

ties. Vast as is the supply it must soon be exhausted if the consumption continue at this rate ever increasing.

In Europe, where timber of all kinds is comparatively scarce and dear, steel ties are used by some roads and are found satisfactory. It is hardly to be supposed that steel ties will come much into use on this continent for many years to come. Other European roads use antiseptics to prolong the life of ties and to render wood hitherto not used suitable for this purpose. Antiseptic preparations, it is suggested, could be profitably used in those parts of America in which suitable wood is scarce. The Union Pacific and the Atchison, Topeka & Santa Fe roads have established works at which soft woods are treated to make them suitable for ties, piling, etc.

In Canada the scarcity of wood for railway purposes has not yet been much felt. But there are some districts to which ties and timber must be hauled for a considerable distance even now, not to speak of the prairie roads, for which in most cases only soft wood can be got.

The report urges the owners of land, and especially those railroad companies which have obtained great land subsidies from the Government, to provide against future want by planting extensively now. It tells of instances in which arboriculture has been carried on profitably and satisfactorily on a large scale, as well as of the great success which has crowned the labors of those who have planted trees for farm and homestead purposes on the treeless prairie.

It is asserted that farmers who sell hardwood or pine ties at 30 to 35 cents each waste what must be very valuable in a few years—what indeed is worth now much more than the price they get, and farmers are urged to combine wherever they can to obtain better prices.

#### QUEBEC TIMBER DUES.

The following is the text of the official circular recently issued by the Quebec Government regulating the timber dues:

EXECUTIVE COUNCIL CHAMBER,

Quebec, 6th October, 1887.

Present—His Honor the Administrator in Council:

His Honor the Administrator has been pleased to order that the regulations based on the Order-in-Council, No. 160, of the 7th of April last (1887), establishing the ground rent per square mile, on all the limits for the cutting of timber, and those including the tariff of stumpage dues, in so far as they relate to pine and spruce logs, as established by the Order-in-Council, No. 39 (Crown Lands), of the 7th of April, 1881, be rescinded, and that from this date the following be substituted therefor.

The ground rent payable on all limits under license to cut timber, granted up to the present, or to be granted in the future, shall be three dollars (\$3.00) per square mile, payable in cash on or before the first day of September in each year. Default of payment in this case, at the proper time, will entail the forfeiture of the right of renewal of said license.

The stumpage dues imposed on pine logs, of which the contents shall be reduced to a standard of two hundred feet, board measure, shall be one dollar and thirty-six cents (\$1.36) per thousand feet, on all timber cut after the first of September of this year.

The dues on spruce logs, cut after this same date, reduced to the same standard of two hundred feet, board measure, shall be sixty-five cents per thousand feet.

The payment of those dues shall be made in conformity with the affidavits of the cutters and foremen employed in the forest operations by the lumber merchants, proprietors of limits, or their representatives, also according to the affidavit of said proprietors, the whole to be revised and verified by the written report of the forest ranger.

The statement of measurements affected by those cutters must be sworn to before the Crown Timber Agent or forest ranger; and shall be subject to any inspection and verification that the Commissioner of the Crown Lands may judge it advisable to order. Those annual statements of forest operations must be transmitted to the aforesaid agents, on or before the 30th of September, following the season in which the said operations took place.

It is further ordered that the regulations based on the Order in Council No. 36, (Crown Lands), of the 6th of December, 1883, concerning the dues liable to be imposed on culls and pieces of small dimensions, be abrogated.

#### EXCHANGE ECHOES.

Timber Trades Journal, London, Eng.

On the continent we understand that pitch pine, both deals and timber, is selling freely at full prices. The reason for the decline in prices on this side of the Channel is, rightly or wrongly, attributed to a falling off in the actual consumption, and, as the stocks are not abnormally large, there is very fair ground for the assumption, not that the wood is going out of use, but that not so much of it is now required as formerly.

Southern Lumberman.

