

FREE LUMBER.

Thousands of our citizens have been led to believe that a removal of the duties on the import of Canadian lumber would have a tendency to increase and protect American forests. This fallacy. The removal of the duties would advance the profits of the Canadian lumbermen to the extent of the reduction, though per capita production among the saw mills in the Dominion to the detriment of our home industry. Our American forests are owned by individuals who are obliged to work them for daily sustenance. Lumbermen would not cut their lands or saw mills simply by reason of the Canadian competitor getting his lumber free of duty. The American operator would feel that our Government had committed a wrong should the Canadian who pays duty here, be allowed to sell his lumber to the markets without duties, while the American operator is handicapped with a duty on his lumber. His saws, his blankets, his tools, and almost everything which enters into the cost of his lumber. Yet the operations of the American citizen whose whole capital is invested in his timber lands and in his saw mill must continue under the fiercest and most unfair competition.

Justice to our lumbermen would not save the forests. Sound economy does not want the old forests as have reached their prime and are commencing to decay. Such preservation is a waste of valuable raw material. A cutting of mature trees gives the younger specimens a better chance for life and growth. The Canadian Government wants to protect, or, practically, free trade with this country. This cannot be accepted by us without serious impairment of extensive American industries. The Canadians have put up the duty on pine logs to \$3, and on spruce to \$2 per thousand feet. On skingle logs have fixed a specific duty of \$1.50 per cord. The favored object is to prevent Michigan lumber, who have purchased timber lands on both shores of Lake Huron on a large scale from raising the logs to the Michigan shore to be sawed. But the real purpose is to favor towards building up an American industry in favor of free trade in lumber. Canadian writers on forestry are prolific in predicting a lumber famine in the United States. This is not wholly disinterested advice. Our country should afford the same protection to lumber interest that it does to other industries. Free lumber would build up Canadian damage the lumbermen of this country, and any corresponding advantage to other industries.—*Manufacturers' Gazette*

HOW AXES ARE MADE.

The manufacture of axes, the material through twelve different operations before it is ready for labelling and boxing. At is a rectangular piece of iron, about three inches of an inch thick, three and one-half wide, and about six inches long. The steel, and in some instances is inserted straight in the iron, and in others it is bent over the edge of the iron. There is a great demand for axes made entirely of steel. The most important part of the process of manufacture is tempering. "This is really where the axe is made," said a manufacturer. The grinding and polishing is the most laborious part of the process. It is here that the rough, far shaped semblance of an axe is ground polished until it is as bright as a mirror. It is that the work will prove fatal within five years to any man who pursues it steadily. The work is called with imperceptible dust from the sand, and many of the workmen tie small pieces of cloth saturated with water over their faces.

It is a sad and nuisance in the Ottawa river is complained of, and it is suggested that the government could easily do something to it at this season of the year. Not only deposit beginning to affect the lower part of the Rideau canal, but the frequent fires of gas generated by the pine dust period of submergence are stated to be very dangerous to those taking pleasure boats.

LOAFING.

While there are many complaints made, from time to time, says the *Mechanical News*, about the dullness of business and the hardness of the workingman's lot, we hazard the statement that about one half of the hard times and business depression is the direct or indirect result of loafing—either good, or solid, square, old fashioned, primitive loafing or the modern revised version, which is called, for some occult reason or other, "soldiering."

There are very few honest, safe and profitable occupations in which success can be attained by sitting down and waiting for it, or is got by luck. There is more gold got out by patient labor than was ever brought to light by stabbing the two against nuggets. The diamond fields are the scene of patient, plodding labor, neglecting no shadow full of dirt.

There is a marked difference between workmen who are doing for themselves, or who are piece working, as well as among those who are "by time." One man will loaf away an hour a day. It may be listening to, or watching his neighbor; or hunting a match or helping hunt one; or wondering what to do next; or it may be distributed all through the day by deliberate and careful attention to the science of slow moving as applied to the prevention of heat or rupture; but it is there, all the same, there is an unproductive hour or a day with a tenth or an eighth less work in it than it should have.

