

apportioned to them, the plan has been adopted of allotting the stock to them, they enjoying the benefits of it less interest. To this plan, as to any other scheme of profit-sharing, the objection is raised that in bad times it passes into loss-sharing, and this is not what the employees want or will submit to. In view of this, Mr. Crane believes that a surplus fund should be established, from which dividends are to be paid during years of depression, when there is no profit from which to pay them.

Mr. Nelson bears similar testimony to the working of profit-sharing in his company. In March last, the company issued a circular establishing profit-sharing. After allowing seven per cent interest on actual capital invested, the remainder is to be divided equally upon the total amount of wages paid and capital employed. The employees will this year receive about two-fifths of the net profits. The books have not yet been closed for the year, nor the dividend declared, but there is ample evidence of the success of the experiment. At the conclusion of the firm's present fiscal year, the scheme is to be elaborated somewhat. Ten per cent of the profits is to be set aside as a provident fund for sick and disabled members and the families of deceased ones, ten per cent as a surplus fund to cover losing years, should such occur, and two per cent as a library fund, the company paying interest on any unused portions of such funds. The allotments are also to be so apportioned that a premium is offered for continuous service and the saving of dividends. Evidence such as this from the sphere of practical business should be of great help to economists in developing their theories.

THE ITEMS APPROPRIATED by the house for the support of the U. S. coast survey during the next fiscal year are the same as those at first recommended by the house last year, and far under the estimates. If the senate should agree to the penurious policy of the house, a large reduction in the *personnel* of the service must ensue, and its utility would be sadly impaired. We cannot believe the senate will agree to the recommendations of the house in this important matter. The coast survey is doing good work, which should be encouraged by congress, and liberal appropriations should be made for its proper support.

### IS BEER-DRINKING INJURIOUS?

WE have before us a direct and unqualified challenge to the prohibitionists in the form of a pamphlet on 'The effects of beer upon those who make and drink it,' by G. Thomann (New York, U. S. brewers' assoc., 1886). The writer boldly presents the following propositions. 1. Brewers drink more beer, and drink it more constantly, than any other class of people. 2. The rate of deaths among brewers is lower by forty per cent than the average death-rate among the urban population of the groups of ages corresponding with those to which brewery-workmen belong. 3. The health of brewers is unusually good: diseases of the kidneys and liver occur rarely among them. 4. On an average, brewers live longer, and preserve their physical energies better, than the average workmen of the United States. The writer claims that beer is a perfectly wholesome drink, and, in support of this claim, refers to investigations made in Belgium, France, Holland, and Switzerland. He quotes also from the report made by a sanitary commission appointed by President Lincoln to examine the camps of the Union army and their sanitary condition. In examining the condition of regiments in which malt-liquors were freely used, the commission found not only that beer is a healthy beverage, but that it possesses hygienic qualities which recommend its use for the prevention of certain diseases. Mr. Thomann states, that, wherever the effects of the use of beer upon the human body have been examined methodically by competent physicians, it was found, to use the words of Dr. Jules Rochard of the Académie de médecine of Paris, "that beer is a very healthy beverage, which helps digestion, quenches thirst, and furnishes an amount of assimilable substances much greater than that contained in any other beverage."

The charge is often made that American beer is composed of so many poisonous ingredients that it is thereby rendered unfit for consumption; that, while pure beer may be harmless, such beer as is supplied by brewers at the present time in this country is positively injurious. This is met with a reference to the report of the New York state board of health, in which it is stated that an analysis of four hundred and seventy-six samples of malt-liquors had been made, and that they were all found perfectly pure and wholesome, and to contain neither hop-substitutes nor any deleterious substances whatever.

