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THE CANADA LUMBERMAN

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BY THE WAY.

SOME conception of the dependence placed in Canadian timber by United States lumbermen, and nearly all these in Michigan, may be gleaned from a summary of expected operations in Canada by American lumbermen. We do not give the following data as covering the entire ground. On the contrary the transactions named fall short of that end, but of themselves they are of considerable magnitude. The Saginaw Lumber & Salt Co. will put in about 30,000,000 logs in Canada that will be rafted to Michigan. The Green, Ring & Co. mill will probably be stocked with Canadian logs. The Fisher & Turner mill, of Saginaw, have a stock of 50,000,000 feet for next season's cut from Canada. J. W. Howry & Sons are cutting about 15,000,000 feet at Little Current, Ont., to be towed across the lake to Michigan, and over 40,000,000 feet to be manufactured at their mill at Fenelon Falls. J. T. Hurst has let contracts to put in 80,000,000 feet of logs in Canada waters. Alger, Smith & Co., are putting 25,000,000 feet of logs into Georgian Bay waters, and the son of General Alger is putting into the same waters about 8,000,000 on his own account. Bliss & Van Auken will obtain a stock for their mill next season in Canada. C. K. Eddy & Sons are putting into Canadian waters about 20,000,000 feet to be forwarded to their mill at Saginaw. S. G. M. Gates will obtain a considerable portion of his stock of 25,000,000 feet of logs from Canada.

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In the Ottawa and Michigan correspondence of the LUMBERMAN this month particulars are given of the interview of Michigan lumbermen with the government at Ottawa the early part of December concerning boom sticks. So far as one can judge from the impressions left on the minds of the deputation, there is every reason to believe that the government acted in a common-sense and business-like manner. The sudden and tragical death of Sir John Thompson may prevent the immediate giving out of a decision on the case, but there is the best of reasons for believing that this will be of a character to put an end to any further trouble over boom sticks. It will now be expected that the authorities at Washington will see to the speedy removal of the clause in the Wilson tariff that has by some sort of twisting permitted of the exacting of 25% duty on cedar wood going from Canada into the United States. When the Hon. Mr. Foster drew the attention of the Michigan deputation to this point, they frankly admitted that it was news to them, and were of the same opinion as the Timberman and other United States lumber authorities that the clause had got into the tariff by mistake, the reference evidently being to cabinet woods and not to the ordinary cedar, which as a matter of fact was only 15% under the McKinley tariff. The lumber trades in both countries are on the whole satisfied with the conditions of free lumber, and in an interview on the Eli page Mr. D. L. White, jr., lumberman of Michigan, has expressed the opinion that he does not think there will be any changes whatever in the tariff, even to the extent that some have anticipated, of placing dressed lumber on the dutiable list.

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G. N. Wagner, of Grand Rapids, Mich., writes to the Timberman that he has just returned from an extended trip through the eastern and New England states, and has been terribly alarmed at the injury being done to United States lumber interests, because of the quantity of shingles that are going into those districts from Canada. He had supposed that the paucity of shingle orders during the past three months was due to the

general business depression throughout the country. But the trouble has been, so he tells us, that New York and Massachusetts have been drawing their supplies of pine shingles largely from the Canadian side of the line. If Mr. Wagner could make the time to count up on his fingers the quantity of Canadian shingles that he found going into these markets, it would be quite interesting to Canadian lumbermen. Of course, Canadian shingles have been shipped in increased quantities to the United States since the change in tariff, just as Michigan, Duluth and Minnesota lumber and some Washington territory shingles have been coming into Canada since the change took place. What has been fair for the goose has been fair for the gander, we suppose. But when the statement is made that the quantity of shingles going into the eastern states from this country has been large enough to seriously affect the shingle market, those who know the real conditions cannot but smile. The shingle trade is undoubtedly down in the boots in the United States. But it is not any lower down than the same trade is found in Canada. The truth is that no quantity of shingles worth talking about is finding a market either in the United States or Canada. Shingles have not been in it for some time. Our friend from Grand Rapids need not start an on-to Washington movement on the strength of the shingle information he picked up when in New York and Massachusetts.

