.

Every utensil should be correctly gauged, and table made of each, and the copper should have a float, denoting outside, on a slide table, the quantity contained.

ELECTRICITY.

The only further observation I think it necessary to make upon the construction of a brewhouse, is that in all cases, not only in brewing and storing, but every utensil should also be as insulated as possible, with as little combination or union, as well as use of metals as possible, that the baneful effect of electricity may be avoided. Upon this subject, as well as others connected with the brewery, I had greatly enlarged, but having so far exceeded the limits placed upon the publication, have necessarily curtailed the several articles.

Upon the subject of electricity, I will confine myself to a few intelligible remarks. None of the utensils should be embedded in the ground, and casks in cellars should be placed on wooden stillions, for the earth is always electrical, and the more so, as the electrical equilibrium of the atmosphere becomes disturbed. The action of electricity does not require proving from me, since it is acknowledged by every electrician, that no two dissimilar bodies can be *in contact* without electrical action being established. Electricity passing from that one of the two which *least* powerfully attracts oxygen, to the other which *most* powerfully attracts that principle; the latter therefore becomes positively electrical, and the other negatively so.

Contact is not absolutely necessary to electrical excitation, proximity being sufficient to induce it, and in point of fact, contact is nothing more than perfect proximity.

A perfect knowledge of the nature of electricity is not essential to a right understanding of its action, about

which we can come, with present attainments, to a proper conclusion. And since we are fully convinced of the baneful effect of electricity in brewing, every precaution should be taken to prevent its action.

WATER.

One of the fallacies connected with brewing has been that certain flavours and characters of ale, can only be brewed in such and such places, from the peculiarity of the water. If you have a pure water, that is a water free from organic matter and an excess of carbonate and sulphate of lime, you can brew almost any flavour or character of ale or beer. Some years since I attended at a large brewer and maltster's above 100 miles from London, was requested by the principal to go over the brewery. I was surprised to find the extent of business they did in porter, but still more that they had all their porter from London. Upon asking the reason, I received for answer, they could not brew porter with the water there, they had once tried it, at some expense, and failed ; I assured them, water was not the cause of failure, on the contrary, the water was as well suited for porter brewing as any in London, and that I would guarantee success. They took the matter into consideration—and in a few weeks solicited my services. My time being then too much occupied, my eldest son undertook it, and greater success never attended any brewing, which is still carried on to a large extent.

A treatise on the properties and tests of water would be a work of itself ; but, as a general guide or test for water suited for brewing, as water varies in an extraordi-

nary degree even in the same neighbourhood, I find the water in all cases requires analyzing to form a correct opinion.

If the water be impure it is very desirable to *boil* it previous to making the first mash, and cooling to the proper temperature; inasmuch as the boiling causes the carbonate of lime to be precipitated, it is that which mostly forms the crust in boilers; but river water generally, or still worse, that from ponds, are not safe for keeping beer.

GRINDING OR BRUISING.

Malt must be bruised, and is effected between plain iron rollers, which must be so adjusted as effectually to bruise (not crush) every corn. In this first stage of brewing is felt the necessity of purchasing malt of *equality of size*, for if some be thin small corns, others large and bold, it follows of course, that to bruise the small corn the larger must be too much crushed.

MASHING.

The first point to be attended to is the proportion of the mash-tun, for with a *shallow* tun, it is extremely difficult to obtain the full extract. From 32 to 34 gallons of water are retained in every quarter of malt in mash-tun, and usually 40 gallons in boiling and evaporation in coolers; too much attention cannot be given to this part of brewing, as nearly the entire success and profit depends upon it. And, as it has been proved by all, the extract is made in the first mash, and all after

operation is simply washing out the extract obtained ; hence all depends upon the application of the proper heat in the first mash to obtain this extract. There is one point in relation thereto, I believe all agree upon, that the first tap heat should never be below 140, or above 150. I prefer for ale 148, and porter 145. If the first taps are kept to these points, you cannot fail obtaining a good *extract*. The variation depending upon the character and condition of the malt and temperature of the atmosphere.

Malt should never be brewed in less than one month after being made. I prefer it two to three months old.

The best extracts are ensured by a stiff first mash, of not more than two barrels to the quarter, adding the other half-barrel (in some cases one barrel per quarter,) at a higher heat ; after mashing thoroughly for about twenty-five minutes, and finish the mashing during ten minutes after the half-barrel is added. The heat I prefer for pale malts is 165 to 170 ; if the malt be perfect the lowest of the two. If, upon trying the heat of goods in tun, the heat is a little below the point, this is easily rectified by increasing the temperature of the additional half-barrel ; but if *too high*, the evil is not always to be corrected by adding the half-barrel at a lower temperature, for the goods once set, nothing will effectually liberate the extract. A correct covering should be provided every mash-tun, that as soon as the mashing is complete, the heat should be confined, and when the mashing is effected with machinery, the covering should never be withdrawn. When mashing with oars or small quantities, the first mash heat should be 168 to 170, as much heat is lost in thus mashing. There is a great

saving in brewing two days in succession, particularly if two qualities are required. There has been several improvements in mashing-machines, the principal are those of Mr. Tizard, and the last that of Mr. Sorriels, the principle of whose invention consists of a cast-iron box forming *three* chambers, with rake-shaft revolving in each chamber, the goods passing from one to the other, being completely amalgamated with the liquor before dropping into the mash-tun. All worts as they run from the tap should be quite bright.

SPARGING.

The great advantage of which is, that in brewing strong beer, your extract is obtained with much less liquor, consequently, no *extra* boiling is required; it is a saving both of labour in mashing and time in boiling, with a more pure extract.

I commence sparging as soon as tap is set, never allowing the goods to appear above, for if the goods be dry, the sparge liquor will run through in settled channels, and not unfrequently wasting. The liquor should fall on the mash as from the rose of a watering-can, and equally all over. The heat for sparging should commence at 185, and may for ale be increased to 195. In brewing of five quarters and above, the mash-tun should be provided with the mashing-machine; all under eight quarters can be worked by hand, and above by horse or steam, to which should be attached to the column a sparging apparatus. In other smaller brewings, a rose similar to the watering-can, attached to hose conveying the liquor from copper. Although I would never by

choice use any liquor otherwise than that at and above 163, still, rather than run the risk occasioned by delays, particularly when there is only one copper; I would sparge on the liquor cold.

Although the malt, or as it is termed the goods in the first mash, retains from 4 gallons to $4\frac{1}{2}$ gallons per bushel, or from 32 to 36 gallons per quarter. The after mashing liberates a portion of the water retained of this first mash, hence the wort obtained from the after mash, will exceed the quantity of liquor mashed with, to the extent of not leaving in the goods, if perfectly tender malt, more than $2\frac{1}{2}$ to $2\frac{3}{4}$ gallons of liquor in every bushel, or 20 to 22 gallons per quarter, when the last liquor is perfectly drained from the goods.

After having, in mashing and sparging correctly, used six barrels of liquor to every quarter of malt, it is, in my opinion, waste of time and fuel to run on more for return wort, what is left behind in goods, cannot much exceed one pound, and the trifle of good in hops, together not worth 1s. per quarter.

If after the full quantity of six barrels of liquor per quarter has been used, there be left anything above $1\frac{1}{2}$ lb. to be extracted, for the sake of remaining virtue in hops, it would be well to make a return wort of about $1\frac{1}{2}$ barrels.

BOILING.

The time for boiling must of necessity vary, according to the character of beer, particularly in its strength; from one hour, to three hours, is the extreme necessary for beers of 24 lbs. and above; if two worts, or boiling for

the same brewing, the first boil one hour and a quarter, the second until you obtain the required gravity. For weaker beer two to four hours may, without any injury, be adopted. The only advantage resulting from long boiling, is that it enables the brewer to wash out the full extract from the malt as well as hops, and by long boiling, concentrates the extract by evaporation; the only evil I ever experienced from long boiling, was the extra expense of fuel and time. The objects attained by boiling, are, first, by evaporation, and consequent concentration of the wort, they are reduced to the required strength or gravity; second, the extraction of the virtues of the hop, and combining the same with the wort; and, as explained elsewhere, the boiling cannot be complete until the wort breaks well, becoming perfectly transparent between the floating flock, composed of sediment, to be seen in or through the sample glass, and is the most important object of the boiling. I prefer open copper, from which the evaporation is more free, and the brewer has a much better command of his work. The liquor copper should be sufficiently large to contain something more than the quantity required; for the first mash, its capacity should be equal to 3 barrels for every quarter. The wort-copper should be equal to at least 4 barrels for every quarter mashed.

HOP-BACK.

Should be of sufficient dimensions to contain the entire charge of copper, including hops.

COOLER.

The cooler should be of dimensions to contain the same, at not exceeding $2\frac{1}{2}$ inches deep; the evaporation varies according to the variety of circumstances from one-tenth to one-eighth. All utensils, except the copper, should be of wood, and insulated from all conducting substances of electricity; above all, avoid, to the greatest possible extent, a combination of metals. I know breweries with the coolers, hop-back, and under-back of cast-iron, and the brewing most successful, but I would use nothing but wood. When the wort is cooled to about 130, the refrigerator should be set to work, to avoid the danger resulting from the exposure of so great a surface to the oxygen of the atmosphere, which, at a low temperature, it readily absorbs, hence passing into the acetous fermentation; much beer is thus spoiled.

The most effective refrigerator I have seen in operation is that invented by Mr. More, of the firm of Messrs. Tennant, Brothers & Co., Exchange Brewery, Sheffield: it is to be seen in practical work at the brewery. The only objection to be advanced to the refrigerator is that applied to Mr. Davison's corn and malkiln, viz. the first cost.

