THE

FARMERS' REAL FRIEND,

SHEWING

HOW TO BREW WITH

THREE-FOURTHS BARLEY TO ONE-FOURTH MALT;

SHEWING, ALSO,

THE MALT-TAX TO BE NO TAX AT ALL

TO THOSE WHO UNDERSTAND WHAT
THEY ARE ABOUT.

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BY A BREWER OF 25 YEARS' STANDING.

LONDON:
GROOMBRIDGE AND SONS, PATERNOSTER-ROW.
1847.

TO THE FARMERS OF ENGLAND.

Economy is the order of the day, and one of the best orders it is too. He, therefore, who lends his aid to teach economy in any way, may fairly lay claim to the good will and more substantial patronage of his fellow men. This object I have endeavoured to effect, and although the book is but a little book, it teaches a great deal. The experience of twenty-five years is here compressed into scarcely as many pages—and, what is of more consequence, these few pages shew clearly how double the number of pounds sterling may be saved in a very short space of time. Although the malt-tax may be disagreeable in its operation, it is of little use to complain about it. The best, and, indeed, the only remedy is to be found in my instructions, and if you follow them you may have the pleasure

of laughing at the malt-tax over a tankard of your own sparkling ale—ale equal to that produced by malt itself, and yet containing only a comparatively small portion of it. If the tax remains unrepealed, the fault rests with yourselves—neither the Government nor any one else is to blame.

I have long desired to give this information to the Public. My practice in different families, during a great part of my life, has enabled me to prove its utility. Indeed, I could refer to Noblemen and Gentlemen for whom I have brewed, as additional guarantees of its value. In presenting it before you at the present time, I am influenced only by the wish to do you good, and to save your pockets. Read the book and judge for yourselves. One trial will satisfy you that you never purshased so much valuable information at so little cost.

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Journal of a Day's Brewing,

FARMERS OF ENGLAND!

It was the custom of your forefathers to brew their own beer. That custom has long been on the decline, and why? Because those who have the management of brewing understand but little of the process. The beer which they make, not being of good quality, either changes off or becomes ropy. *Such will never be*

the case with those who attend to my instructions. These will teach you three things:—*first,* so to mash your goods as to change the farina or flour of the grain into a good saccharine or sweet-wort:—*second,* to boil it so as to obtain and retain (in the first wort) all the best quality of the hops:—and, *third,* to ferment it according to the time you wish to keep it before drinking. I have also added directions for the management of it, if required for immediate use. Ale brewed according to this plan has been found, after having been kept

eight or nine months, to be much stronger, and to contain much more spirit, than ale brewed entirely from malt.

N. B. Brewers are bound by law to use only malt and hops, but private individuals may brew with what materials they please.

GENERAL RULES.

In every case *you must pay particular attention to your heats, or you cannot possibly succeed.*

OF WATER.

The best of any is rain-water, fresh caught off slates or tiles:—next, river water, or water out of a pond which cattle do not frequent:—lastly, well water, if of a soft nature, such as comes out of chalk or loam. When the well-water is hard, and comes out of gravel or clay, expose it to the air (before using it) for two days in summer, and a week in winter. A little bran thrown into it will help to soften it still more.

OF MALT.

The signs of malt being good

are, its being of a bright colour, with a plump mellow body, and the spire about three-fourths of the way up the back of the corn.

OF BARLEY.

The best is of a bright colour, with a *full, kind, mellow* body. It is presumed, however, that by brewing according to my plan, farmers will need to use only the secondary or even the inferior sorts, as they will answer the purpose very well. It is necessary, however, to remember, that the better the barley the more beer it will make, and the worse

the quality of the barley the less beer it will make of the same strength. From nine to twelve gallons of strong ale, or from twenty to thirty gallons of good beer may be made from each bushel of good quality. One peck of malt with one bushel of barley will make fifty gallons of good small beer.

OF HOPS.

A proof of hops being good is the absence of all brown colour —a plenty of yellow flowery dust —and a grateful aromatic odour when rubbed between the hands.

OF GRINDING.

The sooner Malt and Barley are used, after being ground, the better.