It is intimated in a good many directions that lumber will be advanced next year. The reasons for this belief are not easily given. It is true the demand for lumber may advance, but on the other hand the amount of new lumber territory constantly being opened up and the enterprise displayed by saw mill builders as an offsetting factor which is well worth while to keep in sight. Even in the far Northwest there is speculative fever at work. We are constantly reminded by forestry congresses of the rapid depletion of American forests. This possibly is encouraging and stimulating a great many to make purchases of desirable timber territory and hold for future exigencies.

Hamilton Times.

The Toronto *Globe* ascertains from the records of recent sales that the price of Ontario timber lands is on the advance. A square mile that was sold for \$160 in 1881 has since been withdrawn at \$539. The *Globe* thinks that commercial union would still further advance prices. Mr. Mowat can hardly be blind to the fact that these values belong by right to the people of Ontario, and not to speculators. If a lumberman can afford to pay such a price to a speculator for the right to cut, he can afford to pay the same price to the Provincial Government. There is an easy way of diverting the "boodle" into the Provincial treasury, and Mr. Mowat should promptly adopt it. Mr. Mercier has set the example in Quebec.

Chicago Timberman.

It is practically settled thus early that logging operations this winter, are going to be expensive. Many kinds of camp supplies are slightly higher than they were last year, and there are no important items cheaper. Labor is not plenty and while prices are nominally about the same, the existing conditions point to a higher average during the season. In general, the difficulty of getting logs to water and the amount of labor required to accomplish it increases slightly every year, because it is natural that the more accessible timber should be first cut. In the older sections, there will be a good deal of clearing up work done. A good many logs put in over long hauls, the added expense of which there is nothing to counterbalance. The differences in every case may be small and apparently unimportant, but the sum of them is likely to be considerable, and to make the aggregate as well as the per thousand cost of logging the coming season, greater by an appreciable percentage than it was last year.

Southern Lumberman.

It seems a hard fate that a mill man, after having his mill blown to pieces, should have to pay out large sums of money to assuage the grief of the surviving relatives of the man whose carelessness was the cause of the destruction of life and property. Nevertheless, there is both justice and mercy in this ruling of the law. The prime cause of the accident was the placing of an inexperienced fireman in charge of the boilers. Generally a negro is selected who possesses the ability to toss a cord of wood or a load of sawdust per hour, and who will manage to keep up steam sufficient to move the saws properly. The negro is so interested in the contest thus engaged in that he fails to keep up enough water, and presently there is a crash and everything goes to pieces, taking his boiled remains with it. Both the damage that is thus occasioned and the suits that follow should teach the mill owner that it is cheaper in the end to employ a competent engineer. We think that the number of accidents that are occurring in various parts of the country are doing a great deal in educating the mill owners to a proper sense of the responsibility resting upon them. Unfortunately the experience of one man does not seem to teach another man anything.

Mississippi Valley Lumberman.

There are indications that there are better things in store for the lumber trade in the Canadian northwest, as elsewhere. The trade up that way, since the disastrous boom of 1882 has been even more badly in the dumps than it has elsewhere. Mills have been idle and lumber has blackened in the pile. Owners of pine lands tributary to that market have been without a market and demoralization has been supreme. But there is again inquiry for pine lands and our advices from that locality bring the information that mills which have been idle are to be operated next season. Minnesotians have an interest in this renewal of business, because much of the timber which is tributary to Rat Portage—the chief source of supply for Manitoba and the territory west—will be cut from Minnesota soil. New railroads may make some of this timber tributary to the Minnesota market, but the large and valuable tracts of pine lying on the north slope are naturally tributary to the Canadian markets. It is likely to be some time before a large consumptive demand on the other side of the line will make very serious inroads into this almost virgin timber, but how great a proportion of the whole amount will find its way into the Minnesota markets will depend somewhat upon the extent of consumption in the Northwest and the amount of development in the railroad building line which is accomplished in the northern part of this state. Minnesota men are large holders of pine on the northern slope and they therefore have more than a passing interest in the development up that way.