Its most important feature is the great facility with which it can be kept in a perfect state of cleanliness, which is effected in the following manner:—The pipes are fixed in the form of a square, and at each angle is a cap, which is easily taken off, so that a brush can be introduced and passed throughout the whole length of each pipe. The importance of being able to apply a brush (assisted by hot or cold water or steam) to every

portion of the pipes at any time and with so little trouble, will be apparent to all, since this is the only effective mode of making perfectly pure any vessel or pipe with which the wort comes in contact. By means of the cap at each angle, any impediment can be removed at once and without difficulty, thus obviating the necessity of cutting the pipes in several places in order to discover the obstruction—a grave objection to which most other refrigerators are liable. The whole mass of tubing is fixed in a frame, which can be raised at pleasure by balance weights, so that any single portion of the pipes can be removed if necessary, and replaced by a new one. Being square, this refrigerator does not, like the circular ones, allow a natural current to be formed, either in pipes or the waterway; but the angles, breaking the course of the stream, cause every portion of the wort to be equally subjected to the influence of the cooling element.

Another improvement is the power of this refrigerator to drain itself, by which much risk is avoided; for in those which do not drain themselves, the pipes must, of course, be always full either of wort or water, and, during severe frosts, they frequently burst in consequence of the thawing of the water standing in them. Besides this, serious losses might be incurred from the water having to be forced out by the wort, and that again by the water; for, by the carelessness of the man who attends to that process, a great deal of the wort might be run off along with the water, or the admission of too much water into the wort would materially injure the quality of the article. From these defects, this refrigerator is quite free, since the pipes can be completely drained, and thus stand empty when not in use. With the length of piping and exten-

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sive cooling surface obtained, the proportion of a barrel and a half of water to a barrel of wort will reduce the latter from the boiling point to the same temperature as the water, by which very low proportion a great saving in expense is effected. This refrigerator can be made capable of cooling any quantity of wort up to 1000 barrels an hour.

HOPS.

Neither the bitter principle, nor the essential oil of the hop is so volatile as many suppose, for we find, after being boiled in the first strong wort, it still retains and imparts its flavour to a second boiling, and the bitter is imparted even to a third boiling; many expensive attachments to the wort-copper have been resorted to, for the purpose of preserving, by condensing and otherwise, what was considered to be wasted, but all such schemes have been abandoned as of little or no effect; but if hops are boiled too long for strong ales, the fine flavour is in a great degree lost, leaving little else than the strong and rank bitter.

FININGS.

The only thing that can be used with advantage for finings is isinglass. It is cut or bruised into a tub or vat, with hard or stale beer, *cold*, sufficient to cover it, which it soon absorbs, the beer swelling, and ultimately dissolves it in proportion as the solution proceeds, adding more stale beer, of a weak quality; as it swells the mass should be frequently stirred, and *kept free from mould*. When perfectly dissolved to the consistency of thin paste, more thin beer must be added, and the whole strained through

a sieve, and then further diluted. The quantity generally used, is about a pint to a barrel, according to the state of the beer. The finings should be clear and free from feculences. If the beer be fit for fining, the finings will not go to the bottom; but after being well roused in, it will float to the top. Such finings serve to remove any extraneous matter that may be found floating in the beer, and converts it from bright to brilliant.

What is termed the book and pipe glass, are the qualities mostly used, and the price varies from 3s. to 5s. per pound; the former, I believe, taken from the sturgeon.

M. Zirmerman professes to have discovered an unexceptionable solvent for isinglass, "in tartaric acid, one pound of which, dissolved in twenty-four quarts of water, is capable of dissolving two pounds of ordinary isinglass, forming finings, which may be afterwards diluted with pure water, at pleasure." He further states, "these finings are best added to the wort prior to the fermentation, as soon as they are let into the tun, immediately after adding the yeast; they are best administered by mixing them in a tub, with thrice their volume of wort, worked to a froth, then stirred into the tun. The clarification becomes manifest in a few hours; and, when the fermentation is completed, the beer will be brilliant." Zirmerman likewise assumes the merit of having introduced Carragean Moss as a clarifier into the beer manufacture. Dr. Ure says, "he does not know whether it may not have been used in this country for the same purpose, or in Ireland, where this fungus grows abundantly." M. Zirmerman states that "it operates not only in the act of boiling with the hops, but in the coolers, as also in the squares or tuns before the fermentation has begun. One ounce

is sufficient for twenty-five gallons of beer. Whenever the change takes place, the commixture throws up the gluten and moss to the surface of the liquid in a black scum, which is to be skimmed off, it occasions the separation of much of the vegetable slime or mucilage, called by the German brewers pitch."

YEAST.

That yeast is the most active which is thrown out of casks into stillion. That which is skimmed off the squares appears more exhausted. The stillion yeast is the best for pitching and keeping. It should be kept in a cool place and occasionally washed, that is, some cold water poured over it; the water should not remain long. Too much care cannot be bestowed upon this important part of a brewing business. I know one house in London that has only made one change of yeast in twelve years. I know others who have a change every three weeks or a month.

The quantity necessary to be used must be regulated according to the temperature and gravity of wort. As a general rule, 1 lb. per barrel of good lively yeast, to gravity of 23 to 28; and for 30 to 35, $1\frac{1}{2}$ lb., if good yeast, to a barrel: and the yeast should be set to work in a small quantity, at 80°.

For the nature of yeast and difference of fermentation in sugar, and that of vegetable juice, or of the wort of malt, I must refer to the works of Mr. Brand, Mr. Tenham, Professor Leibeg, and Mr. Black.

FERMENTATION.

In this part of the brewing process, the skill of the brewer is mostly required, and a thorough knowledge of fermentation can only be acquired by great practice and scientific research. With bad materials in either malt or hops, or foul utensils, no perfect fermentation can be expected. A brewer may happen to be eminently successful in his work in one brewery; but in the event of removal to another brewery, he may experience quite the reverse. I have known many such cases. The science requires very nice study and careful practice, divested of all prejudice.

Being the most important, I have gone more thoroughly into the science than on other points.

In many parts of Germany, great importance has been attached, and attention given of late to the fermentation of beer, as the great desideratum for procuring the best quality both as regards flavour and keeping. In the Grand Duchy of Hesse, premiums were proposed for the brewing of beer according to the process pursued in Bavaria, which was decreed to those breweries who were able to prove that their product (neither strong nor highly hopped) had kept six months in the casks.

The secret of the Bavarian beer evidently consists in the conducting of the fermentation of the wort at a very low temperature, $46\frac{1}{2}^{\circ}$ to 50° Fahrenheit, in open backs, covering a *large surface*, consequently, very shallow, upon a bottom fermentation, (instead of, as with us, a top;) the operation lasting from three to four weeks. The carbonic acid is disengaged, not in large

bubbles bursting on the surface, but in very small vesicles. The surface nearly in contact with the oxygen of the atmosphere, being scarcely covered with froth, as all the yeast is deposited at the bottom of the back, under the form of viscid sediment.

The ferment used is difficult to make in the first instance, so much so, that the brewers of Hesse who wished to make Bavarian beer, found it more to their interest to send for the article to Wurtzberg or Bamberg, in Bavaria, for it; but when the due primary fermentation has been established, and well regulated in a brewery (as with us), abundance of true ferment may be obtained for all future operations.

This Bavarian system of fermentation being the very opposite to that pursued in England and elsewhere: and *proving* to be successful in principle, *from long practice*, it is natural to inquire which of the two systems is the most perfect and *profitable*; and next, whether the principle of the one may not be scientifically applied to the improvement of the other.

First.—It is asserted the Bavarian beer is the most perfect owing to its *keeping* properties, in small casks; for the chemical causes assigned, I must refer more particularly to Dr. Ure. He states that the result of the bottom *fermentation*, is a beer free from vinegar, with scarcely a trace of gluten; so that it does not possess the conditions requisite to intestine changes, or deterioration. But the learned Professor informs us, “*this perfection is however, in my opinion, rarely attained.*” And if the *keeping* of beer in casks sound for six months, be considered a standard of perfection, I think we need not adopt the tedious process of the Bavarians to attain it;

since beer brewed in England for store, or as it is termed "stock beer," is in most prime condition, perfectly sound at nine months, and that without any undue preponderance of the hop.

But one thing is certain, the soundest or best keeping beers brewed in England, are fermented at a low temperature, and low attenuation, upon the surface fermentation, as well as the Bavarian upon the bottom deposit.

The *apparent* advantage of the Bavarian system is: first, that it produces a far greater oxidation of the gluten. Second, that the beer gives from ten to twenty per cent. more alcohol, hence the necessity of further investigation.

It was long the received opinion in this country, and is still retained by many, that by fermenting, even upon our plan, in open and deep tuns, a great portion of alcohol was allowed to escape with the carbonic acid; and that *acetous acid was likewise communicated to the beer by the contact of the atmospheric air with the surface.* But it is very evident that whilst the carbonic acid fills so much space above the surface, (independent of the yeast,) the atmospheric air is perfectly excluded, and that even whilst the heat of the tun is anything below 75, no such danger can occur, nor so long as the gas continues to be generated. This is, in my opinion, fully proved in the Bavarian system, where they have no protection of a deep head of yeast, and the gas generated slow, and extending not one-twentieth the height above the fermenting wort as with our surface ferments; but they have the advantage or protection of a very low heat of ferment, being conducted between 46° and 50° Fahrenheit. And as to the escape of alcohol, I consider it

nearly as fallacious, for so long as the heat in the tun is under 75° , no perceptible loss of alcohol can ensue.

In further reference to fermentation ; unless the worts are sound, no perfect fermentation can be obtained. Great care should be taken that the worts do not lay too long in the coolers in any weather, particularly in summer, for the reason before described ; no brewery should therefore be without a refrigerator. It is the opinion of many of the most skilful and scientific brewers, that the wort should not be let into the refrigerator until cooled to 100. I have always commenced when cooled to 130, and know one brewery in London without any cooler, cooling their wort exclusively by refrigerating direct from the hop-back, and has had it in practice for many years : the proprietor declares he never has a failure. It is a very old established brewery.

Neither the rays of sun or moon should ever be permitted to shine upon the wort ; and at all times after brewing, the coolers should be most effectually cleansed, and occasionally limed, and water should never be allowed to remain more than 24 hours, and when changed, to be again well scrubbed and examined. They should never be repaired with metal. In letting the wort from cooler, care must be taken, if possible, to let the heat of wort in square or fermenting tun be between 50 and 60, inasmuch as in the process of fermentation, the heat should never reach that point at which the acetous fermentation commences, 75° , hence it is only safe at all times to cleanse, or skim at or a little under 75° . It is true, good and full-flavoured beer may be, and is brewed at much higher temperatures, but it is not my province here to treat of what may be done, but to state and

explain the true points of safety to brew at all times and seasons, without the risk of failure. As regards the heat at which the wort should be put to ferment, some knowledge of the construction of the brewery, and quantity brewed is necessary.