Malt ought to be ground into about quarters of the corn, or a little less.

Barley ought to be ground quite coarse—that is, it ought to be cut into *little bits* like oatmeal. For this purpose a steel mill will be found useful.

OF THE COPPER.

Let it be cleaned *perfectly bright*. For this purpose use the

chips or flakes of iron which fall from the blacksmith's anvil. If the copper can be so placed as to run into the mash-tub, the better.

OF THE MASH-TUB.

If you have a false bottom, there ought to be a descending shoot, for the liquor to run down under the false bottom and find its way up through the goods. All the upper part of the shoot should be perforated, and furnished with slides, to be put in or taken out, as occasion may require.

If you have no false bottom

use an upright huck-muck, or basket, to come above the mash, and to be fastened down to the bottom with nails, so that it cannot rise up.

OF THE UNDERBACK.

Let it be so placed as not to be exposed to the draughts of cold air during the time the wort is running into it.

OF THE COOLERS.

Place them so that the air may

circulate freely *under* as well as *over* them.

N. B. All the utensils should be well scalded the day before brewing, and again on the brewing-day, if requisite.

Supposing now all the utensils to be in good, sweet, and clean condition—the malt, barley, hops and liquor (water) ready,—it is a good practice to light the fire over night, and bank it up with ashes: this saves an hour or two in the next day's work. Endeavour to be up by four o'clock in the morning, if it be winter time,

(for you can always cool your wort during the day, at that season of the year,) but in summer it is advisable not to begin until nine or ten in the morning, so as to bring the second wort out of the copper late in the evening: then let the third wort just boil up and remain in the copper all night, after you have banked up the fire. This enables you to use all your coolers for the best worts —and if you cannot get the first wort cool enough, let them both remain in the coolers all night.

DIRECTIONS for BREWING ONE QUARTER, viz:—

Two bushels of Malt, and
Six bushels of Barley, with
Eight lbs. of good Hops.

N. B. The quantity may be increased or diminished to any extent, by taking into consideration the measures of ale and corn.

OF MASHING.

First Mash.

If you have a thermometer take your first heat at 150: if not, put

forty-four gallons of boiling liquor into your mash-tun with twenty-two gallons of cold liquor. then stir it, and, as soon as you can, introduce the two bushels of malt: continue to stir it until it is all wetted, then introduce the barley grit or meal, stirring it until it is well wetted and mixed with the malt—and cover up. Nearly fill your copper with liquor, and get it to boil. After the mash has stood three-quarters of an hour, to every six gallons of boiling liquor in your copper add one gallon of cold liquor, then stir it and add fifty gallons of this liquor to your mash, (this heat ought to be taken at 190 F.) stir it for three-quarters of an hour, taking care to keep your stirrers

under the surface of the mash, and keep your mash as free from cold air as you can. Cover it up and let it stand for two hours, and then let run. You should first, however, put a few hops into the underback, for the wort to run upon. If the wort runs thick return it until it runs clear.

When the mash-tun bottom is put down, previous to mashing, the slides ought to be placed inside the shoot, and when you let the first wort run they should be taken out, so as to allow the wort that lies on the top of the mash to pass down the shoot, under the false bottom, and out at the tap.

After the first wort has done

running, put in the slides again, and let them remain in during the rest of the day's brewing. After your mash is well mixed, stir slowly, so as to keep it all in gentle motion. To prevent it cooling more than can be avoided, the heat in the mash-tun ought to be from 140 to 150 F. for there is a principle in malt which will act on the barley, and convert it into saccharine matter or sweet-wort in the mash-tun, just as it acts on the malt floor. This peculiarity was first discovered by two celebrated French Chemists, M. M. Payen and Persoz: they named it *diastesé*, and assert that it will change two thousand times its own weight of meal into saccharine matter.

If you use an upright huck-muck or basket, *that* will let it away.

Second Mash.

Heat 185, or one gallon of cold liquor to five gallons of boiling liquor.

Put forty-two gallons of this liquor on your mash, and stir it again for three-quarters of an hour. Cover it up, and let it stand for two hours and a quarter ---then let it run.

