

brewed commercially in New Zealand above that mark. A dry dip with a measuring-stick gives the quantity, and all this is entered in the Customs Book to await the daily inspection of the officer, whose Department sends in a weekly beer duty account to the manager for 3s. a gallon or, in rounder figures, several thousand pounds a week!

Accurate temperature charts are kept during the time the yeast is working. A variation of even one degree is important.

Chemically, if you're interested, yeast breaks down the sugar in the wort to produce alcohol. Thus a non-alcoholic drink is turned into an intoxicating liquor. The yeast also produces the gas, carbon dioxide, which enlivens the beer. The tanks in which the brew ferments are made of kauri. The pre-war kegs were made from Baltic oak; now from Australian blackwood and Southland Beach.

The only difference in a brew used for bottling is the treatment. After it has fermented for a day and a half in the fermenting-vessels it works for another

five days in the skimming-vessels. The yeast is periodically skimmed off except for the last working, which goes with the beer to conditioning tanks, where it is fined with isinglass. After two days in the tank it is pumped under pressure through a para-flow and carbon dioxide gas is forced into the beer. In the para-flow, a small machine in which the beer travels about two hundred yards up and down channels chilled by a counter-current of brine, the brew is brought down to just above freezing-point and is then sent on to cold-storage tanks, where it is kept at 32° F. for a week. Then it goes out to the bottling department.

This brewery has a miraculous machine which handles the bottling business. Dirty bottles are fed in at one end by hand and move eight abreast into the washing-machine. Here the bottles are washed with caustic solution inside and out, syringed with clean hot water and finally tipped out after twenty minutes on to a conveyer belt to receive their ration of beer.

The beer meantime has been forced under high pressure through layer upon layer of cotton pulp to free it from any suspended matter. The pulp is washed and pressed each day in the factory. Then the beer is sent on to the filler, a solid rotary machine which takes the bottles from the washing-machine and fills and caps them at the rate of more than sixty a minute.

Another belt picks them up and carries them off to the pasteurizer, where hot water is sprayed on them throughout their hour and twenty minute journey. During this time the temperature is gradually raised to 140° F. and then as slowly lowered. The bottles arrive at the other end of the machine thirty-six abreast and move slowly forward like a platoon until they are picked up by two belts running at right angles to their line of march and, with a quick left turn, are whisked away two deep to the labelling-machine. Before they meet this machine they joggle noisily into line as would a picture queue and then pick up the pace as they are caught by the rotary labeller, which gums and slaps a label on to each, folds



The "topper-off" keeps the butts brim-full.