It is likewise necessary to have temporators in the fermenting tuns, to enable the brewer to have perfect control over his work, for it is of the utmost importance that in brewing, as in malting, the fermentation in one, as the vegetation in the other, should receive no undue check until the work be nearly complete; the temperature of the ferment should constantly but slowly rise, hence the necessity of an artificial means of maintaining this gradual rise in cold weather, and restraining the too rapid rise in warm weather, else your attenuation will not keep pace with your heat. Fermenting tuns should be deep in proportion to breadth, as the greater the quantity, or deeper the wort, the more uniform the fermentation; in some cases the fermentation will rise to a third of the depth of wort; the deeper the tun the more safe from injury from the atmosphere. The principal points of Mr. Stein, advocated and adopted by Mr. Black, which I have found practically beneficial, is that in letting the wort into the cooler, the hops and wort in hop-back should be repeatedly roused, the object being to give the wort the benefit (particularly whilst in coolers) of the preservative properties contained in the hop dregs, which contain much of the lupuline powder of the hops, without which I should not feel disposed to sweep the other deposit from the cooler into the tun. The surface of the beer should never be exposed to the atmosphere. When the attenuation has gone down about two-thirds,

the heat should have reached from 65 to 70, and never allow it, if possible, to exceed 74. By the time the last skimming takes place, the ale will be fine in the tun, with a close yeasty head of about a quarter of an inch; let it so remain until the ale is quite fine, and the attenuation will have gone down little above two-thirds. In explanation, if for strong ales pitched at 52, gravity 37°, with the Scotch system I have found it necessary to rouse the tun thoroughly twice a day, from the third to the sixth day, or from the gravity of 30 to 17, so as to leave it undisturbed for the last two days at least. The work should be closely watched at this period, to prevent any part of the close head falling.

The attenuation should in no case proceed at the rate of less than one pound every twenty-four hours; so long as the attenuation proceeds at above one pound, there is no danger.

The period at which ales above the gravity of 23 should be cleansed into casks or skimmed, is when the attenuation has gone down about two-thirds, or when the heat has reached 74°, whether the attenuation has gone down two-thirds or not.

The great advantage of completing the fermentation in the squares, is that you insure your attenuation being conducted to nearly any point required, whilst by finishing the fermentation in casks, it is impossible; you cease in fact to have any control, hence great irregularity in the attenuation and consequently flavour and condition.

Let a brewer's experience or scientific knowledge be ever so great, not one yet has been enabled to ensure *a perfect uniformity in all his fermentations*. There are many causes operating to produce this irregularity.

First, the presence of sulphur in all hops, and more or less in malt. Second, the high temperature at which fermentations are generally conducted. Third, the imprudent arrangement of the plant, rendering perfect cleanliness impossible, in this I refer particularly to the quantity of metal pipe, and wort pumps. Fourth, electricity. Fifth, the want of a uniform character, quality, and colour in malt.

A perfect fermentation has several distinct changes, with the rise of the carbonic acid gas you have a pungent aroma, and vinous to the smell.

The first appearance should be a creamy white round the edge of the tun, gradually extending all over the surface. The second is termed the cauliflower head; this is the period which detects anything wrong; if the curling head be in broad flat flakes it is wrong. The third is the fine, clean, rocky head, and should rise high of a brownish white. This head is succeeded by a light, yeasty head, which falls a little. The gas is now rising with a vinous pungency, and is succeeded by the head again rising, and gradually produces a closer yeasty head, air bubbles forming to the top and bursting, giving out the gas in constant succession.

Of all unhealthy fermentations, that called the boiling is the most common, and like others is produced from unsoundness in the wort, or bad yeast; it is attended with a faint curl in patches, and runs into a blistering appearance with no depth of head, pungent but not healthy, the attenuation not going down in proportion to the rise of temperature the whole surface is in commotion.

In cool, consequently slow fermentation, it is advisable

to have the tuns well covered in, to exclude the action of the atmosphere until the head be sufficiently formed to protect it.

In active fermentation, the attenuation should go down in the proportion of 1 lb. to every degree in temperature at least.

My conclusions are—First, that in all rapid or high fermentation, above 75, a portion of vinegar is formed, which must serve more or less (according to the degree of rapidity or heat of the fermentation) as an acetous ferment to the rest. Second, that in all beer above a certain gravity, the cool fermentation (highest temperature 70 upon the skimming system) produces the most soft, full-flavoured, and perfect beverage.

COOL FERMENTATION.

The beneficial effect of a very low, consequently slow fermentation, is mainly obtained in strong ales by the slow but perfect action of the yeast, ultimately leaving the body of the wort fine; it is never safe to leave this fermentation at any period, unless the attenuation is proceeding at the rate of 1 lb. at least every twenty-four hours; the pitching heat should be about 50°, with a gravity of 35 lbs., the first two days should show an attenuation of 2 lbs., but on the fourth day, when the heat should have reached 55°, the attenuation should proceed at the rate of from 3 to 6 lbs. in the twenty-four hours, until it reaches the heat of 60° to 65°. The difference in the process for producing this soft and full-flavoured ale is, first in having only one mash, and by judiciously

sparging, so as the most effectually to wash out as much of the extract (created by the mash) as possible in the required quantity of wort. Second, to boil a shorter time to procure to the greatest extent the aroma of the hop and not too much of the bitter, at the same time the boiling must be continued in all cases, until the wort, as it is termed, parts well; that is, upon drawing a sample, the flock or floating mass, composed of sediments, show distinctly and between the interstices, the wort should be perfectly bright, this will usually occur with wort thus obtained after forty minutes boiling; but I always boil the wort one hour and a quarter, the *hops* for such ale should boil only one hour. Ales of this strength are but in little request, neither is the slow process advised for the adoption of public brewers, it is too expensive from loss of time and occupation of room. But it is the most perfect.

Wishing to make this work comprehensible and available to all, I will describe two brewings of eight bushels each upon the most approved system. The first being of the strength mostly in consumption, and retailed at 4*d.* per quart.

BREWING, No. 1.

ALE.

OBTAINING from malt weighing 40 lbs. per bushel, from $3\frac{1}{4}$ to $3\frac{1}{2}$ barrels, or 126 gallons, of 24 lbs. gravity; 8 bushels malt, and 8 lbs. best East Kent hops. Thermometer 49.

Turn into mash-tub $1\frac{1}{2}$ barrels of liquor at 180° , let it cool to 168° , if malt is pale 170° , if higher dried the former. Then add the malt, thoroughly mash for fifteen minutes, and then turn on from under the false bottom of mash-tub if you can, if not on top, one barrel more liquor at 180° increasing to 185° , continue the mashing for thirty-five minutes, then cover up close, let it stand one hour and forty minutes, after which set tap, sparging on equally half-barrel of liquor at 190 , let all this drain close off, you should then have two barrels of wort in the underback, if you have only one copper, or having a copper-back, this wort should be instantly pumped into it. Having shut the tap off, mash again ten minutes with *two barrels* of liquor at 185 , let it stand fifteen minutes to settle, then turn the taps on and sparge as before half-barrel liquor at 190 ; this will be all the liquor required, and this second wort, if the malt is good, will drain sufficiently dry to give you in underback $2\frac{3}{4}$ barrels.

Your copper should be large enough to boil the whole

at once, otherwise the first two barrels of wort when in copper, should weigh 32 lbs., boil this one hour and a quarter, it will give in fermenting-tun at least $1\frac{1}{2}$ barrel weighing 40 lbs. The second boiling, $2\frac{3}{4}$ barrel wort in copper, should weigh 8 to 9 lbs., boil this two hours (but this second boiling must at all times be regulated according to the gravity you require your beer), this will give at least two barrels in fermenting-tun, weighing at least 12 lbs.

For ale of this gravity your heat for pitching should be 61° , with 1 lb. of good fresh yeast to each barrel, or should the yeast not be lively, $1\frac{1}{2}$ lb.

In no stage of the fermentation should the heat be allowed to get higher than 74° , if so, cleanse into casks when the attenuations have got down 13 lbs. If at any time your fermentations be sluggish and the head *not* rising well, add $\frac{1}{2}$ lb. more yeast per barrel, well rousing it every three hours until the head rises as it should do.

BREWING, No. 2.

STRONG ALE AND TABLE BEER.

OBTAINING two barrels of strong ale 35 lbs. gravity, and $1\frac{1}{2}$ barrel table ale of 11 lbs., from 8 bushels of good pale malt, and 10 lbs. of the best hops, and 2 lbs. extra for the table.

Follow the same directions precisely as to heat and quantity as former brewing, except that, instead of sparging half-barrel, sparge $1\frac{1}{2}$ barrels, you will then have three barrels of wort in copper, of a weight above 25 lbs., boil this about one hour and three quarters, it should then weigh in copper about 33 lbs. to 34 lbs. ; if so let off and when cooled to 59 let into tun, when it will weigh 35 lbs. The evaporation causing this increase of gravity, there should be in tun a little above two barrels.

As soon as the first wort is well drained off the goods in mash-tun, turn on $2\frac{1}{4}$ barrels of liquor at 175, mash fifteen minutes, and let it stand twenty minutes more, then run it off, there will be $2\frac{1}{2}$ barrels. This being the second wort is for table beer, and will weigh at least 6 lbs. after boiling with the previous hops, and an additional 2 lbs. of fresh hops for $2\frac{1}{2}$ to 3 hours, turn in coolers, it will weigh at least 11 lbs.