Third Mash.

Heat 170, or one gallon of cold to three of boiling liquor, mixed together in the copper.

Put the quantity of liquor according to the quantity of small beer you wish to make; for instance, if you wish to make only one barrel, put in forty-two gallons, and so on in proportion. Stir it for ten minutes, and then cover it up. If you want a little more at any one of the mashes, throw a few gallons of liquor over the mash, to make up.

OF BOILING.

Boil the first wort *very slowly* for half an hour, with the hops, keeping them stirred. Let it stand in the copper with the hops

for three-quarters of an hour, and then strain off.

Second wort. Boil one hour with the hops. Let it stand in the copper with the hops, half an hour more, to infuse, then strain off.

Third wort. Boil it fast for one hour, with the hops, if you do not intend to let it remain in the copper all night: if you wish it to remain, put only half of your hops into the copper overnight, and the rest on the following morning, just to wash the goodness of the malt out of them.

In straining off, endeavour to have one cooler above the other, so that the settlement may remain in the first cooler, and when

you have done brewing, put this settlement on your hops, and it will come away quite clear.

OF COOLING.

Endeavour to cool your wort as soon as you can. You will forward the cooling by keeping the wort moving about in the coolers.

OF FERMENTING.

Put the first two worts together at a heat of 70 degrees. If you

have no thermometer, let the heat be, in winter, nearly that of new milk: in the summer, rather cooler. Add yeast according to the time you wish it to keep before it is used. If it be summer-time and you wish to bring it forward soon, add two quarts of good yeast to this quantity, which ought to be about ninety-six gallons. Let it work up to a good head, and keep on working until you are satisfied, *upon tasting it*, that it is changed nearly as much as you wish it to be, when you want it for use. Take off the yeast as close as possible, and draw off the beer, or take it out with a bowl until you get near the bottom, when you must pour it off as clear as you can, without

disturbing the sediment, and tun it. In winter, keep your ale, while fermenting, in a warm room, where there is a little fire.

Third wort. Put three half-pints of good yeast to each barrel, and when it has risen to a good head, cleanse it or tun it.

In fermenting, if the beer comes on too fast, add a bottle or small cask of cold liquor *out of the well*, and skim some of the yeast off; or, separate it for a short time, and afterwards put it together again. If it should not come on fast enough, put a bottle or small cask or two of *boiling hot* liquor into it, or make a fire so as to increase the heat of the place: then take some more fresh yeast, a little of the tun, and a quarter

of a pound of wheat flour to a barrel—work them well up together in a pail: put this mixture in a warm place, and when it is well risen, pour it into your fermenting tun, but do not stir it. Cover up, and then follow the instructions for tunning.

OF BARM OR YEAST.

There is so much difference in the qualities of water with which ale is brewed, that it is almost impossible, without actual practice, to say what quantity of yeast will do. We may lay it down as a rule, however,—*first*,

that the *softer* the water, the *less* the quantity of yeast required: and the *harder* the water, the *greater* the quantity necessary:—*second*, the greater the *heat*, at the beginning, the less will be the quantity of yeast—the *colder* it is, the more need of yeast:—*third*, the richer the wort, and the more it approaches to a good, clean, sweet on the palate, the more yeast will be wanted.

In brewing small quantities a barrel of rich wort will require a quart of good yeast; in large quantities one pint only. For small beer and weak worts one-half of the above quantities will suffice.

OF TUNNING OR BARRELLING.

When casks have been empty in the cellar for some time, the heads should be taken out and well cleaned with scalding water, and when the heads are replaced they should be scalded again. If this cannot be done, put them in soak with four pails of cold water to each barrel, for three or four days before brewing; shaking them and changing their position daily.

When you have finished brewing, fill the copper with water and make it boil, and scald all the barrels. After they are scalded drive in the corks, and you

will be able to see, when the steam is gone off, whether they are thoroughly clean. If they are not, they must be scalded again;—for unless particular attention is paid to the store casks, the flavour of the ale will be spoiled.

