

EMPLOYER AND EMPLOYED.

The garrulous proprietor of a jobbing "variety" shop, in rehearsing some reminiscences of his earlier shop days, related six personal anecdotes, every one of which turned on his smartness in circumventing or in "showing up" the ignorance of his boss or foreman. This old time sentiment of opposition between employer and employed is not yet extinct, and it finds expression not only in the conversation of the workmen, but frequently in the manner in which they do their work.

Some workmen resent, as an unwarranted interference, any suggestion from the employer or the manager as to how a job should be done. Assuming that they "know their business" and have "learned their trade," they receive any direction or expression of preference of method from the employer as a meddling interference. It may be said that employers sometimes direct from their ignorance instead of guiding from their absolute knowledge; but that is no valid excuse for slighting or spoiling a job. A respectful explanation will generally serve to convince the employer of his error.

With many employes the maxim, "Obey orders if you break owners," is an actual rule of work. There never was a precept more baneful to the workman's moral character nor more harmful to the employer's interest. Expensive work has been ruined by its observance. Some years ago a prominent Eastern shop had an order for some experimental machinery. Among other parts were some forgings of an oblong square form with a projecting stud at the center of one end. From this stud, which was to be turned and threaded, the flat portion was suspended and worked—a reciprocating movement.

The flat portion was to be planed and finished to exact gauge. It would be evident to any first class mechanic, who had the drawings before him, that the turned and threaded stud was the true center and initial point of the work. So thought the competent mechanic who had the job allotted to him; and he began at that portion, when the foreman came and told him that the flat portion should first be planed. The workman knew better, but he believed in the "obey and break" adage, and ruined two of the costly forgings before he was corrected. In this case it was plainly the workman's duty to have suggested and explained; if he had not been listened to, the fault would have been entirely that of the foreman. A foreman cannot often be found who carries in his head all the combined shop wisdom; and, unless he is one who believes that he is the wonderful exception, he will listen to common sense instruction even from a journeyman.

This spirit of opposition of interests, which sometimes develops into antagonism of feeling, probably has something to do with the strikes which occasionally work trouble for both employer and employed. In establishments where workmen's suggestions are heard, and heeded if valuable, strikes are not frequent. Many a prosperous establishment may be recalled where unity of purpose and fellowship of feeling is the rule and tendency of the management. To associate the idea of strikes with such establishments would seem absurd.

CAST IRON CUTLERY.

This title may appear anomalous, but cast iron cutlery of certain forms is far more common than its purchasers generally imagine. And it is not necessarily of a poor quality, although made of nothing but cast iron. In the writer's family is a pair of scissors of cast iron that has been used for three years, and has been several times sharpened. The writer has shaved with a cast iron razor, which did excellent work for months. There are in Connecticut two quite extensive establishments which reckon cast iron cutlery as among the important products of their work.

This allusion to cast iron shears and scissors does not refer to the combined cast iron and steel articles which are usually considered superior to the forged ones. These have a steel inner plate cemented on each blade by the fused iron when it is poured into the mould; but the cast iron shears and scissors are wholly and entirely of cast iron, and they are finished for the market precisely as they come from the mould.

The quality of the iron used is the same or similar to that used in casting for malleable iron, and for cutlery it is cast in chills. When broken, the crystallization is very similar to that of hardened cast steel, and, except for lack of elasticity, it serves the same general purposes. But although this cast iron is not adapted to tools which work by blows, it is sometimes made into ice picks and axes, hatchets, and steak choppers. The manufacturers of cast iron shears and scissors make no secret of the material, and sell their goods for just what they are. Of course they are sold cheaper than forged work of steel can be sold. Retailers, also, know that this cheap cutlery is not steel, and usually—unless dishonest—they will answer truthfully questions on the subject. But, really, a pair of cast iron shears or scissors for ordinary household work is just as good as one of forged cast steel. There is only one difficulty in the way of superseding cast steel forgings by cast iron castings in these implements, which is that the chill that makes the iron hard does not always extend to a depth that will allow of repeated grindings and resharpenings, the material crumbling before it can be brought to an edge. But when first ground and edged, the shears are as keen as those of tempered cast steel, and the blades retain their edges longer.

A New Anæsthetic.