The best ale should be pitched at 59, with $1\frac{1}{2}$ lb. of good fresh stillion yeast per barrel, or 2 lbs. if not lively, and as in former brewing the heat should not exceed 74, there is no danger at 75. But my plan is to attenuate to about two-thirds, at as much below 75 as I can, and then skim, keeping the head skimmed off at first every

two hours, until the head almost ceases to come up, leaving not quite one inch of head. In the fermentation of these strong worts, more attention is necessary than in weaker ones; for, after the second day, you will generally find it necessary to continually rouse, say every three hours, in order to get your fermentation active, to carry your attenuation sufficiently low, in anything like reasonable time. When the last head is thrown up, being somewhat less than one inch thick, cease skimming, and let it lay in the tun two days, then cleanse into casks; it will be quite fine: leave the bungs out for two days (one day is mostly sufficient), then put into each cask about a quarter of a pound of dry fresh hops, and bung close down. This ale will prove in excellent drinking order at the expiration of one week.

The table beer should be pitched at 64, with 1 lb. of yeast per barrel; this weak beer, or any under 18 lbs. should be attenuated not exceeding one-half, and should weigh not less than 11 lbs., and when attenuated below 6 lbs., cleanse into cask, keeping the casks well and constantly filled up.

YEAST.

Yeast was formerly an important item to the brewers, but of late the bakers, both private and public, use only the German yeast or that made expressly for the purpose, except that produced by those brewers who adopt the Yorkshire system of fermentation, first introduced by the grandfather of the present proprietor of the old Rotherham Brewery, R. J. Bentley, Esq., J.P. I know brewers upon this system not brewing above 6000 quarters a year, taking between 20*l.* and 30*l.* per week for yeast.

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This Yorkshire system of fermentation consists, first, by having the squares made of stone, with an outer casing of the same admitting water between, by which means a perfect control of the temperature of wort is attained at all seasons. Second, at the required height the square has a covering of stone leaving an opening in the centre of about 18 inches in diameter, round which is a rim, over which the yeast works into the thus created yeast receiving-back; after the first day, according to the judgment of the brewer, the wort or beer is occasionally kept agitated by pumping the wort from bottom into receiving-back, and then well roused and let into wort by a valve, ultimately the yeast that works over into receiving-back remains until the active fermentation ceases, when the yeast is let down into casks for sale; it usually takes seven days to complete the work in square, when the beer is quite bright and far more sparkling than by any other system of fermentation, from the fact of the retention of so great a quantity of carbonic acid gas.

Although this Yorkshire system has this great pecuniary advantage, I am of opinion the most perfect system of fermentation is that pursued by the Burton brewers, and to which I attribute the superiority of their pale ales quite as much, indeed more, than to the water.

PLAN OF BREWING BOOK.

BREWING, No. 1.—THERMOMETER 50.

Ale, 24 lbs. gravity; 8 bushels pale malt, weighing 40 lbs. per bushel; 8 lbs. good hops, giving $3\frac{1}{2}$ barrels, or 126 gallons.

ALE.—QUALITY.																
Date.	Quantity of Malt.	Hops.	Mashings.	Sparge.	Barrels turned on.	Heat.	Barrels in Underback.	Gravity.	Extract.	Barrels in Copper.	Barrels in Square.	Gravity.	Extract in Square.	Gravity per Barrel.	Extract per Quarter.	
1849. Mar. 24	8 bushels.	8 lbs.	1st.	•	1 $\frac{1}{2}$	168										
					1	180										
				1st.	$\frac{1}{2}$	190	2	32	64	2	1 $\frac{1}{2}$	40	60			
			2nd.		2	185		8	22	2 $\frac{1}{2}$	2	12	24			
					$\frac{1}{2}$	190	2 $\frac{1}{2}$									
					5 $\frac{1}{2}$		4 $\frac{1}{2}$		86	4 $\frac{1}{2}$	3 $\frac{1}{2}$		84	24	84	

POPULATION.

Statement showing the Progressive Increase of Population of the United Kingdom of Great Britain and Ireland since 1672; in England and Wales since 1700; and Scotland since 1781. *Vide* London Statistical Society to 1821.)

Periods.	The Number of Persons in			Periods.	Ireland. Total Number of Persons.	Authorities.
	England and Wales.	Scotland.	Total Great Britain.			
				1672	1,320,000	Sir W. Petty.
				1695	1,034,102	Captain South.
				1712	2,099,094	Thomas Dobbs.
1700	5,475,000			1718	2,169,048	Ditto.
1710	5,240,000			1725	2,317,374	Ditto.
1720	5,565,000			1726	2,309,106	Ditto.
1730	6,796,000			1731	2,010,221	Estab. Clergy.
1740	6,064,000			1754	2,372,634	Tax Collectors.
1750	6,467,000			1767	2,544,276	Ditto.
1760	6,736,000			1777	2,690,556	Ditto.
1770	7,428,000			1785	2,845,932	Ditto.
1780	7,953,000			1788	4,040,000	G. P. Bushe.
1781	8,203,000	1,470,000	9,673,000	1791	4,206,614	Tax Collectors.
1791	8,675,000	1,500,000	10,175,000	1792	4,098,226	Dr. Beaufort.
1801	9,343,438	1,599,208	10,942,646	1805	5,395,456	T. Newenham.
1811	10,791,115	1,805,688	12,596,803	1814	5,937,856	Census of 1812.
1821	12,358,175	2,033,356	14,391,631	1821	6,801,827	TOTAL.
1831	13,897,187	2,468,824	16,366,011	1831	7,734,365	24,100,376
1841	15,911,725	2,753,036	18,664,761	1841	8,205,382	26,870,143
1851	17,927,601	2,888,742	20,816,343	1851	6,552,385	27,368,728
1861	20,061,725	3,061,251	23,122,976	1861	5,764,543	28,887,519

NATIONAL DEBT, FROM 1688.

1688	£664,263	1849	£790,927,017
1701	16,394,702	1850	787,029,162
1714	54,145,363	1851	782,869,382
1727	52,092,235	1852	779,365,204
1762	146,682,844	1853	771,335,801
1801	502,186,182	1854	775,041,272
<i>Vide</i> 'Sinclair,' vol. 1, p. 446.		1855	793,379,199
1823	838,829,666	1856	807,981,788
<i>Vide</i> 'London Statistical Soc.,' p. 129.		1857	805,282,699
1847	790,348,351	1858	804,445,483
1848	791,809,338	1859	802,449,236
		1860	801,477,741
		1861	799,949,807

REVENUE.—SINCE THE CONQUEST.

	Commence- ment of each Reign.	Annual Income.		Commence- ment of each Reign.	Annual Income.
William Conqueror.	1066	£ 400,000	James II. . . .	1684	2,001,855
William Rufus . . .	1087	350,000	William III. . . .	1688	3,895,205
Henry I.	1100	300,000	Anne (at the Union)	1706	5,691,803
Stephen	1135	250,000	George I.	1714	6,762,643
Henry II.	1154	200,000	George II.	1727	8,522,540
Richard I.	1189	150,000	George III.	1760	15,572,971
John	1199	100,000	„	1793	17,707,983
Henry III.	1214	80,000	„	1798	30,492,995
Edward I.	1272	150,000	„	1799	35,311,018
Edward II.	1307	100,000	„	1804	45,515,152
Edward III.	1327	154,139	„	1805	50,555,190
Richard II.	1377	130,000	„	1810	67,825,597
Henry IV.	1399	100,000	„	1813	68,302,860
Henry V.	1413	76,643	„	1814	70,240,313
Henry VI.	1422	64,976	„	1815	71,151,142
Edward IV.	1460		„	1816	62,635,711
Edward V.	1483	100,000	„	1817	52,372,403
Richard III.	1483		George IV.	1820	55,063,693
Henry VII.	1485	400,000	William IV.	1830	50,786,683
Henry VIII.	1509	800,000	Victoria	1837	48,742,656
Edward VI.	1547	400,000	„	1843	46,965,631
Mary	1553	450,000	„	1845	54,060,350
Elizabeth.	1558	500,000	„	1848	51,546,000
James I.	1602	600,000	„	1860	71,104,127
Charles I.	1625	895,819	„	1861	70,569,999
The Commonwealth	} 1648 {	1,517,247			
Charles II.		1,800,000			

M A L T.

Statement of the Number of Bushels of Malt charged with Excise Duty, in each Year, in England and Wales, 1697 to 1826, to the 5th July in each Year as far as 1826, and to the 5th January in each Year afterwards.

The Malt Tax was first imposed in the reign of William III., in 1697, but first attempted during the Commonwealth.

Years.	Number of Bushels.	Duty per Bushel.	Price.	Years.	Number of Bushels.	Duty per Bushel.	Price.	
1697	30,000,000	6½d.	* Per quarter contract price at Greenwich Hospital, pp. 58-72. 1830.	1793	24,453,901		48s. 3d.	
to				1794	25,595,351			
1713				1795	24,715,955			
				1796	28,142,815			
1714	30,200,000			1797	30,923,923		84s. 0d.	
to				1798	26,967,367			
1724				1799	31,776,690			
				1800	14,492,537			
1725	26,864,568	..	29s. 0d.	1801	18,573,251	2s. 5d.		
to				1802	30,360,173			
1735				1803	30,493,707			
				1804	22,542,859			
1736	25,720,752		27s. 3d.	1805	22,347,999	4s. 5¾d.	85s. 7d.	
to				1806	27,492,395		76s. 0d.	
1743				1807	24,920,289		73s. 1½d.	
				1808	22,411,138		76s. 1½d.	
1744	27,232,208			1809	22,818,143		84s. 5½d.	
to				1810	24,288,426		84s. 5d.	
1753				1811	26,801,614		73s. 6d.	
				1812	18,663,178		98s. 6d.	
1754	26,146,789	0s. 9¼d.	24s. 0d.	1813	22,385,292		96s. 6d.	
to				1814	26,118,612		77s. 8d.	
1781				1s. 4¼d.	1815		27,073,982	69s. 7½d.
					1816		26,260,549	69s. 4½d.
1782	28,015,043	..	40s. 3d.	1817	17,139,712	2s. 5d.	86s. 10½d.	
1783	17,238,809			1818	26,462,932		83s. 9d.	
1784	26,609,088			1819	22,344,271		72s. 11¾d.	
1785	27,096,338			1820	24,535,005		68s. 8¼d.	
1786	22,770,022	1s. 7¼d.		1821	28,697,057	3s. 7¾d.	61s. 11d.	
1787	27,272,841			1822	25,151,507		52s. 8d½.	
1788	26,868,996			1823	26,873,937		59s. 11d.	
1789	24,250,510			1824	27,939,072		61s. 1d.	
1790	22,669,579	..	35s. 6d.	1825	28,553,399	2s. 7d.	71s. 10¼d.	
1791	27,923,505							
1792	28,694,962			1s. 4¼d.				