Every vessel used in brewing ought to be scalded out *the day after brewing*, then made *perfectly* dry and put away; or covered with clean cold water and a little lime, and changed frequently.

When the barrels are in good condition, and the ale fit for tunning, if they are standing-up casks, put the spurge or top cork in, and let the bung be out at the top—then fill the casks quite full, so that the yeast may come up on

the head: *this yeast must be taken off frequently,* and the cask kept quite full. If they are lying down casks, let them be kept filled up *four* or *five times* the first day:—then three times every day afterwards, until they have done working. As soon as the head of the beer sinks, scrape all the yeast off round the bung-hole, and bung it up with a few fresh hops which have been previously soaked in beer. Leave the peg-hole open or put lightly in for a few days, after which bung tightly, only giving vent in case the barrel is in danger of bursting.

If you want your ale or beer for immediate use, clean a cask and rack it nearly full, then fine

it, and it will be fit for use in twelve hours.

FININGS are made from Isinglass dissolved in stale beer or vinegar. From a pint to a quart is necessary for one barrel. Sole skins dried and soaked in vinegar or stale beer will answer the purpose as well.

OF CELLARS.

A dry under-ground cellar, without a circulation of air through it, is by far the best. When the cellar is damp let the air circulate through it as much as possible. I remember two

cellars at the house of a Nobleman, for whom I brewed :—one for table-beer, which had a good circulation of air, kept the beer well; the other, from which the air was excluded, always gave the ale kept in it a disagreeable nauseous taste. This was caused by the gases of the damp cellar acting on the yeast. When you cannot have an under-ground cellar, a thatched one is the most desirable, being the coolest in summer and warmest in winter.

PRACTICAL INSTRUCTIONS ON GUAGING.

Square Utensils.

RULE.

(We may reckon a gallon to every two square feet, one inch deep.)

Multiply the length by the breadth, and divide by 2 for the contents at one inch deep: and multiply that by the depth for the contents of the whole.

Example 1st. Suppose a cooler to be 12 feet long by 6 feet broad, and 6 inches deep:

Multiply 12 length
by 6 breadth

2|72

36

36 gallons at 1 inch deep
multiply by 6 inches [depth of cooler]

216 gall. contents of whole

2nd. Suppose a square fermenting tun to be 4 feet 6 inches long, 4 feet wide, and 50 inches deep.

ft.	in.	
4	6	length
	4	width
2	18	0
9		gallons to an inch
50		depth
450		contents of whole

Of Circular Vessels.

RULE.

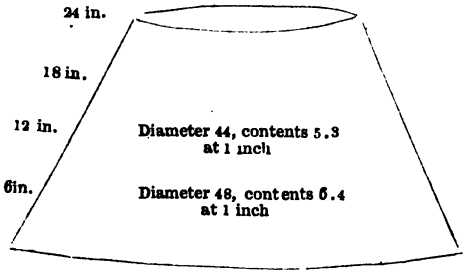
Take the diameter at 6 inches from the bottom, and find the contents by looking into the table of areas of circles, in ale gallons, and that will be the contents at one inch. Multiply this by the number of inches up to 12; then take the diameter at 18 inches, and find its contents as above: that will be the contents at every inch from 12 to 24: and so on to the whole height of the tub.

Example:—The first 12 inches.

	gall.	
	6 . 4	[contents at 1 in. ta-
multiply by	12	ken at 6 in. up]
	76 . 8	contents at 12 inches

The second 12 inches.

5 . 3	[contents at 1 in. taken
12	18 in. up.]
63 . 6	[contns fr. 12 to 24 in.]
add 76 . 8	contents of first 12 in.
140 . 4	contents of the whole



A TABLE

Of the Areas of Circles, in Ale Gallons

From 20 to 60 inches, Winchester measure.