#### CHIPS AND SHAVINGS.

—Resin is frequently used for producing an immediate adhesion of the belt to the pulley, and for this it is well suited, but if the owner has any regard for the consequences he will soon learn that while the resin will give an instant grip to the slipping belt, it will soon be ground into the leather, stiffen the material and make the last state of that belt worse than its first.

A manufacturer who uses considerable oak, says that to get oak into which the worms have not worked one must gradually go farther south. The reason for this is not plain to him, though he believes that the more the country is cleared up the wormier the oak becomes. To get oak absolutely free from worm holes he must now go to those sections of the country south where the forests have been but little molested.

—Happening to want a place to strike a parlor match to light a gas stove, says a writer in the *Chicago Journal of Commerce*, I struck the match on the top of the stove over the gas. The gas ignited but the match did not. I laid the match aside, and as the gas burner was wanted I used the same match until I had lighted it twenty-three times, and the match is apparently as good as ever. Cannot some one invent an improved lighter from this suggestion?

—A sash, door and blind maker says there is more waste of lumber in the business than is always taken into account. Says he: "A man figures that his lumber costs him so much, his labor so much, and interest, taxes, insurance and what not so much more, and that there ought to be so much left for profit; but when he comes to figure up at the end of the year, he has to inventory his plant at all it cost him to make his books balance." This will apply to others besides the sash, door and blind makers.

Prof. D. P. Penhallow, having studied the relation of annual rings to the age of trees, concludes that the formation of rings of growth is chiefly determined by whatever operates to produce alternate periods of physiological rest and activity. In cold climates the rings are an approximately correct, but not always certain, index of age; but, in warm climates, they are of little value in this respect. The influence of meteorological conditions in determining the growth of each season is most important, particularly with reference to rainfall. Periodicity in rainfall corresponds with periodicity in growth.

The brick saw mill of the Kirby Carpenter Lumber Co., at Menominee, Mich., is as near fire proof as a saw mill can well be. It is so much so that not a dollar of insurance has ever been placed upon it. The walls are of brick with an iron truss roof, leaving the sawing floor entirely free from posts or any sort of obstruction. A very heavy brick bearing partition runs lengthwise through the middle of the lower storey, doing away with the great number of posts and beams necessary to support the floor and shafting of an ordinary mill. The company's total sawing capacity is about 450,000 feet a day of ten hours.

The largest manufacturers in the country, says an exchange, are the most diligent and constant students of the question of supply and demand. No educator is too expensive for such persons. The mill man operating at remote points, with an outfit of the most primitive character, superintended by sawyers that, ten chances to one, never set foot outside the county limits, in his own estimation knows more about lumber matters in general than all the veterans in the business put together in fact such men know so much that it keeps them constantly poor. The class deserving of these comments is large; it has a powerful influence, and it refuses, yes even spurns, well meant advice. Their labors overcrowd the markets with undesirable stock, and they whine and kick at settlements which are monuments to the shrewdness of the seller who made them, albeit the mill man brands the transaction as "a cold blooded steal."

—In nearly every case of a boiler explosion a trifling cost would have saved the lives of one to three men. In all seriousness, we think the suggestion we made recently, that the offices should be situated directly over the boiler, would be the best preventative of boiler explosions in the present laxity of all reasonable precautions. If the owners were the only ones exposed to the folly of using boilers unfit for service, controlled by ignorance, it would not be worth while to plead for inspection laws. But unfortunately, as a rule, they are not exposed at all. Boiler insurance has done a good deal to lessen explosions, yet the principal of insurance is not understood as well as it should be. We heard this exemplified during the past week in a way that would be amusing if it were not something worse. It was the case of a man owning two large boilers. Said he, "I am about tired of paying for insurance on boilers, I have paid regularly for nine years, and there hasn't been an accident from the results of which I could collect a cent; besides this I have been forced to make repairs at a cost of nearly four hundred dollars." Comment on the above would be superfluous.—*American Machinist*.