A try-workman cannot afford to loaf. He may lose his place, for a selfish reason. He is not giving an honest equivalent for what he receives, for a moral one. He is getting into the habit of working slowly, which will interfere with his profits if he gets on piece work—selfish reason No 2. He is setting a bad example to others to render a poor equivalent for their pay moral reason No. 2.

We could keep on piling up reasons of each kind against loafing, but they will suggest themselves; and then the case is somewhat analogous to the one where the lawyer announced twenty-nine reasons why his client did not appear at the trial. In the first place, he was dead. The second reason was that "the first reason was reason enough."

There are many foundries and factories, mills and shops, where no smoke issues from the stack and no rumble of work is in the air, and in which more energy and less loafing, on the part of proprietors and employees, would have enabled work to continue right along, at least at a rate which would pay hands and keep the business in public mind until times were better. Ten per cent. more work out of every man would not have strained any one and would have made just the difference between a slight loss in the business, and "expenses cleared." And that ten per cent. more work would have improved every man on the place.

We just heard an anecdote of a noted stenographer who drops into profanity if a day goes by without his having anything to do; not because he loses the earnings of that day, but because he loses speed. He gets some one to read fast to him, in order to keep up his speed.

Go into an engine room and see the engineer doing nothing all day, and you will see a man who will not earn any more ten years from now than he is now getting. Instead of loafing, he might be reading, or drawing his engine out to scale or learning something about the machinery his engine drives.

The time for loafing is after work. Then it should be free and unreserved, and will be beneficial, and rightly earned.

ANOTHER most important event in the progress of the Dominion, which is held to be only second to that of the opening of the Canadian Pacific Railway enterprise itself, was the inauguration on the 13th ult., of that company's new Canadian telegraph system, with connections also in the United States as well as to Europe, by arrangements consummated with the Postal Telegraph and Commercial Cable companies controlled by William Mackay. The Postal Telegraph system completely covers the United States, being a union of all lines secured by Mr. Mackay that were dependent of the Western Union, including the American Rapid, the Northern Mutual and the Bankers and Merchants.

BRITISH COLUMBIA LUMBER TRADE.

The great timber limits in the Province of British Columbia are rapidly being utilized, and the fact is not looked upon with much satisfaction by those engaged in the timber trade across the border. The *Northwestern Lumberman* referring to this subject, says:—

"Pacific coast mill men and lumber exporters must look out for competition from their northern neighbors across the national boundary. An important part of the lumber trade of California, Oregon and Washington territory mill men has been their exports of lumber. This trade has not been on the average very profitable, but it has been an outlet for surplus stocks and prevented a demoralizing over supply at home. The exports to the Australasian British colonies have been especially important and have largely increased with recent years. But coincident with this increase has been the growth of the saw mill industry of British Columbia, and that province has already shown itself no mean competitor. The completion of the Canadian Pacific railroad, and the consequent awakening of enterprise all along its line will be particularly potent at its western terminus. The magnificent timber resources of British Columbia will be opened up rapidly, and will supply not only the lumber demand of the prairie regions to the east, but will be available for export. Other things being equal, it is to be expected that Australia will give the preference in making purchases to the products of a country to which it is politically allied. Moreover, the movement in Australia to bar out American lumber, in favour of that from New Zealand, by an almost prohibitory tariff, will not be brought to bear against the timber of British Columbia. Pacific coast operators should be awake to the situation. They may not be able to prevent the substitution of the northern product for their own but there is yet time for them to largely occupy British Columbia if the field should seem a desirable one."

A SUCCESSFUL MACHINE.

The following flattering testimonial has been received by the Waterous Engine Works Co., of Brantford, regarding the working of their 25 h. p. Portable Champion Mill.

RODGER'S PASS, B. C., August 26th, 1886.