The most interesting portion of Mr. Thomann's pamphlet is that which deals with the statistics of the physicians under whose professional care the men employed in the breweries are placed. About five years ago the brewers of New York, Brook-

lyn, Newark, and the neighboring towns and villages, established a benevolent bureau for the relief of their sick and disabled employees. Physicians are appointed, whose duty it is to attend the sick members of the bureau, and a record is kept of all cases of sickness and death which occur. The number of deaths which took place among 960 brewery workmen in five years was 36, — an average of 7.2 per annum, or a death-rate per 1,000 of 7.5. The United States census gives the rate per 1,000 of the urban population of the same ages, as 12.5; or, in other words, the risks incurred in insuring the lives of habitual beer-drinkers are less by forty per cent than the ordinary risks of such transactions. The death-rate per 1,000 in the regular army of the United States in 1885 was 10.9; so that, even as compared with the soldier in peace time, we find that the brewery workmen have a great advantage in point of low rate of mortality.

Mr. Thomann gives us a number of interesting facts connected with the breweries and the workmen engaged therein. In every brewery is a room, called the 'Sternenwirth,' in which beer is constantly on tap, to be used by every one at pleasure and without cost. Every one drinks as much beer as he thirsts for, without asking, or being asked any questions as to his right to do so. The average daily consumption of malt-liquors for each individual is 25.73 glasses, or about ten pints. In the statistics which are given we find that a considerable number of the men consume forty and fifty glasses a day, and two are reported as drinking, on an average, seventy glasses daily. With a view to ascertaining, in the most reliable manner possible, the effects of the use of malt-liquors, the physicians of the benevolent bureau examined one thousand of the brewery workmen as to general state of health, condition of liver, condition of kidneys, and condition of heart. In addition to this, they weighed and measured each man, and tested his strength by the dynamometer. These examinations showed that there were, in all, twenty-five men whose physical condition was in some respect defective; and the remaining nine hundred and seventy-five enjoyed exceptionally good health, and were of splendid physique. There were 300 men who had been engaged in brewing from five to ten years, 189 from ten to fifteen, 122 from fifteen to twenty, and 46 more than twenty-five years. One special case referred to is that of a man fifty-six years of age, uninterruptedly at work in breweries during thirty-two years, who drank beer throughout this time at the rate of fifty glasses per day, yet has never been sick, and to-day is perfectly healthy, vigorous, and active.

The statistics are, to say the least, very surprising, and, unless refuted, will result in modifying to a considerable degree the generally accepted views of the influence of malt-liquors on the health of those who drink them habitually. Mr. Thomann has boldly thrown down the gauntlet, and we shall watch with interest to see who will take it up.

#### THE ABORIGINAL MILLER.

DOUBTLESS it has occurred to many archeologists that the stone arrow-heads, knife-blades, pestles, axes, etc., in their collections are examples of but a small part of the articles once used by prehistoric peoples, the more perishable articles of wood, hide, or bone having long since disappeared. A study of the present arts of savage life — the surest safeguard in speculating about the arts of ancient times — proves this view to be correct, for the number and variety of implements of animal and vegetal origin now used in the camps of savage tribes greatly exceed those of stone. In the present article the implements of the aboriginal miller are introduced in illustration of what has been said above.

The tribes from which the illustrations are drawn are, the Hupa, of northern California (1), from the collection of Lieut. P. H. Ray, U.S.A.; the Pima and the Yuma stock, around the mouth of the Colorado River (2), from the collections of Edward Palmer; the tribes formerly east of the Mississippi (3); and the Utes of the great interior basin (4), from the collections of Major Powell and other officers; with glimpses of the Sioux and the Pueblo miller. It must be remembered that the active agent in all the varied operations of milling, among the savage tribes, — as well as of tanning, shoemaking, tailoring, weaving, the manufacture of pottery, and other peaceful industries, — is always a woman.

In describing the illustrations, I shall first refer to the sketches in plate 1. The Hupa, like all other primitive millers, has to gather the grist before she grinds it. For this purpose she uses a light but strong carrying-basket (fig. 5), made with warp of osier, and weft of the same material split and twined. A soft buckskin strap surrounds the basket, and passes around her forehead, which is protected by an ingenious pad (fig. 7). Her basket being filled with acorns, she trudges to her camp, and deposits them in a granary of closely woven, twined basketry (fig. 6). Her mill is both novel and ingenious, consisting of a pestle, a hopper, a mortar-stone, and a receiving basket-tray (fig. 9). The pestle is like its congeners all the world over; and the hopper has no bottom, its lower margin merely resting upon the mortar-