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From a special lumber schedule issued by the Canadian Pacific Railway, and made effective Dec. 17th, 1894, it would look as though the conference of hardwood men with Mr. Burton of the Grand Trunk, and reported in another part of this journal, was likely to count worse than a blank for the hardwood men. Before the meeting took place hardwood was sent over the C. P. R. from certain points at 6½c. per 100 lbs., where the Grand Trunk had been charging 8½c. We fancy that in showing Mr. Burton certain Canadian Pacific freight bills at that meeting the members of the deputation who did so gave that gentleman a pointer that he quickly made use of. The case of the deputation was to be discussed at a conference of freight agents of Grand Trunk and Canadian Pacific to be held a week later. In place of giving any heed to the overtures of the lumbermen, which at that time, at Mr. Burton's request, were before the conference in writing, the two great railways simply followed the usual custom, whenever they can safely do so, of at once combining to make their rates uniform, and uniform at the higher figure of 8½c. This is an old trick of railway corporations. Not without the severest pressure will they budge an iota in making concessions to the commercial community. They gave away when the white pine men protested against the increase of 1 cent per 100 lbs. in freight, but only because the opposition developed so great strength that they could not do anything else. The case of the hardwood men is fair, equitable and necessary, but as yet the railways have not come to the conclusion that they are a formidable body, and nothing but might is made to prevail in cases of this kind. The Grand Trunk have taken and turned the tables on the hardwood men, not a very creditable proceeding, nor for the Canadian Pacific in joining with them, but the old adage still holds good that corporations are soulless.

THERE seems to be some kind of fascination about the idea of a metal and leather combination belt. Many experiments have been made in this line, but none of these belts ever become popular.

LOSS OF POWER.

IF you happen to go into an engine room at any time and find that there is a leak past the cylinder or of the air pump, if you are using a condenser, you may be very sure that you are losing power. While the trouble may not be the cause of any danger, it shows that there has been some mistake in the setting out of the packing; that the adjustment is bad; that it has been in use far too long a time, or that the internal surface of the cylinder is cut. If the last is the case, you have no other remedy than that of re-boring the cylinder. In the other instances, the packing may be renewed or the piston may be taken out by removing the cylinder head, as in the case of locomotives. The leaking of piston packing may be detected when the exhaust is continuous instead of intermittent, although a leaky valve will also produce the same results; or it will be made to appear by opening the cylinder cocks and noting whether they blow steam on the back stroke. A twofold loss is entailed by this defect; steam is blown away uselessly and back pressure is increased, putting a greater load upon the steam that does the pushing.—Dixie.

THE INTERIOR FRICTION OF OILS.

PETROFF, who has occupied himself very extensively with the examination of lubricants, has investigated, says the Scientific American, the interior friction of oils by means of an apparatus invented by himself, and has given his results in tabular form and graphically by a series of curves. According to his results, the degree of transparency of lubricants, the refining process, viscosity, flash point and fire point, give no basis for estimating the degree of interior friction, though all are of importance.

If two oils which at the same temperature possess different interior frictions be mixed, the mixed product will yield a characteristic curve corresponding to that of an oil the qualities of which lie between those of the two opponents. Consequently, the excessive friction of any thick lubricant may be reduced by mixing with it small proportions of solar oil, pyro-naphtha, or kerosene, or any oil possessing low inferior friction. But this addition can be useful only when the added product does not separate to any great extent.

The addition of such light oils can, of course, be easily detected through the flash point and the fire point. The addition of various resinous materials increases friction in the machinery and in the lubricant itself. These products have also an injurious chemical effect upon the metallic surfaces subjected to friction.

It was also frequently observed that samples of the same oil that were received in the factory at different times did not yield the same characteristic curve, although filling all requirements.

LUMBERING OPERATIONS IN ALBERT CO., N.B.

SENATOR McCLELAN, of New Brunswick, anticipates an increased interest in lumber operations in Albert Co. and vicinity the coming year. A larger amount of birch timber was being cut in that county this winter than usual. Portable mills were being carried into the woods and the deals brought out. A week ago a vessel had loaded with hard wood for Boston. He understood the timber netted the owners \$11, which was better than they had expected. The greater part of the hard wood would be sold in St. John. Speaking of laths, the senator said he did not think they would ever command a very high price, for the simple reason that wire was being used in their stead in different parts of the United States, and it was stated with satisfaction.