The mill is and has been working all right as the amount she has cut since I started will show for itself. I have run steady ever since I started, never had to stop an hour, or cost them a dollar, so there is nothing in the way for them to settle. The mill was cutting in 28 days after it left Brantford—that is I started up on the 21st of June to cut, and up to date I have cut more than one million one hundred thousand (1,100,000) and we have to do the edging with the large saw. When the mill got here they said that it was too small, and that it was to be 35 or 40 horse-power mill, direct action, 60 in. saw and large carriages. A mill of that class would not have been any too heavy for the work I have to do. The logs are hard to cut, and at first they were too large, (4 feet diameter) for this small carriage and small saw, that is the reason the pulley and extra size saw were ordered. To cut the amount I am cutting, I have to work the mill and run the engine fully more than I should do, but I am as careful as possible to see that everything is kept right, and so far all has went well. Let me know if there was any stated capacity in contract. Our average cut per day will be fully 20,000 and do the edging on the large saw, and that keeps us so there is not much time to be lost. It is 1 in. boards and 3 and 4 in. plank, but it is all to be cut 14, 12, 10 and 8 inches wide. We do not saw any bridge or other timber. The most of the logs that we cut are spruce and cedar. The cedar is bad to saw, it is hard to make a saw to run right in it. Yours etc., JOHN LYLE.

The Loss of Power.

Start at your engine, and follow up your line of shafting, and figure up how many tons of excessive weight you have been carrying thereon, which to keep in motion, has been at a cost of from one to five horse-power per ton weight, according to alignment of same; then follow back and cipher your loss by slipping belts, and you will be surprised to find the sum total to be more than one half the amount of power you are using.—*John P. Morely, in Power and Transmission.*

A dispatch from St. John N. B., says: The Bangor lumbermen all agree in saying that the cut of logs the coming season will be much larger than for several years past. It is said that one third more concern will operate than usual, and all will go in for winter's work. As yet no estimates have been made of the probable amount of the cut. A great many concerns are taking up the West Branch, but no permits have thus far been made there. More work will be done on Cumberland Lake than for some time past.

BAND SAW.

Band saws are probably the coming machines for making lumber, where great economy of raw material is the thing to be most carefully considered. The experiments made, and the practical use of these implements during the last two or three years, demonstrate this much beyond any question. But because this is true, it does not follow that circular saws are to become obsolete. They have made too good a record to be disposed of so summarily. There is no good reason for believing that circular saws will not be in great demand for many years to come, if they do not occupy a prominent place in the list of lumber cutting tools as long as there is lumber to be cut. Both the band and circular represent developments of the same principle; they both accomplish their work by means of a serrated blade moving rapidly in one direction, therein differing radically from the principle of the earliest sawing machinery—that of a reciprocating movement—the highest development of which is seen in the modern gang. So handy, effective, reliable and cheap an application of the principle of a continuously moving blade, as is found in the circular saw, cannot give way entirely to any improvement, however economical of timber it may be. For very many situations, the circular mill, of low first cost, adapted to more or less rough usage, not easily got out of repair, rapid in its work, and altogether a reliable device, is better fitted than would be the most perfect band machine, though it might cut a kerf no thicker than a sheet of paper. The fact that there are so many places of this kind which can be better filled with a circular mill than with any other sort of lumber cutting arrangement, insures for it a demand and popularity that will not be perceptibly reduced by the encroachments of the band saw upon its domains. Indeed, it is possible that improvements may still be made in circular saws that will bring it close alongside the band, in point of economy. Astonishing success has been achieved already in the use of thin saws, and who will venture to fix the limit beyond which improvement in this direction shall not go.—*The Timberman.*

THE NOISE OF THE FINGER.

Dr. Hammond says that when you place the end of your finger in your ear, the roaring noise you hear is the sound of the circulation in your finger, which is the fact, as anyone can demonstrate for himself by first putting his finger in his ears, and then stopping them up with other substances. Try it, and think what a wonderful machine your body is, that even the points of your fingers are such busy workshops that they roar like a small Niagara. The roaring is probably more than the noise of the circulation of the blood. It is the voice of all the vital processes together—the tearing down and building up processes that are always going forward in every living body from conception down to death.