* The Duty was calculated at £750,000, being equal to 30,000,000 bushels, at 6d. per bushel.—*Vide Sinclair's History of the Revenue.*

MALT (*continued*).—UNITED KINGDOM.

Years.	Total Bushels of Malt.	Total Amount of Duty.		Years.	Total Bushels of Malt.	Total Amount of Duty.	
		£	s. d.			£	s. d.
1826	32,480,678	4,177,227	7 11	1837	40,551,149	5,665,200	0 0
1827	29,613,501	3,809,998	9 2	1838	40,550,566	5,216,967	15 10
1828	36,794,206	4,731,584	13 3	1839	39,939,941	5,211,799	4 2
1829	29,153,177	3,743,615	4 11	1840	42,456,862	5,139,805	13 8
1830	32,962,454	4,231,997	8 0	1841	36,164,448	5,592,478	1 2
1831	39,252,269	5,036,667	14 11	1842	35,851,394	4,889,252	8 10
1832	37,390,455	4,799,052	12 11	1843	35,693,890	4,848,584	8 11
1833	40,075,895	5,140,758	13 7	1844	37,187,186	4,827,951	0 1
1834	41,145,596	5,275,605	17 8	1845	36,545,990	5,027,062	18 7
1835	42,892,054	5,499,884	2 2	1846	41,969,000	4,937,959	0 8
1836	44,387,719	5,699,887	18 5				

Quantities of Malt charged with Duties of Excise in the United Kingdom; Quantities thereof Exported on Drawback, and Retained for Home Consumption. — *Vide* Par. Pap. 1862, Ninth Number.

Years.	Charged with Duty.	Exported on Drawback,* or Free of Duty.	Retained for Home Consumption.	Made free of Duty.†
1847	35,307,815	..	35,307,815	..
1848	37,545,912	..	37,545,912	..
1849	38,935,460	..	38,935,460	..
1850	40,744,752	..	40,744,752	..
1851	40,337,412	20,690	40,337,412	..
1852	41,072,486	51,160	41,072,486	..
1853	42,039,748	161,962	41,992,178	..
1854	36,819,360	199,655	36,812,727	..
1855	33,887,234	986,926	34,401,244	1,500,936
1856	37,980,041	1,313,064	41,579,124	4,912,147
1857	40,298,513	1,421,992	44,545,469	5,668,958
1858	41,605,665	1,549,213	45,105,773	5,049,321
1859	44,219,300	1,761,439	47,746,289 §	5,288,428
1860	38,952,513	1,797,099	41,754,050 §	4,598,636
1861	44,141,422	1,284,514	46,650,100 §	3,793,192

* The Malt exported includes the estimated Quantity used in Beer exported.

† From 1st January to 1st October, 1861, when the Duty was repealed.

‡ On the 14th of August, 1855, Malt was made free of Duty for Distillery purposes and for Exportation, and Spirits were allowed to be distilled Free of Duty for Exportation.

§ Includes Duty Free for Distillers.

1870 53,175,482

IRELAND.—Statement of the Number of Bushels of Malt which paid Duty for Home Consumption in Ireland, in each Year, from 5th January, 1786, to 5th January, 1825, distinguishing for each Year the rate at which Duty was paid.—(Vide Par. Pap. 97, Sept. 1831).

Years.	Number of Bushels.	Rate of Duty per Bushel.	Years.	Number of Bushels.	Rate of Duty per Bushel.
1786	4,446,343	7d.*	1808	2,372,293	
1787	3,500,890		1809	2,597,758	
1788	3,654,028		1810	2,958,617	
1789	3,901,648		1811	2,522,543	
1790	3,646,706		1812	2,681,842	
1791	4,607,953		1813	2,206,206	
1792	4,775,390		1814	2,967,603	2s. 6½d. & 3s. 3d.
1793	4,676,835		1815	3,156,175	3s. 3½d.
1794	5,039,899		1816	2,664,466	3s. 3½d. & 4s. 5d.
1795	4,873,984	9½d.	1817	1,879,721	4s. 5d. & 2s. 4½d.
1796	4,697,153	1s. 3d.	1818	1,385,486	
1797	4,956,584		1819	1,783,636	2s. 4½d.
1798	4,672,989		1820	1,742,444	
1799	4,413,817	1s. 5d.	1821	1,793,671	
1800	3,311,463	1s. 6½d.	1822	1,949,315	
1802	1,030,175		1823	1,756,391	3s. 6½d.
1803	3,611,579		1824	1,702,395	2s. 7d.
1804	3,553,762	1s. 9½d.	1825	2,107,752	2s. 7d.
1805	2,807,535	1s. 9½d. & 2s. 3½d.	1859	2,964,732	
1806	2,766,867	2s. 3½d.	1860	2,523,983	
1807	2,814,418	2s. 6½d.	1861	2,865,919	

SCOTLAND.—Statement of the Number of Bushels of Malt charged with Excise Duty, in each year, in Scotland, 1787 to 1825. Years ending 5th April. Tax imposed 1725.

Years.	Number of Bushels.	Duty per Quarter.	Years.	Number of Bushels.	Duty per Quarter.
1781	1,802,905	4s.	1808	1,181,724	
1788	1,768,157	5s. 3d.	1809	796,904	
1789	1,697,950		1810	845,925	
1790	1,592,937		1811	1,143,869	
1791	1,794,667	6s. 3d.	1812	954,653	
1792	2,014,525	6s. 3d. & 5s. 3d.	1813	706,658	
1793	1,768,987		1814	1,306,440	
1794	1,728,106		1815	1,338,332	
1795	1,745,850		1816	1,195,528	
1796	1,240,618		1817	1,129,992	
1797	2,150,849		1818	1,390,515	
1798	1,994,680		1819	1,454,320	28s.
1799	2,439,830		1820	1,182,208	
1800	903,991		1821	1,305,659	
1801	626,365		1822	1,403,177	
1802	1,769,910	13s. 5d.	1823	1,616,590	20s. 8d. & 5 per cent.
1803	1,644,104		1824	2,788,608	
1804	1,103,115	29s. 5d. barley	1825	3,925,847	
1805	1,171,609	24s. 1d. bigg	1854	3,412,950	
1806	1,282,984		1855	3,268,101	
1807	1,298,651				

* The Duty on Malt commenced 25th March, 1786, at the above rate of 7d. per Bushel.

COCOA.

Quantity entered for Home Consumption in the United Kingdom.

Years.	lbs.	Rate of Duty.	Years.	lbs.	Rate of Duty.
1814	224,497	1s. 10d.	1834	1,173,795	
1815	186,555	2s. 0s.	1835	1,084,170	
1816	142,880		1836	1,130,168	
1817	175,449		1837	1,416,613	
1818	201,358		1838	1,601,787	
1819	177,566		1839	1,606,800	
1820	311,789		1840	2,014,678	2 $\frac{1}{10}$ d. Br. P. 6 $\frac{1}{10}$ d. Fr.
1821	278,737		1841	1,928,847	
1822	226,259		1842	2,246,473	1 $\frac{1}{10}$ d. Br. P. 4 $\frac{1}{10}$ d. Fr.
1823	258,025		1843	2,549,620	
1824	286,657		1844	2,586,798	
1825	318,941		1845	2,594,458	
1826	347,250		1846	2,960,128	
1827	344,775		1856	3,634,138	
1828	385,793		1857	2,647,476	
1829	354,407		1858	2,860,034	
1830	393,847		1859	3,480,983	
1831	426,609	2d. Br. P. 6d. Foreign	1860	3,481,484	1d.
1832	1,150,193		1861	3,576,384	
1833	1,268,287				

COFFEE.—GREAT BRITAIN.

Years.	Quantities retained for Home Consumption.	RATES OF DUTY.				TOTAL NET REVENUE.	
		Excise.		Customs.		£	s. d.
		Plantation. lbs.	East India. lbs.	Plantation. per lb.	East India. per lb.		
1784	lbs. 595,672	6½d.	2s. 10½d.	4d.	4d.		
1785	75,264	no Excise Duty					
1786	From 10th May, 1787.						
1787	108,677	6½d.	1s. 8d.	4½d.	4½d.	18,233	0 4
1788	758,403	"	"	"	"	41,330	9 6
1789	930,141	"	"	"	"	46,286	17 11
1790	973,110	"	"	"	"	50,799	7 4
1791	1,047,276	"	"	"	"	57,659	5 11
1792	946,666	"	"	"	"	48,825	6 2
1793	1,070,438	"	"	"	"	67,357	11 9
1794	969,512	"	"	"	"	74,430	4 6
1795	1,054,588	1s. 1d.	2s. 2½d.	"	"	65,788	3 7
1796	396,953	"	"	"	"	30,048	6 11
1797	637,001	"	"	4½d.	4½d.	92,469	3 11
		"	"	4½d.	4½d.	78,966	6 9
1798	976,487	"	"	4½d.	4½d.	74,001	2 2
1799	682,432	"	"	"	4½d. & 2l. Per cent. ad valorem.	142,867	11 5
1800	822,590	"	"	"	"	106,076	2 7
1801	750,861	"	"	4½d.	4½d.	72,183	2 3
1802	829,435	"	"	5d.	5d.	72,493	15 8
1803	905,582	"	1s. 6d.	5½d.	5½d. & 16l. 16s. 3d. Per cent. ad valorem.	151,398	0 11
1804	1,061,327	"	"	6½d.	6½d. & 3l. 2s. 6d. Per cent. ad valorem.	120,172	17 7
1805	1,201,736	"	"	6½d.	6½d. & 3l. 3s. 9d. Per cent. ad valorem.	152,759	6 9
1806	1,157,014	"	"	6½d.	¾d. & 3l. 7s. 11d. Per cent. ad valorem.	161,245	11 4
1807	1,170,164	"	"	"	"	229,738	0 11
1808	1,069,691	3d.	6d.	4d.	4d.	245,886	8 4
1809	9,251,837	"	"	"	4d. & 3l. 6s. 8d. Per cent. ad valorem.	175,567	1 4
1810	5,308,096	"	"	"	"	212,890	12 10
1811	6,390,122	"	"	"	"	255,148	7 1
1812	8,118,734	"	"	"	"		
1813	8,788,601	"	"	4½d.	4½d. & 3l. 19s. 2d. Per cent. ad valorem.		
1814	6,324,267	"	"	"	5½d. per lb. only.	213,518	18 4
1815	6,117,311	"	"	"	"	258,762	18 3
1816	7,557,471	"	"	"	"	290,834	0 11
1817	8,688,726	"	"	"	"	298,540	5 1
1818	7,967,857	"	"	"	"	250,106	4 10
1819	7,429,352	1s.	1s. 6d.	repealed from July 5, 1819		292,154	8 10

Vide Parliamentary Paper, 340.—1829.

