

of grog shops was closed by law, the back doors were open by the common consent of the people; and he justly remarks that "to pass laws which are never meant to be enforced is worse than passing no laws at all." Altogether, Mr. Read's visit to America has convinced him that the prohibitory policy in connection with the liquor traffic in that country has been a failure, and it would therefore be a great mistake for us to follow their example.—*Brewers' Guardian*.

THE CONDITION OF FRENCH WORKMEN.

The British Society of Arts, just before the last French Exhibition, appointed a number of experts, in different lines of business, to prepare special reports covering the state of many of the principal industries, as represented there. One of the topics to which especial attention was directed was the condition of French workmen, which is considered with reference to: 1. Hours of work and wages; 2. Rent and cost of living; 3. Organization among workmen; 4. Technical schools and art teaching; 5. Home life.

These so-styled "Artisan Reports" have been published very tardily, ample time having been taken in their preparation; but the one above noticed, which has just been brought out, can hardly be said to add materially to the information which has many times heretofore been laid before American readers by the publication of our consular reports. Particular stress is laid on the long hours of which the French workman's day usually consists, the time of commencement varying more than in England or here, but the day usually lasting ten or twelve hours. Nothing, however, is mentioned in regard to the generally easy and comfortable way in which they work, as though the idea of accomplishing a certain amount in a given time was never an element in their calculation. The average rate of wages is generally lower than in England, though there are many trades in which they are about equal, or the difference is but slight. Mechanical engineers are reported as receiving 5½ francs per day of eleven hours, while smiths earn 8½ francs for twelve hours, fitters 6 to 7 francs, and pattern makers 7 to 9 francs for a day of ten hours, the wages of the smaller factories being slightly higher than those paid in the larger establishments; a first-class mason gets from 8 to 10 francs a day, and a second-class or rough mason from 6½ to 7 francs, an ordinary bricklayer also receiving about the latter figure. It would not be matter of surprise, if what would be considered in America a good day's work were obtainable in France at these low rates, that the French Government is laying out such vast schemes of internal improvement, in the way of railroads, canals, grand highways, and harbor improvements, but it is questionable whether, considering the amount of labor performed, the rates are really very much cheaper than here. There is one great difference, however, and that is that nearly every one in France is employed; there are few idlers among what are known as the productive classes, and not only the men but the women and children also are active participants in the labor of bread winning.

In the matter of rent and cost of living, as compared with the rates in England, these "expert" reporters vary widely in their conclusions. Probably it would be found, that under equal circumstances, there would be little variation between France and England, but it is not easy to make a comparison that is of any value, for the French laboring classes are not only extremely economical, but a large proportion of them limit themselves even as to the amount of their consumption of the extremely coarse fare on which they principally subsist. They are frugal even to parsimony, and will generally save something, no matter how small their income, stinting themselves in their daily fare, and wearing only the coarsest clothes in order to accomplish this, in all of which they follow exactly the opposite course from the English mechanic, who will have his roast beef as often as possible, and will in anything be stinted rather than in the satisfaction of his stomach, whether he saves or runs in debt, if the latter be possible.

The almost entire absence of trades unions in France is noted here, as it is in almost every other treatise on French industry. The laws would not allow such associations of this kind as we have here, and the political societies or clubs, which are so numerous, though they discuss labor questions to some extent, are generally formed of members of different trades, and so have little or no influence on the rates of wages in any one industry. One great obstacle, however, to trades union organizations, and which operates most effectually in the prevention of strikes, not only in France but in Germany and other parts of Europe, is the great number of special organizations for the benefit of workmen and their families. This matter is treated as of no account in these reports, and it is stated that workmen out of employment or in distress have generally to depend on the government or private benevolence. They have not, it is true, the funds of any trades union society to fall back upon, but in a large proportion of the considerable manufacturing establishments in France a small sum is regularly set aside weekly or monthly by the employer, which is invested so as to form a fund for the relief of such cases.