Diameter in inches	*gallons*	Diameter in inches	*gallons*
20	1.11	41	4.68
21	1.22	42	4.91
22	1.34	43	5.14
23	1.47	44	5.39
24	1.60	45	5.63
25	1.74	46	5.89
26	1.88	47	6.15
27	2.03	48	6.41
28	2.18	49	6.68
29	2.34	50	6.96
30	2.50	51	7.24
31	2.67	52	7.53
32	2.85	53	7.82
33	3.03	54	8.12
34	3.21	55	8.42
35	3.41	56	8.73
36	3.60	57	9.04
37	3.81	58	9.36
38	4.02	59	9.69
39	4.23	60	10.02
40	4.45		

Suppose a copper or other circular vessel to be 24 inches over, and 25 inches deep, by referring to the table at

24 in. diameter	1.60	gall.
	25	inches deep
	8 00	
	32 0	
Contents	40.00	gallons.

When a copper has a raised crown, or the bottom sunk, it is advisable to measure *that* with a standard measure, as being the least trouble.

JOURNAL OF A DAY'S BREWING

With One Bushel of Malt and Four of Barley, of a very middling quality—equal to about Three bushels of good quality.

Date 1847.	MALT quantity	BARLEY quantity.	HOPS	Number of Mashes	Heat of liquor	Time of stirring	Time of standing	Time of boiling slowly	Heat to put to work at in mild weather	Quantity of Yeast
	1 bush.	4 bush.	4 lbs.	1	150	until all is wet	½ hr.	¾ hour stand	if all together 68	if together 1 ¼ quarts
					190	½ hour	2 hrs	½ hour		
				2	185	½ hour	2 ½ hours	1 hour	if separated 72	if separated 1 qurt to the ale
				3	170	¼ hour	1 ½ hours	1 hour		1 pint to the beer

This will brew Sixty gallons of good Beer, or Forty gallons of Ale, and Twenty of Table beer.

JOURNAL OF A DAY'S BREWING

With Two bushels of Malt and Six of Barley, both of good quality,—to make 96 gallons of Ale and 36 of small Beer.

N. B. If you wish to make more small Beer, use *less* liquor with your Ale: and reckon one gallon of ale to make three gallons of small beer or two gallons of table beer.

Date 1847	MALT quantity	BARLEY quant.	HOPS	No. of Mashes	Heat of liquor	Quantity of liquor	Time stirring	Time standing	Time boiling	Heat to put to ferment
	2 bush.	6 bush.	8 lbs.	1	150 or	boiling 44 gall. cold 22	until all is wetted	¾ hr.	½ hour let it stand with hops ¾ hour	70 with 2 quarts of yeast
					then 190 or	*add* boiling 43 gall. cold 7	¾ hour	2 hrs		
				2	185 or	35 gall. boiling 7 cold	¾ hour	2 hrs.	1 hour standin copper ½ hour	
				3	170 or	28 gall. boiling 14 cold	10min	1½ hrs	1 hour	1 ½ pints

It is a good practice not to put all the liquor of your last mash on at once but to reserve about 6 or 8 gallons to throw on the mash just as it has nearly done running.

JOURNAL OF A DAY'S BREWING

With Three Quarters, viz:—Six bushels of Malt and Eighteen of Barley, both of good quality: to make 9 barrels of good mild Ale, or 6 barrels of strong Ale and 3 of good table Beer.

Date, 1847.

MALT quantity	BARLEY quantity	HOPS	No. of mashes	Heat of liquor	Quantity of liquor	Time of stirring	Time of standing	Time of boiling	Heat to ferment	Yeast
6 bush.	18 bush.	21 lbs.	1	150 *then*	5½ bar *add*	until wetted	¾	¾ hour & stand	suppose nine barrels wanted in one month, set to ferment at 64, tun at 74, if the heat keep rising, and the head keeps up, all right—if not,	5 quarts
			1	190	4½ bar	¾ hour	2	in copper ¾ more		
			2	185	3½ bar	¾ hour	2	1 hour		
			3	170	2 bar.	¼ hour	1	1 hour		

☞ add 1 or 2 quarts more, as directed.

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NOTE. I have now explained to you how to proceed to insure good Ale: one thing remains to be observed, and this you must pay particular attention to. When Ale is intended to be kept a great great length of time, slow fermentation and early tunning must be your rule and guide.

CAUTION.

Never attempt to brew with a common huck-muck; if you do, you may not be able to get your Wort from the Goods.