

many places in which no material but timber of some sort can be expected to be used for many years.

The chief task before the promoters of these anti-decay processes is that of convincing owners of important works, whether on dry land or in the water, that those methods can be made to pay them an important return. This would seem to many who have examined the evidences of decay which the lapse of time surely brings sooner or later, to be an easy task when, side by side with this destruction, can be shown so many clear proofs of the possibility of effecting the large money saving due to the use of those preserving or protecting agents.

Steam vs. Water Power.

The minimum capacity and height of fall of some of the leading water powers of the United States is as follows: Holyoke, Mass., 50 feet, 17,000 horse powers; Lowell, Mass., 35 feet, 10,000 horse powers; Lawrence, Mass., 28 feet, 10,000 horse powers; Turner's Falls, Mass., 35 feet, 10,000 horse powers; Manchester, N.H., 52 feet, 10,000 horse powers; Paterson, N.J., 35 feet, 11,160 horse powers; Passaic, N.J., 22 feet, 1,000 horse powers.

Fall River, with at least 500,000 more cotton spindles than any other town or city in the United States is operated wholly by steam power.

Manufacturers have been heard to say that they would not move across the street for the sake of substituting water for steam, considering the irregularity of most water powers. A more moderate statement is that of the manager of a prominent woollen mill on the seaboard, whom the writer asked if it would not be cheaper to run his mill by steam than by water. The answer was: "for a mill located as mine is, steam is the cheaper. I use half anthracite screenings, and half culm coal from Nova Scotia. The average cost of both kinds of fuel landed on our wharf is \$3.25 per ton, and at that figure steam is cheaper than water."—*Boston Commercial Bulletin*.

Engraved by Electricity.

Herman Laüten, of Washington, D.C., claims to have perfected instruments—to call them for want of a better name—through the medium of which electricity does the delicate work of engraving, and does it instantaneously. The discovery is a new one, and its finder is sanguine that it will in a great measure supersede hand engraving. He produces for plate-press printing raised plates of ordinary form, in which the lines are as clear and sharply defined as those engraved by the ordinary process. It is stated that fac-similes of fine steel engravings have been made by electricity that cannot be distinguished from the original plates, so close and perfect is the resemblance. By the electric method plates can be made of almost any size, and the lightning method is said to be peculiarly adapted to map work or large illustrations, the making of plates in relief for type-press work, the reproduction of woodcut prints, cuts for newspapers and mercantile work, and also for colored plates. The depth of the lines can be

regulated by will, by which, indeed, the coarser kind of work is a possibility. The plates employed are copper-faced, such as are used in ordinary electrolyses. Impressions are instantaneously taken as in photography, with the difference that electricity, not the solar ray, does the work.

Rather than explain the details of this process the inventor will do without a patent, feeling more secure in his rights by keeping the invention under his own eyes—in his own hands. A company has been incorporated in Washington to carry on electrical engraving, and the Laüten process will probably soon make itself practically felt in the trade.

Why the Chinese use Scrap Iron.

The Chinese make very slow progress in the march of civilization; indeed, some of their movements bear a strong resemblance to a retreat to the depths of barbarism. Our prospects of developing the iron trade in the Celestial Empire are darkened by a mania which has seized them for utilizing scrap iron, instead of importing manufactured iron suitable for their requirements. Table knives are not needed in China, but for agricultural and general purposes the Chinese have a knack of converting old horse-shoes into cutting instruments, and they prefer the home made goods to the most tempting productions of Sheffield. They also convert old horse shoes into fish-plates for strengthening the axles of native wagons. The Chinese demand for scrap iron has developed marvelously during the last few years, and Shanghai is now a great depot for old iron, which is brought as ballast by ships from England. Lieut. H. N. Shore in a paper published in the last issue of the *Journal of the Society of Arts*, states that at Shanghai acres of ground are covered with old iron awaiting shipment to the interior. Old hoop iron, boiler plates, cart-wheel tires, and every description of old iron, are being sent up country for conversion into agricultural implements. This remarkable proclivity for scrap iron threatens to seriously interfere with the demand for bar and merchant iron, and we think it is not difficult to trace its origin. The eastern trade has been cut up by the competition of Belgian makers, and quality has been entirely lost sight of in the struggle for incidents. Imitation Swedish iron is an article of commerce chiefly manufactured for the India and China markets, and, beyond the name, it usually bears no resemblance to the article it is supposed to imitate. The Chinese like a good soft iron that is easily worked, but they have been deluded with the commonest rubbish that is produced. At length John Chinaman has kicked, and having discovered a remedy he prefers good scrap to had finished iron. In the economy of business it is impossible to injure another without injuring one's self, and those who have palmed off spurious iron on the unfortunate Chinese have now leisure to repent of their having closed what should have been a good market for good iron.

The construction of the C.P.R. docks and elevator at Port Arthur has been retarded, owing to the difficulty in obtaining lumber.

Cash or Credit.

A correspondent of one of our eastern exchanges relates his experience of the cash and credit systems as follows:

"Eight years ago, I commenced business where I now am. I then did a credit business, with a capital of \$3,000, and in about six years was almost busted. I had a stock of worthless bills against A, B, or 'will pay when I get ready.' Two years ago I changed to the cash system; the consequence is I have a fine stock of goods, perfectly fresh, for I have the money to buy when old stock is gone. Can, and do, sell five per cent. cheaper than when I did a credit business, and that is drawing me more trade every day. Having one price to rich and poor alike, and keeping only first-class goods, is also gaining me trade. I feel as if success would crown my efforts in the end, while I think that a man, to do a credit business, must have a large capital to back him, and must make up his mind in the commencement that he will be a failure in ninety-nine times out of a hundred, if he concludes to trust Tom, Dick and Harry."

It needs but a little nerve for any grocer to change from credit to cash, and the benefit will in all cases be equal to that narrated above.

Paper Roofing.

A Mansfield, Ohio, company is said to be manufacturing a roofing material from a wood-pulp board, consisting of two-thirds spruce and one-third poplar. It is then prepared, under patents owned exclusively by the company, in such a manner as to give the greatest durability, and adapt it generally for roofing purposes. It is claimed to be the best roofing in the world, all things considered. It is not affected by heat or cold, as metallic roofs are, nor can it corrode. It is practically fire-proof, though not absolutely non-combustible. It can be used on any kind of roof having not less than 1½ inch fall to the foot. It is especially adapted to locations where smoke and sulphurous gases abound, which generally destroy metallic roofs in a short time. It is flexible, can be used for valleys, flashings, ornamental cut-work in gables, panels, bay-windows, verandas and irregular-shaped roofs. It can also be used with perfect success for sheathing warehouses and grain elevators.

Cleaning Wheat.

By far the most important part to be performed in cleaning wheat successfully is to separate it thoroughly. This by many millers is, unfortunately, considered of but trifling importance; and yet a much greater mistake in reference to the matter could hardly be made. There are some seasons, in some localities possibly every season, that not more than one-half the wheat is fit for a high grade of flour, and unless this half can be separated from the balance and ground alone, no high grade of flour can be made. This is often the experience of millers in various sections of this country, and probably other countries as well.—*Alternathy*.

A TELEGRAPH office has been opened at Saskatoon, in charge of Robt. Carwell.