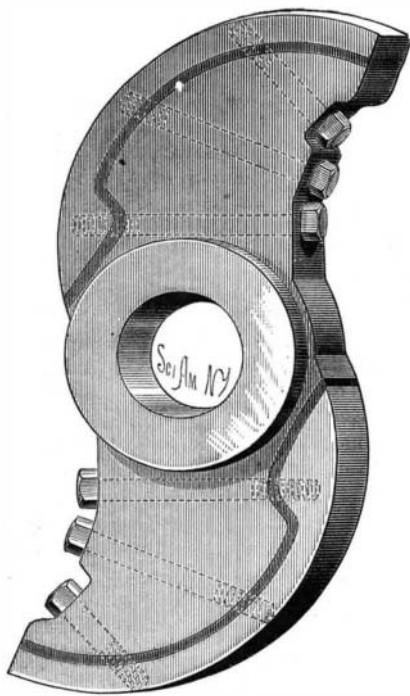
Rewards are also given for exceptional merit, and for length of time in continued service, so that each year of employment in the house adds to the amount which a man or his family can obtain when old age or sickness prevents his earning his livelihood. In not a few cases, also, schooling for the children and medical attendance for the family are provided, the advantages of which are more or less freely accorded as the workman has proved himself steady and faithful. One large Paris manufacturer, employing over two

thousand hands, has also founded a fund, to which he was a liberal contributor at first, and which is invested in government securities, which provides a pension on which worn-out employes, who have been in the establishment a sufficient number of years, can live comfortably on retiring, and those who remain for only five years can have, on leaving, if they leave for no misconduct or dereliction, either a small annual allowance with the privilege of again returning to work, or a lump sum if they prefer the latter. It is because there are so many benefits of this kind, accruing from continued employment and good character, in a large proportion of the French manufacturing establishments that we have so little of strikes there. There is a hearty good will and accord between employer and employed, which is not generally found here, and which goes farther to prevent labor troubles than all the laws which governments can exact or the payment of even the highest rates of which the most ardent trades unionist could ask.

IMPROVED CAM FOR STAMP MILLS.

The annexed engraving represents an improvement in the construction of cams, such as are commonly used in lifting the stamps of crushing mills. The invention consists in a removable shoe attached to the body of the cam by means of bolts, and backed by an elastic cushion or packing. This construction admits of the ready replacement of the shoe when worn, and it gives to the cam a yielding quality, which not only saves it from undue wear, but also modifies the action of the cam to such an extent as to prevent all violent and sudden blows, which are commonly so destructive to stamp mills.

Although the joint surface between the shoe and the body of the cam may be plain or corrugated, the inventor prefers the form shown in the engraving. The bolts which hold the shoes pass rather loosely through the cam body to admit of the yielding of the shoe, but they are screwed firmly into the shoe and move with it. In the cam represented by the



MOORE & DYKES'S CAM FOR STAMP MILLS.

engraving three bolts are employed to held each shoe, but we are informed by the inventors that two bolts are sufficient.

In case the shoe becomes beveled after considerable wear it can be changed from one arm of the cam to another, or to any other cams in the battery.

This useful improvement has been recently patented by Messrs. L. A. Moore and J. Dykes, San Francisco, Cal.

Zincography for Amateurs.

In a recent paper read before the London Society of Arts, Mr. Thomas Bolas, F.C.S., described zincography as a simple and easy mode of printing in the following fashion: Zincography, he said, is similar to lithography, except that a zinc plate is employed in the place of the lithographic stone. The so-called transfer paper is merely a moderately fine paper which has been brushed over, on one side, with a mucilaginous mixture, prepared by boiling together the following: Water, 1,000 parts; starch, 100 parts; gamboge, 6 parts; glue, 1 part. This paper is written upon with the ordinary commercial lithographic writing ink, which has been rubbed up with water like an artist's water-color. The writing being dry, it is necessary to moisten somewhat the back of the transfer by means of a damp sponge; after which it is laid face downward on a sheet of ordinary roofing zinc, which has been previously cleaned by means of emery cloth. Both being now passed together under the roller of a small press, the transfer adheres to the metal plate; but on damping the back of the paper it becomes easily removable, leaving the writing on the zinc. The face of the zinc plate is now gently rubbed over with muclage of gum arabic, which is all the better for being slightly sour, and the excess of gum having been sponged off, an India rubber inking roller, charged with ordinary printer's ink,

is passed over the still damp zinc plate a few times. The ink takes only on the lines of the transferred writing, and it is now merely necessary to lay a sheet of white paper on the plate and to pass both through the press to obtain an impression—an exact reproduction of the original writing.

Any number of copies can be printed by repeating the operations of damping and inking. The zincographic process, thus simplified, is rapid, economical, and within the reach of every one.

Why Teeth Decay.