A new and what promises to be a most important discovery to the medical profession was recently made through pure accident by a German student, who had occasion to experiment with hydrochlorate of cocaine. Getting some by accident in his eye, he was amazed to find that it caused the surface to become insensible to all feeling. A few days since this anæsthetic was tried by a prominent oculist of this city, who had occasion to perform an operation for the removal of a cataract from a woman's eye, and with the greatest success.

Her eyelids were held wide open, and four drops of the liquid were cautiously dropped upon the surface of the eyes. It produced a slight anæsthetic effect upon the external coating. After an interval of five minutes, four drops more were applied, which caused the insensible condition to extend deeper, and after waiting another five minutes four drops more used. After the last application had done its work, the sensation of the eyes was tested, and they were found to be so entirely anæsthetized that the very severe and otherwise painful operation was performed without the slightest pain to the patient. Hydrochlorate of cocaine is the active principle of cocoa, and cannot be had in this country as yet.

An anæsthetic that would render a particular part of the human body without sensation, and avoid the necessity of using chloroform or ether, has long been sought, and this new discovery will be thoroughly tested and experimented with, in the hope that it may be found to have an effect upon other portions of the body than the eye.

The Railroad Warfare.

For some weeks past there has raged a fierce contest between the New York Central and West Shore railroads. The reduction of passenger rates on one line is followed by lower rates on the other, until persons can travel long distances at very small cost over either road. The *Railroad Gazette*, referring to this fierce competition, discusses the economic question of the contest very sensibly. The managers of both roads, says the writer, are bound to do the best possible for the proprietors of the railroads committed to their charge. If the New York Central could prevent the West Shore from ever making a dollar of profit, without loss to itself, it would be justified in doing so; if it can make it so valueless that it can buy it cheap for the benefit of its own proprietors, it is justified in doing that. It owes the West Shore absolutely nothing; its conduct toward it should be guided by the ultimate effect on the income of the New York Central Company. When the West Shore built its road by the side of the New York Central, it took the risk which every new business takes of being ruined by its competitors.

And so with the West Shore. If by any effort of theirs its managers could divert every dollar of profit from the New York Central treasury to their own, they would be bound to do it. As railroad companies are established and managed under our laws, none possesses any rights in traffic or profits against rivals. Each is liable to fight for its existence, and the contests can be judged only by the rules of war in uncivilized communities. The tribe that first occupies a fertile valley owns it just so long as it can outfight every intruder; and, burdened by its very wealth and the care of women and children, a rich and powerful tribe may have to yield part or the whole of its domain to a poverty-stricken band of desperate adventurers who have nothing but their lives to lose, and are reckless of them.

Curiously like war are such contests between railroads. Maneuvers are successful in proportion to the amount of damage they do to the enemy compared with our own loss. The company which is in position to make rates so low as to ruin the value of a traffic at a place where its business amounts to \$10,000 a year and its rival's to \$100,000, has an enflaming fire on its enemy. The one with a large income and light fixed charges can endure great losses and hold out long, like a wealthy and populous nation.

The Value of Vaccination.

That there are still intelligent people who oppose vaccination, and strive to make it appear that it is not only useless but injurious, need surprise no one acquainted with the vagaries of the human mind. For such persons, testimony is of no avail. They are not capable of seeing the conclusions of a logical train of reasoning. Facts to them are inferior in power to prejudices.

Yet there are facts which now and then are brought to one's notice, so startling in their native hideousness that it seems wrong to pass them over in silence. If it is only as a matter of medical statistics, we must print a reference to a letter from Dr. Neve, of the Mission Hospital in Cashmere, which has appeared in the *Civil and Military Gazette of Lahore*: "Thanks to the exertions of the English authorities, vaccination has been carried to some extent in that portion of India ruled by us; but in Cashmere the state of things in an entirely unprotected country was to be seen." Dr. Neve says it would be nearer the truth to say that the population is annihilated than to say that it is decimated by the scourge of smallpox. Smallpox is endemic in every village and town of Cashmere. "I recently obtained from all my hospital staff a statement of the mortality of smallpox among their immediate relatives. They represent twenty-five families, and in these 190 members were born, of whom exactly 100 died of smallpox. Two or three children have not yet been attacked; all others have had the disease." Thus, of these 190 persons, at least 95 per cent had been at-

tacked by smallpox, and of those 65 per cent succumbed. "There is not much room for hoping," Dr. Neve says, "that these figures indicate any very unusual rate of mortality, and, of course, the evils inflicted by the disease are lifelong in many who survive the attack."