COFFEE.—UNITED KINGDOM.

An Account of the quantity of Coffee from 1820 down to 1861, both inclusive; the Quantities entered for Home Consumption in the United Kingdom, the Rates of Duty, and the total annual produce of the Duty.

Years.	Quantities retained for Home Consumption in the United Kingdom.	Amount of Duty Received thereon.	RATES OF DUTY.		Per lb.
			£	s. d.	
1820	7,103,409	342,828	Of any British Possession in America or Africa	0	1 0
			From any within the limits of the East India Company's Charter	0	1 6
			All other Coffee	0	2 6
1821	7,593,001	384,283			
1822	7,669,351	387,342			
1823	8,454,920	428,613			
1824	8,262,943	420,988			
1825	11,082,970	315,804	Of any British Possession in America ..	0	0 6
			Of any British Possession within the limits of the East India Company's Charter ..	0	0 9
			Of any other place	0	1 3
1826	13,199,235	336,570	Of any British Possession in America ..	0	0 6
			Of Sierra Leone	0	0 9
			Imported from any British Possession within the limits of the East India Company's Charter	0	0 9
			From any other place within those limits ..	0	1 0
			Otherwise imported	0	1 3
1827	15,560,117	399,690			
1828	17,114,635	440,245			
1829	19,466,028	498,951			
1830	22,669,253	579,363			
1831	22,715,807	583,751			
1832	22,952,527	598,038			
1833	22,741,984	591,241			
1834	23,785,095	614,434			
1835	23,295,046	652,124	Of any British Possession in America, or within the limits of the East India Company's Charter or of Sierra Leone	0	0 6
			Imported from any British Possession within the limits of the East India Company's Charter, not being the produce thereof ..	0	0 9
			From any other place within those limits ..	0	1 0
			Otherwise imported	0	1 3
1836	24,947,690	691,616			
1837	26,346,961	696,645			
1838	25,765,673	685,082			
1839	26,789,945	779,115			
1840	28,664,341	921,551	Of any British Possession in America, or within the limits of the East India Company's Charter or of Sierra Leone ..	0	0 6 ¹ / ₁₀

COFFEE.—UNITED KINGDOM—(continued).

An Account of the quantity of Coffee from 1820 down to 1861—(continued).

Years.	Quantities retained for Home Consumption in the United Kingdom.	Amount of Duty Received thereon.	RATES OF DUTY.				Per lb.		
			£	s.	d.	£	s.	d.	
			Imported from any British Possession within the limits of the East India Company's Charter, not being the produce thereof ..				0	0	9 $\frac{3}{4}$
			From any other place within those limits ..				0	1	0 $\frac{1}{2}$
			Otherwise imported				0	1	3 $\frac{1}{4}$
1841	28,370,857	887,747							
1842	28,519,646	768,886							
1843			Of and from British Possession				0	0	4 $\frac{1}{2}$
1846	36,514,007		Of and from Foreign Countries				0	0	8 $\frac{1}{2}$
1848	37,106,207								
1849	34,499,374								
1850	31,211,358								
1851	32,504,545								
1852	34,978,432								
1853	36,983,122								
1854	37,350,904		..	..	..	..	..	0 0 3
1855	35,764,564								
1856	34,995,357								
1857	34,353,123								
1858	35,208,832								
1859	34,328,876								
1860	35,499,592								
1861	35,377,675								

IMPORTS.—COFFEE.

Years	West India.	Duty.	East India.	China, &c.	Cuba.	Duty.	Brazil.	Duty.	Mexican.
1840	9,937,367	6 $\frac{1}{10}$ d.	4,513,714	1,583	750	1s. 3 $\frac{1}{2}$ d.	22,625	1s. 3 $\frac{1}{2}$ d.	51,151
1841	10,638,157		6,926,401	5,647	317		1,226		2,066
1842	9,340,794	4 $\frac{1}{2}$ d.	7,973,594	5,427	200,503	0s. 8 $\frac{1}{2}$ d.	47,015	0s. 8 $\frac{1}{2}$ d.	606,819
1843	9,057,371		11,115,477	11,037	418,825		307,243		3,229,303
1844	7,712,191		11,844,250	19,438	371,236		670,308	0s. 6 $\frac{1}{10}$ d.	5,046,709
1845	7,190,282		13,614,393	6,195	160,704		980,442		8,065,406
1846	6,881,677		16,909,726	7,219	40,093		2,330,578		7,254,823

COCOA.

Years.	West India.	Duty.	Brazil.	Duty.	Others.
1840	..	2½ <i>d.</i>	2		184
1841	1,930,421		96	6¾ <i>d.</i>	86
1842	2,246,988	1½ <i>d.</i>	284		27
1843	2,548,277		424	4½ <i>d.</i>	919
1844	2,535,409		48,544		2,845
1845	2,563,266		25,673		540
1846	2,925,859		32,582		1,687
1860	3,230,257	1 <i>d.</i>		1 <i>d.</i>	

Thus by the *protection* given to the produce of Slave labour against the free labour of England, in the reduction of the duty on Cocoa one-third, the consumption was raised in six years (1840 to 1846) from 2 lbs. to 32,482; and in Coffee, in Brazil and Cuba alone, by the reduction of duty from 1*s.* 3¾*d.* to 6¾*d.*, the consumption increased in six years from 23,380 to 2,371,671 lbs., yet the duty on Malt remains the same in 1862 as 1840, hence the decline in the consumption of Malt liquor can excite no surprise.

COMPARISON OF PRICE OF TEA, COFFEE, SUGAR, AND MALT.

	1818.	1828.	1838.	1848.	1862.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Coffee, per cwt.	12 2 0	8 17 0	7 6 6	5 17 6	5 5 0
Tea, per lb.	0 6 0	0 5 0	0 4 3	0 3 1½	0 3 0
Sugar, per cwt.	4 0 0	3 5 0	3 1 0	1 18 0	1 18 0
Malt	3 12 0	3 1 7	..	3 3 0	3 8 0

T E A.

An Account of the Quantities of Tea retained for Home Consumption in the United Kingdom; the Rates of Duty chargeable thereon, and the receipt of Duty by the Customs and Excise in each year, from 1660 to 1861 inclusive.

Year.	Quantities of Tea retained for Home Consumption in the United Kingdom.	Rates of Duty Chargeable on Tea in Great Britain by the Customs and Excise.		Net Receipt of Duty on Tea (Customs and Excise)	Year.	Quantities of Tea retained for Home Consumption in the United Kingdom.	Rates of Duty Chargeable on Tea in Great Britain by the Customs and Excise.		Net Receipt of Duty on Tea (Customs and Excise)				
		lbs.	per cent. ad valorem.				per lb.	lbs.		per cent. ad valorem.	per lb.		
1660	143½	8d. per gallon upon Tea sold at Coffee Houses.			1757	3,723,032	43l. 18s. 7½d. and 1s.		Not ascertainable from any existing records.				
1669					4,713	Sold at 60s. per lb.				1758	3,520,634	" "	
1660										818	Total quantity for six years.		
1678	20,000	5s. per lb. and 5 per cent.											
1679					20,000								
1684										831,438			
1689	960,049	Average each year.											
1697					1,200,000								
1699										1,200,000			
1700	1,200,000												
to					1,200,000				1767				
1710									1,200,000				1768
1717	1,200,000												1769
to					1,200,000								1770
1727									1,200,000				1771
1732	1,200,000												1772
to					1,200,000								1773
1739									1,200,000				1774
1740	1,200,000												1775
1741					1,200,000								1776
1742									1,200,000				1777
1743	1,200,000												1778
1744					1,200,000								1779
1745									1,200,000				1780
1746	1,200,000												1781
1747					1,200,000								1782
1748									1,200,000				1783
1749	1,200,000												1784
1750					1,200,000								1785
1751									1,200,000				1786
1752	1,200,000												1787
1753					1,200,000								1788
1754									1,200,000				1789
1755	1,200,000												1790
1756					1,200,000								1791

TEA.—(continued.)