Upon a careful review of the opinion and experiments of our best investigators, says Doctor S. M. Prothro in a paper read before the Tennessee Dental Association, it is conclusive that there are but two active agents in the process of dental caries, namely the action of acids and the development of a vegetable parasite, the *Leptothrix buccatis*. By actual experiments it is demonstrated that it does not require strong acids to separate the phosphoric and carbonic acids from the lime contained in the tooth substances. Even water that contains carbonic acid will dissolve the calcareous salts. And it seems from a circumstance that transpired under the eye of Mr. Spence Bate, that water alone can dissolve the teeth. A lady having two sets of artificial human teeth, placed one set in water to preserve it till she had worn out the other. At the expiration of seven years, the set that she had kept in water was as much corroded as the one she had worn in the mouth. This case corroborates a statement made by Weal and Heider, that at the end of ten days fungi had attacked the enamel and dentine of the teeth that had been kept in pure water, and that in a few weeks the tissues were pierced with holes like a sieve.

All mineral, as well as vegetable acids, act promptly on the teeth. "In forty-eight hours acetic, citric, and malic acids will corrode the enamel so that you may scrape a great portion of it away with the finger nail." Acid tartrate of lime, having a greater affinity for the lime of the tooth than for its own base, will rapidly destroy the enamel.

Grapes, in forty-eight hours, will render the enamel of a chalky consistence. Vegetable substances are inert till fermentation takes place and acetic acid is formed. Sugar has no deleterious effect, only in the state of acetous fermentation. Animal substances exert no injurious effect until putrefaction is far advanced.

Novel Mode of Preserving a Man's Reason.

A curious story is going the rounds of the English newspapers of an exhibition in the show windows of one of the leading jewelers of Vienna. The object of attraction is a brooch magnificently studded with gems, in the middle of whose chasing is inclosed the most singular of centers—four common, old, bent, and corroded pins. This brooch is the property of the Countess Lavetskofy. The pins have a history, of course. Seven years ago Count Robert Lavetskofy, as the story runs, was arrested at Warsaw for an alleged insult to the Russian Government. The real author of the insult, which consisted of some careless words spoken at a social gathering, was his wife. He accepted the accusation, however, and was sent to prison.

In one of the lightless dungeons in which the Czar is said to be fond of confining his Polish subjects, the unfortunate martyr for his wife's loose tongue spent six years. He had only one amusement. After he had been searched and thrown into a cell, he had found in his coat four pins. These he pulled out and threw on the floor; then in the darkness he hunted for them. Having found them, perhaps after hours and even days, he scattered them again. And so the game went on for six weary years. "But for them," he writes in his memoirs, "I would have gone mad. They provided me with a purpose. So long as I had them to search for, I had something to do. When the decree for my liberation as an exile was brought to me the jailer found me on my knees hunting for one which had escaped me for two days. They saved my wife's husband from lunacy. My wife, therefore, could not desire a prouder ornament."

The Wheat Harvest of 1879.

The wheat crop of the whole world for 1879 shows a deficiency of over 375,000,000 bushels, nearly 200,000,000 bushels of the deficiency falling to Europe. The following table, compiled from the *Bulletin des Halles et Marchés*, shows the yield for each large wheat raising country compared with the average yield:

	Average Yield 1879.	Yield for 1879.		Average Yield 1879.	Yield for 1879.
	Bushels.	Bushels.		Bushels.	Bushels.
United States	337,500,000	337,500,000	Belgium	18,150,000	22,500,000
France	230,172,000	172,125,000	Portugal	6,750,000	5,675,000
Russia	180,000,000	157,500,000	Algeria	20,500,000	16,875,000
Germany	99,000,000	90,000,000	Canada	13,500,000	13,500,000
Spain	94,500,000	78,750,000	Australia	13,500,000	14,650,000
Italy	87,550,000	67,500,000	Egypt	13,500,000	11,500,000
Austria			Netherlands	4,615,000	3,375,000
Hungary	76,500,000	63,000,000	Greece	3,500,000	3,375,000
Gt. Britain	83,500,000	47,500,000	Servia	3,375,000	2,812,500
Turkey	34,500,000	29,500,000	Denmark	2,250,000	2,250,000

How to Obtain Sleep.

The following is recommended as a cure for sleeplessness: "Wet half a towel, apply it to the back of the neck, pressing it upward toward the base of the brain, and fasten the dry half of the towel over so as to prevent the too rapid exhalation. The effect is prompt and charming, cooling the brain and inducing calmer, sweeter sleep than any narcotic. Warm water may be used, though most persons prefer cold. To those who suffer from over-excitement of the brain, whether the result of brain work or pressing anxiety, this simple remedy has proved an especial boon."