Such is the condition of things in a country where vaccination is not practiced, and such it was here before the discovery of Jenner. So it would be again were the crazy notions of the anti-vaccinationists to prevail—which, however, we do not greatly fear. The world may be old, but it is not that senile.—*Med. and Surg. Reporter*.

The Vulcanization of Rubber.

For vulcanizing India rubber there is generally employed a bath of sulphur and steam under pressure. Messrs. De la Tour du Breuil Brothers have conceived the idea of substituting therefor a concentrated solution of calcium chloride capable of furnishing a constant temperature of from 150 to 160 degrees. The advantages of this substitution are very important, and may be summed up as follows:

1. There is no modification required in the present apparatus existing in factories.
2. The iron plate vats, not being exposed to burning, last much longer.
3. The capital invested in the bath is insignificant compared with that required by the sulphur bath. Sulphur, in fact, costs in Paris about 200 francs per ton, while calcium chloride is but 80 francs.
4. The daily consumption of the chloride, when the bath has once been prepared, is almost nothing, since this salt is fixed and indecomposable, while with sulphur there is a continual consumption, on account of its volatilization and accidental combustion.
5. As a consequence of the suppression of the vapors of sulphur and sulphurous acid in the works, the manufacture has no bad influence upon the health of the workmen.
6. There is no danger of fire, and consequently the insurance rates are lower.
7. The apparatus lasts longer, since the iron employed for locking the moulds no longer has sulphur to combine with and make it brittle.
8. The consumption of fuel is greatly reduced (say about two-thirds), since the bath has a powerful calorific capacity, and the vats may be heated by an open fire.
9. Finally, as the boiling is much gentler and more regular, it gives products of superior quality, and little or no waste, on account of the facility that exists of always keeping the bath at a temperature of between 150 and 155 deg.

—*Chronique Industrielle*.

The Art of Seeing.

In everyday life it is much more important to be an accurate observer than a mere book learner. I have frequently seen the latter made to blush for her deficiencies by the most unlearned, says a correspondent in an English contemporary, for in a contest between eyes and no eyes, eyes have generally got the best of it. Nature has given us such an inexhaustible store of interest that those who go through life without "seeing" lose much of the zest of it. The savage, who necessarily depends upon his keen eye and quick ear, cultivates those faculties in an extraordinary degree; for does he not see indications and hear sounds which to an unpracticed observer would be utterly unintelligible? So also with all persons who live near the heart of nature. The English shepherd, while perhaps ignorant of the very formation of the alphabet, stores up a fund of interesting knowledge, derived entirely from observation.

He can give you simple, interesting astronomical facts which might astonish a scientist, as well as trustworthy information on natural history and even botany. His pursuits lead him to study nature in all its varied phases; it is in this way that he can tell you that the arrival of the swallow may be expected on the 11th of April, and not later than the 14th. He will tell you the best time for noticing the flight of birds, and that nearly every bird has a different manner of flying, and that each has wings adapted to its different habits; for instance, those like the swallow, who catch their food while in the air, have long, pointed wings, while rounded, short wings are only for birds who have slow and short flight. He will also tell you how the tiny pimpernel warns him to house his lambs by closing tightly its petals on the slightest indication of rain; and thousands of other simple facts which to a student of nature are most interesting.

Thus, one may possess everything in the way of scholarship, but if he or she have that alone, those who are unlearned but observing will often make them feel very small. I would, therefore, urge my readers to cultivate the art of seeing or observing; there is nothing like seeing things for ourselves. Our ideas become fresher, more natural, and more in unison with latter day tastes when they are formed from observation. Nature's book is the one wherein we find the richest, the most varied, and the most inexhaustible subjects for thought. Whole pages of lessons may be learned from the very stones we walk on, and the most insignificant of God's creation possesses an interest unknown to those who go through life without "seeing."

LEMONADE FOR DIARRHŒA.—Dr. Vigouroux recommends a glass of hot lemonade, every half hour or less as indicated, in diarrhœa. It certainly is pleasant, and is stated to be effectual.—*Med. Bulletin*.