Year.	Quantities of Tea retained for Home Consumption in the United Kingdom.		Rates of Duty Chargeable on Tea in Great Britain by the Customs and Excise.		Net Receipt of Duty on Tea (Customs and Excise)	Year.	Quantities of Tea retained for Home Consumption in the United Kingdom.		Rates of Duty Chargeable on Tea in Great Britain by the Customs and Excise.		Net Receipt of Duty on Tea (Customs and Excise)
	lbs.	per cent. ad valorem.	per lb.				lbs.	per cent. ad valorem.	per lb.		
1792	17,666,583	12½. 10s.	- - nil.		651,885						
1793	17,492,686	"	- - -		649,121						
1794	18,665,365	"	- - -		671,974						
1795	21,342,845	20½. 0s. 0d.	- - -		759,202	1826	29,045,852	100½. 0s. 0d.	96½. 0s. 0d.	3,738,043	
1796	20,324,707	"	- - -		925,676	1827	29,931,178	"	"	3,705,590	
		If sold at or above 2s. 6d. per lb.	If sold at or under 2s. 6d. pr. lb.			1828	29,305,757	"	"	3,446,843	
1797	18,858,427	30½. 0s. 0d.	20½. 0s. 0d.	1,088,878		1829	29,495,205	"	"	3,321,723	
1798	22,483,258	35½. 0s. 0d.	20½. 0s. 0d.	1,214,915		1830	30,046,935	"	"	3,387,097	
1799	22,775,165	"	"	1,278,589		1831	29,997,055	"	"	3,344,919	
1800	23,271,799	40½. 0s. 0d.	20½. 0s. 0d.	1,222,087		1832	31,546,381	"	"	3,509,839	
1801	23,730,150	50½. 0s. 0d.	20½. 0s. 0d.	1,423,660		1833	31,829,620	"	"	3,444,102	
1802	25,400,294	"	"	1,632,467		1834	34,969,651	1s. 6d., 2s. 3d., and 3s.		3,589,361	
1803	24,877,450	95½. 0s. 0d.	65½. 0s. 0d.	1,929,614		1835	36,574,004	"	"	3,832,427	
1804	22,057,046	"	"	2,599,739		1836	49,142,236	All sorts, 2s. 1d.		4,674,585	
1805	24,266,083	95½. 2s. 6d.	65½. 2s. 6d.	3,336,524		1837	30,625,206	"	"	3,223,840	
1806	22,249,458	96½. 0s. 0d.	- - -	3,446,671		1838	32,351,593	"	"	3,362,033	
1807	23,819,420	"	- - -	3,520,174		1839	35,127,287	"	"	3,658,803	
1808	25,226,642	"	- - -	3,905,295		1840	32,252,628	"	2s. 2½d.	3,472,864	
1809	21,065,843	"	- - -	3,692,705		1841	36,675,667	"	"	3,973,668	
1810	24,486,408	"	- - -	3,647,738		1842	37,355,911	"	"	4,088,957	
1811	23,464,532	"	- - -	3,752,111		1843	40,293,393	"	"	4,407,642	
1812	24,584,405	"	- - -	3,825,980		1844	41,363,770	"	"	4,524,193	
1813	25,409,855	"	- - -	3,776,030		1846	46,743,085	"	"		
1814	24,389,401	"	- - -	3,958,955		1847	46,324,298	"	"		
1815	25,917,853	"	- - -	4,058,092		1848	48,734,789	"	"		
1816	22,693,992	"	- - -	3,362,497		1849	50,021,576	"	"		
1817	24,605,794	"	- - -	3,431,364		1850	51,172,302	"	"		
1818	26,527,531	"	- - -	3,872,694		1851	53,949,059	"	"		
		Sold at or above 2s. per lb.	Sold at or under 2s. per lb.			1852	54,713,034	"	"		
1819	25,241,693	100½. 0s. 0d.	96½. 0s. 0d.	3,689,805		1853	58,834,087	"	"		
1820	25,712,935	"	"	3,526,912		1854	61,953,014	"	"		
1821	26,754,587	"	"	3,738,428		1855	63,429,286	"	"		
1822	27,574,025	"	"	3,945,590		1856	63,278,212	"	"		
1823	27,093,015	"	"	3,848,122		1857	69,132,101	"	"		
1824	27,648,296	"	"	3,865,477		1858	73,195,685	"	"		
1825	29,232,174	"	"	4,031,019		1859	76,303,661	"	"		
						1860	76,816,394	"	"		
						1861	77,949,464	"	"		

ANNUAL AMOUNT OF OLD DUTY ON HOPS,

Of 1d. per Pound, grown in Great Britain for the last One Hundred and Thirty-nine Years.

Year.	£	s.	d.	Year.	£	s.	d.	Year.	£	s.	d.
1711	43,437	16	1	1756	48,106	0	0	1801	241,227	8	5½
1712	30,278	16	0	1757	69,713	0	0	1802	15,463	10	5½
1713	23,018	12	1	1758	72,896	0	0	1803	199,205	1	10½
1714	14,457	5	11	1759	42,115	0	0	1804	177,617	9	9
1715	44,975	7	6	1760	117,992	12	4	1805	32,904	12	7½
1716	20,354	16	5	1761	79,776	13	6	1806	153,102	16	10½
1717	54,669	2	8	1762	79,295	14	1	1807	100,071	15	2
1718	15,005	15	8	1763	88,315	16	7	1808	251,039	15	7
1719	90,317	19	0	1764	17,178	1	4	1809	63,952	18	2
1720	38,169	15	7	1765	73,778	7	6	1810	73,514	6	10
1721	61,362	6	5	1766	116,445	14	6	1811	157,085	19	2½
1722	49,443	0	4	1767	25,997	9	8	1812	30,561	19	3
1723	30,279	9	6	1768	114,002	0	0	1813	131,482	9	3
1724	61,271	7	2	1769	16,201	11	8	1814	140,292	6	2
1725	6,526	8	3	1770	101,131	2	11	1815	123,878	16	3
1726	85,013	13	9	1771	33,143	5	4	1816	46,302	5	8½
1727	69,409	2	10	1772	102,650	4	2	1817	66,522	2	5½
1728	41,494	8	9	1773	45,847	12	10	1818	199,465	13	6½
1729	46,441	0	0	1774	138,887	1	0	1819	242,076	2	2
1730	44,419	16	8	1775	41,597	0	3	1820	138,330	9	6½
1731	22,600	0	0	1776	125,691	0	0	1821	154,609	10	8½
1732	35,135	0	0	1777	43,581	12	2	1822	203,724	14	9½
1733	70,000	0	0	1778	159,801	2	10	1823	26,057	11	9½
1734	37,416	0	0	1779	55,800	0	0	1824	148,832	0	0½
1735	42,745	0	0	1780	122,724	4	4	1825	24,317	0	11½
1736	46,462	0	0	1781	120,218	9	0	1826	269,831	0	9½
1737	56,492	10	6	1782	14,895	12	5	1827	140,848	6	2½
1738	86,575	17	6	1783	75,716	14	4	1828	172,027	10	11½
1739	70,742	6	7	1784	94,359	17	8	1829	39,870	9	1
1740	37,875	12	2	1785	112,684	5	9	1830	88,047	8	1½
1741	65,222	8	4	1786	95,973	14	8	1831	174,880	1	2
1742	45,550	15	1	1787	42,227	3	4	1832	139,018	4	3
1743	61,072	12	9	1788	143,168	0	0	1833	156,905	7	0
1744	46,708	12	9	1789	104,063	7	4	1834	189,713	14	2½
1745	34,635	0	0	1790	106,841	9	4	1835	235,207	2	11½
1746	91,879	19	6	1791	90,059	1	10	1836	200,332	12	11½
1747	60,000	0	0	1792	162,112	19	5½	1837	178,578	3	0½
1748	87,000	0	0	1793	22,619	13	4½	1838	171,556	1	10½
1749	36,305	19	1	1794	203,663	2	0½	1839	205,556	7	7½
1750	65,000	0	0	1795	82,342	19	5	1840	34,091	16	1½
1751	73,954	0	0	1796	75,223	17	8	1841	146,159	1	6½
1752	79,000	0	0	1797	157,458	11	10½	1842	169,776	6	0½
1753	81,000	0	0	1798	56,032	1	6½	1843	133,431	11	0½
1754	112,000	0	0	1799	73,279	15	3	1844	140,322	17	2½
1755	82,157	0	0	1800	72,928	7	6½	1845	158,008	17	2½

GROWTH IN THE UNITED KINGDOM FROM 1846 TO 1861.

Year.	lbs.	Year.	lbs.	Year.	lbs.
1846	50,704,025	1852	51,102,494	1858	53,125,101
1847	45,134,365	1853	31,751,693	1859	68,496,958
1848	44,343,985	1854	9,877,126	1860	11,163,777
1849	16,650,915	1855	83,221,004	1861	23,958,491
1850	48,537,669	1856	55,868,624		
1851	27,042,996	1857	47,717,561		

OLD DUTY ON HOPS.

Calculation of the Hop Duty per Cwt. :—

	£	s.	d.
Original Duty 1d. per lb.	0	9	4
Three £5 per Cents. on ditto	0	1	4 $\frac{1}{2}$ $\frac{1}{8}$
1802—April 30, New Duty 1 $\frac{1}{2}$ $\frac{1}{8}$ d. per lb.	0	12	7 $\frac{1}{8}$
<hr/>			
1805—July 10, $\frac{1}{4}$ d. per lb. Reduced	£1	3	4
	0	4	8
<hr/>			
Total per Cwt.	0	18	8
1840—June 19, additional Duty 5 per cent.	0	0	11 $\frac{1}{2}$
<hr/>			
	£0	19	7 $\frac{1}{2}$

The whole Duty and Number of Acres in particular Districts in the Year 1848.

	Acres.	£	s.	d.
Kent	26,063	212,269	1	11 $\frac{1}{2}$
Sussex	11,592 $\frac{1}{2}$	117,471	10	10 $\frac{1}{2}$
Worcester	7,915 $\frac{1}{2}$	30,292	17	6
Farnham	2,898	23,556	13	1
Essex	342	1,973	14	3 $\frac{1}{2}$
North Clays	361 $\frac{1}{2}$	2,152	18	6
Sundry small Districts in va- rious parts of Britain	60 $\frac{1}{2}$	290	7	5
<hr/>				
	49,233	388,007	3	8 $\frac{1}{2}$
1856	54,527	488,850	0	0

LONDON PRICES OF HOPS.

Year.	£	s.	d.	Year.	£	s.	d.	Year.	£	s.	d.	Year.	£	s.	d.
1800	17	17	0	1814	8	8	0	1828	5	12	0	1842	4	8	10
1801	5	18	0	1815	7	10	0	1829	8	8	0	1843	6	0	9
1802	10	12	0	1816	13	13	0	1830	12	8	0	1844	7	3	0
1803	6	6	0	1817	27	0	0	1831	5	18	0	1845	6	10	0
1804	5	5	0	1818	7	0	0	1832	8	13	0	1846	5	0	0
1805	8	0	0	1819	4	8	0	1833	7	4	0	1847	3	10	0
1806	7	0	0	1820	4	4	0	1834	6	3	0	1848	2	15	0
1807	5	10	0	1821	4	15	0	1835	4	15	0	1849	7	10	0
1808	5	18	0	1822	4	4	0	1836	5	0	0	1850	3	10	0
1809	4	4	0	1823	13	0	0	1837	5	1	6	1851	6	10	0
1810	6	0	0	1824	7	0	0	1838	5	17	0	1852	4	5	0
1811	6	6	0	1825	19	0	0	1839	4	10	0	1853	11	11	0
1812	13	8	0	1826	5	0	0	1840	13	11	0	1854	20	0	0
1813	8	8	0	1827	5	0	0	1841	6	6	0	1855	..	..	..

