

THE  
ART OF BREWING  
INDIA PALE ALE  
AND  
EXPORT ALE,  
STOCK & MILD ALES,  
PORTER & STOUT.

BY  
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however, we must look out for some wonderful discovery by Professor Somebody after another half century, I suppose; but the professors are a long time bringing their science to a satisfactory issue, as far as brewing is concerned. I am of opinion that brewing at the present time is at its highest pitch, as far as perfection goes.

### BREWING INDIA PALE ALES.

There is a difference in the quality of these Ales for export and of those for home consumption; however, I will treat on the Ales for home consumption, and I take the presumable gravity of the Burton Pale Ales to be 25 or 26 lbs. per barrel. The liquor (water) in the copper having attained its proper heat, it is quite immaterial whether the water is boiled previous to mashing; the worts will be boiled quite long enough without having recourse to boiling the water, a mere waste of time and fuel; if the water in the copper has attained the heat of 180°, turn out into the mash-tun one barrel and a half to each quarter of Malt to wet the goods, no matter how many quarters you wet, reduce the heat to 168°. This being done, the Malt should now be let into the mash-tun and the mashing machine set to work, or mashing oars, as the case may be; this should be continued until the Malt is thoroughly saturated and well mashed; it is necessary to get through this part of the process as quickly as possible, so as to retain the heat. Having thoroughly wetted the goods, turn on one barrel and a half more of water to each quarter of Malt, at a temperature of 185° to raise the heat, mashing at the same time. Having gone through the process of the first mash, the mash-tun should now be covered, and remain so for two hours. This being done, the taps of the mash-tun should be turned slowly, so that the taps may not become blocked with the goods; the wort runs into the underback, and from thence it is pumped into the copper. Having run off the first wort, you now turn on two barrels of water to each quarter of Malt, at a temperature of 180°. This should be sparged on over the goods. The goods (Malt) are not to be mashed or disturbed, but sparge the whole on. Having done this, the mash should stand half an hour. Having stood its proper time, the taps are to be turned to run off the second wort. Having run off the second wort into the underback, the worts should now be pumped up into the wort copper.

It is preferable to have one boiling only, if the copper is large enough, inasmuch as that the first and second worts get well amalgamated together, and receive their equal share of the qualities of the Hops. Having obtained the first and second extracts from the Malt, it is usual to turn on a barrel of water, for a return wort, to each quarter of Malt, or for Small Beer.

### BOILING THE WORTS.

Some scientific brewers are averse to boiling their worts any length of time. Their theory is, that if the Hops are merely scalded in the copper with the worts it is quite sufficient, and that by carrying out a good fermentation, it will preserve the keeping qualities of the Ales; but I say that long boiling is imperative. If by the latter system you lose in quantity, it is quite evident you gain in quality; and if at the expiration of the boiling the worts should have lost one or two barrels, so in proportion the Ales would gain in quality. The saccharometer must now be called into requisition to test the strength of the worts in the copper, and the worts should prove to be 2 lbs. per barrel heavier than they are required. Very well, there are twenty-five barrels of Ale in the copper, at a gravity of 27 lbs. by saccharometer. The quantity of Hops to be used for boiling this class of Ale should be 16 lbs. per quarter, and the Hops to be the best East Kents. The worts being in the copper, and the Hops infused, the boiling should be got forward with as little delay as possible. The worts having commenced boiling, the time should be noticed, and the boiling continued without intermission for the space of three hours. It is not requisite to boil these worts hard and rapid; slow boiling, or rather simmering, will be found quite sufficient to extract the properties from the Hops. By hard and rapid boiling the evaporation of steam is immense, and it is quite evident that the aromatic qualities of the Hops evaporate with the steam; a quality that it is most essential to preserve in the Ales, and from which is due that agreeable flavour to the palate. By hard boiling you extract a rank bitter, which the Burton brewers avoid by slow boiling for about three hours. It is much better to over-run the length of Pale Ales, and boil them back to the gravity you require. By boiling the Ales hard, I do not mean to infer that the Ales lose any of their gravity; it is the

boiled the worts, they should be cooled down to a temperature of 58° by thermometer. In the gyle-tun add 2 lbs. of yeast to each barrel of Beer; well rouse it. Take the heat and weigh the worts; heat 58° by thermometer, gravity 28° by saccharometer. Cover the tun, and the heat should rise to 74°, and the attenuation should be reduced to 12°. It should then be cleansed the same as Porter, and hopped down with the best Hops.

### **EXPORT BITTER BEER, OR INDIA PALE ALE.**

This class of Ale is brewed similar to the Pale Ale for home consumption; the difference in the two articles being this: the export Beer has less saccharine and more Hops infused. After the Pale Ale for home trade has been brewed, the Hops are placed in a machine, and by means of an hydraulic press what saccharine remains in the Hops is all pressed out, and such extract is used for export Beer. This class of Beer is also boiled five to six hours, and attenuated very low; which shews you at once the utility of long boiling for keeping Beers, inasmuch as that the Burton brewers adopt the system above mentioned for export and long voyages, and to stand any climate, therefore it is requisite to boil the Ales well for home consumption. Having gone through the different processes of brewing in detail, so that the most uninitiated may carry out a brewing with confidence, I will now commence with

### **SECOND FERMENTATION.**

There has been much written and said on the subject of second fermentation, and there is no reason to doubt that the complaint is caused partly by bad management, and partly through using inferior materials. In brewing Ales, a bad fermentation is very likely in winter time to occur through the inferiority of the materials used in the manufacture of the Beer, although it is more easily to be traced to the operator. Take the winter for instance, when the fermentation becomes languid, and the heat of the tun reduced by the severity of the weather; the yeast, instead of rising and forming a fine rocky appearance, drops through the Ale and deposits in the tun. This would cause the Ale to be yeast-bitten, and the means