Annual Consumption, 42,000,000 bushels.

FOREIGN HOPS.

Years	IMPORTED.		EXPORTED.		Duty to Aug. 1854.
			Of Foreign.	Of British to 1st January.	
1829	.	lbs. 4,591	lbs. 57,904	lbs. 1,456,784	£ s. d. 2 5 0
1836	.	.	4,241	1,091,659	
1837	.	.	22,857	764,834	Aug. 1855.
1839	{ United States	2,504	.	961,151	1 0 0
	{ Russia	336	.		
1840	.	.	.	1,744,612	
1843	.	.	.	662,832	
1844	{ United States	2,576	.	293,709	
	{ East Indies	336	2,244		
1845	{ United States	22,640	.	153,849	
	{ Holland	5,264	4,256		
1846	United States	726	.	151,849	
1848	{ United States	154,672	728	457,061	1862.
	{ Holland	9,632	90,496		
1849	{ United States	42,782	.	357,029	Oct. Free.
	{ Holland	336	23,408		
1859	.	248,640	.		
1860	.	7,718,916	.		
1861	.	17,707,712	519,792		

In bond, January 1, 1862, 11,891,264 lbs.

BEER AND ALE EXPORTED.

	QUANTITIES.					
	Month ended 31st December			Year ended 31st December		
	1859.	1860.	1861.	1859.	1860.	1861.
To United States	Barrels. 3,049	Barrels. 2,595	Barrels. 332	Barrels. 23,216	Barrels. 21,905	Barrels. 7,414
British East Indies	32,445	4,110	20,451	259,498	200,711	93,454
Australia	28,118	8,930	12,581	178,292	136,567	142,801
Other Countries	15,293	13,711	13,404	153,130	175,644	138,388
Total	73,905	29,346	46,768	614,136	534,827	382,057

Statement of the Annual Average Price of Wheat, Barley, and Oats in England and Wales, from 1771 to 1848:—Also the average Price for period from the passing of the Act 5 Vict. s. 2, c. 14, to 31st December, 1860.

Years.	Annual average Price per Imperial Quarter.						Years.	Annual average Price per Imperial Quarter.					
	Wheat.		Barley.		Oats.			Wheat.		Barley.		Oats.	
	s.	d.	s.	d.	s.	d.		s.	d.	s.	d.	s.	d.
1771	48	7	26	5	17	2	1816	78	6	33	11	27	2
1772	52	3	26	1	16	6	1817	96	11	49	4	32	5
1773	52	7	29	2	17	8	1818	86	3	53	10	32	5
1774	54	3	29	4	18	4	1819	74	6	45	9	28	2
1775	49	10	26	9	17	0	1820	67	10	33	10	24	2
1776	39	4	20	9	15	5	1821	56	1	26	0	19	6
1777	46	11	21	1	16	1	1822	44	1	21	10	18	1
1778	43	3	23	4	15	7	1823	53	4	31	6	22	11
1779	34	8	20	1	14	5	1824	63	11	36	4	24	10
1780	36	9	17	6	13	2	1825	68	6	40	0	25	8
1781	46	0	17	8	14	1	1826	58	8	34	4	26	8
1782	49	3	23	2	15	7	1827	58	6	37	7	28	2
1783	54	3	31	3	20	5	1828	60	5	32	10	22	9
1784	50	4	28	8	18	10	1829	66	3	32	6	22	9
1785	43	1	24	9	17	8	1830	64	3	32	7	24	5
1786	40	0	25	1	18	6	1831	66	4	38	0	25	4
1787	42	5	23	4	17	2	1832	58	8	33	1	20	5
1788	46	4	22	8	16	1	1833	52	11	27	6	18	5
1789	52	9	23	6	16	6	1834	46	2	29	0	20	11
1790	54	9	26	3	19	5	1835	39	4	29	11	22	0
1791	48	7	26	10	18	1	1836	48	6	32	10	23	1
1792	43	0	..	..	16	9	1837	55	10	30	4	23	1
1793	49	3	31	1	20	6	1838	64	7	31	5	22	5
1794	52	3	31	9	21	3	1839	70	8	39	6	25	11
1795	75	2	37	5	24	5	1840	66	4	36	5	25	8
1796	78	7	35	4	21	10	1841	64	4	32	10	22	5
1797	53	9	27	2	16	3	1842	57	3	27	6	19	3
1798	51	10	29	0	19	5	1843	55	10	29	6	..	..
1799	69	0	36	2	27	6	1844	..	..	33	8	..	..
1800	113	10	59	10	39	4	1845	..	..	31	8	..	..
1801	119	6	68	6	37	0	1846	54	8	32	8	23	8
1802	69	10	33	4	20	4	1847	69	9	44	2	23	8
1803	58	10	25	4	21	6	1848	50	6	31	6	20	6
1804	62	3	31	0	24	3	1849	44	3	27	9	17	6
1805	89	9	44	6	28	4	1850	40	3	23	5	16	5
1806	79	1	38	8	27	7	1851	38	6	24	9	18	7
1807	75	4	39	4	28	4	1852	40	9	28	6	19	1
1808	81	4	..	..	33	4	1853	53	3	33	2	21	0
1809	97	4	47	0	31	5	1854	72	5	36	0	27	11
1810	106	5	48	1	28	7	1855	74	8	34	9	27	5
1811	95	3	42	3	27	7	1856	69	2	41	1	25	2
1812	126	6	66	9	44	6	1857	56	4	42	1	25	0
1813	109	9	58	6	38	6	1858	44	2	34	8	24	6
1814	74	4	37	4	25	8	1859	43	9	33	6	23	2
1815	65	7	30	3	23	7	1860	53	3	36	7	24	5

NUMBER OF MALTSTERS,

Making not exceeding the following Number of Quarters.

Years.	50 Quarters.	100 Quarters.	150 Quarters.	200 Quarters.	250 Quarters.	300 Quarters.	350 Quarters.	400 Quarters.	450 Quarters.	500 Quarters.	550 Quarters.	Above.	Total.
1814	2077	1154	1196	1018	769	581	426	322	252	187	169	870	9021
1815	1779	1063	1079	1040	821	672	463	415	301	220	167	1076	9096
1816	1681	1030	1054	972	809	628	477	375	267	224	169	1134	
1817	1584	981	1063	974	813	653	481	377	267	201	167	1061	
1818	2861	1480	1245	878	643	501	352	243	181	148	130	634	
1819	1818	1196	1144	967	806	636	476	353	283	208	193	1104	
1820	2217	1436	1297	938	719	537	409	313	359	191	151	863	9431
1821	2183	1258	1223	990	767	570	459	354	215	233	152	983	
1822	1758	1090	1083	996	801	656	478	381	221	257	206	1113	
1823	1962	1253	1257	981	794	646	451	365	318	553	184	1041	
Present Rate of Licence, 1862.	7s. 6d.	15s. 0d.	22s. 6d.	30s. 0d.	37s. 6d.	45s. 0d.	52s. 6d.	60s. 0d.	67s. 6d.	75s. 6d.	82s. 6d.	90s. 0d.	9800 (and 5 per cent.)

NUMBER OF MALTSTERS AND MALTHOUSES.

Years.	Number of Maltsters.	Number of Malthouses.	Years.	Number of Maltsters.	Number of Malthouses.	Years.	Number of Maltsters.	Number of Malthouses.
1850	8367	11,408	1854	7460	11,181	1858	6911	10,127
1851	8166	11,286	1855	7239	10,740	1859	6789	10,132
1852	8031	11,106	1856	7046	10,329	1860	6499	10,086
1853	7805		1857	6966	10,161			

SUGAR AND MOLASSES.

A Return of the quantity of Sugar and Molasses used in brewing Beer and distilling Spirits for the year ending the 30th day of September, 1860, shows that 86,347 cwts. of Sugar were consumed in the brewing of Beer, and 17 cwts. of Sugar and 42,942 cwts. of Molasses were used in the distillation of Spirits.

Return of the Quantity of Sugar and Molasses used in Brewing Beer and Distilling Spirits, for the Year ended the 30th day of September, 1861.

	In the Brewing of Beer.	In the Distillation of Spirits.	
	Sugar.	Sugar.	Molasses.
	Cwts.	Cwts.	Cwts.
Year ended 30th September, 1861 ..	83,618	5,906	227,619

W. M. MOXON,
Chief Accountant.

Inland Revenue Office,
25th February, 1862.

BREWERS, VICTUALLERS, &c., IN THE UNITED KINGDOM, 10TH OCTOBER, 1861.

An Account of the Number of Persons in each of the several Collections of the United Kingdom Licensed as Brewers and Victuallers, to sell Beer to be drunk on the Premises, and to sell Beer not to be drunk on the Premises; stating the Number of each Class who Brew their own Beer, and the Quantity of Malt consumed by them, from the 10th day of October, 1860 to the 10th day of October, 1861 (in continuation of Parliamentary Paper, No.162, of Session 1861).

COLLECTIONS.	Number of		Number who Brew their own Beer.			Bushels of Malt consumed by each Class.					
	Brewers.	Victuallers.	Persons Licensed to sell Beer		Victuallers.	Brewers.	Persons Licensed to sell Beer				
			To be drunk on the Premises.	Not to be drunk on the Premises.			To be drunk on the Premises.	Not to be drunk on the Premises.			
England . . .	2294	64,923	42,773	3044	24,009	11,266	717	24,163,002	7,088,373	2,780,641	262,081
Scotland . . .	102	12,021	..	..	129	..	..	1,312,763	214,961		
Ireland . . .	93	16,912	..	..	..	..	..	4,119,546			
United Kingdom.	2489	93,856	42,773	3044	24,138	11,266	717	29,595,311	7,303,334	2,780,641	262,081

*Inland Revenue Office,
5th April, 1862.*

*W. M. MOXON,
Chief Accountant.*

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