LUMBERING IN THE MARITIME PROVINCES.

(Special correspondence CANADA LUMBERMAN.)

LUMBERING in the Provinces of New Brunswick and Nova Scotia, is quite different, or at least differently carried on, than in any other part of Canada, both in the bush and in mill.

In the southeastern part of Nova Scotia oxen are used exclusively, and instead of the old orthodox ox yoke and bow there is a sort of yoke strapped across the head below the horns, same as is seen in parts of southern Europe. These lumbermen seem to think horses are too valuable to use in lumbering. But there are a few getting out of this idea and find that a man can do much more with horses than oxen. The lumber in Nova Scotia, like New Brunswick, is mostly spruce, and is generally brought down to the mills full length of the tree and cut short by hand in the mill, with a crosscut saw. These mills, although some of them are quite extensive, are quite old in their style, such a thing as an endless chain carrying the logs in mill is unknown. True, they use an endless chain, but they use short dog chains and grab hooks, using from two to four men more than are necessary.

METHODS OF SAWING.

Live gangs are the favorite saws for cutting the lumber. These are quite different from anything to be found in the west. The logs follow one another in the gang and are held in place by a travelling head block with spikes on top and bottom, a sort of an inverted durable L dog; one of these travelling headblocks is in front and one in rear of the gangs. The lumber cut is not well done, as they carry too heavy feed; I have seen as high as $1\frac{1}{4}$ inches at a stroke. Hence their deals do not bring as good a price as St. Lawrence river cut of the same quality. Very thick saws are used. I found one mill using No. 12 gauge and they thought it quite an achievement. But the strange part of this was, they only use them five inches wide, as they say if wider they will not run true. Such a thing as hammering a proper tension in them is unknown, all slabs, edgings and lumber are trimmed and cut off by means of the old style of swing saw, such a thing as a two saw trimmer or slash table was never seen in these provinces. One man in New Brunswick put in a slash table in a sort of a way but took it out as it broke a saw one day. The circular saw mills, Rotarys as they are called here, are generally too light and poorly built for accurate work. There are, however, a few exceptions to this rule. Solid saws are scarcely used at all. "Hoc" tooth is the favorite. The fact is, sawyers here are away behind in filing and generally taking care of circular saws. This is the reason that the solid saw is not more in use. Many more men are employed in mills here generally than any other place I ever saw. Live rolls, etc., and many other labor saving devices are not ingeneral use.

HOW LUMBER IS PILED.

Another peculiarity one notices is to see men carrying deals on their shoulders, sometimes long distances. Men so employed usually have a leather cushion on one shoulder and a stick about three feet long on the other, reaching behind the neck and under the board or plank so as to equalize the load on both shoulders. Most of the New Brunswick steam mills use boilers from 40 to 50 feet long and from 30" to 40" diameter, no flues, but simply long tubes, which are laid side by side and as many as required in a battery. Under this whole space under them is a fire box. I have seen five and six men firing such a battery of boilers, while the sawdust was carted away to some distant bank. Such a device as a hog to grind this sort of fuel and feed it and sawdust automatically, with one man to attend the whole battery, never seems to have occurred to them. Cutting their logs alive into deals makes a great quantity of waste in shape of edgings, which if stocked and cut with a high speed gang would be saved by way of the sidings got off the log in stocking it. The quantity of deals cut by one of these gangs is wonderful. Plenty of gangs in New Brunswick average 70 M per day from the round log and edged on a separate edger. Lumber is not classified and piled in anything like Western mill yard style, but all lengths and widths piled up haphazard just as it comes from the mill, and generally all around and close to the buildings. I wonder at this much on account of insurance if for no other reason. Band saws are coming slowly to the front and would do so more rapidly but for the lack of sawyers. Many of the most progressive are realizing that the Band saw is the lumber maker of the near future. And another fact is making itself patent is some device to get more and better lumber from the same logs. The old question of not how much lumber can I cut but how much money can I make is causing many to think seriously of putting in Band saws. Some are now satisfied that a band will fill this bill in two ways, both in quantity and quality, besides having less breakages than the old long stroke heavy feed gauge. Most of the lumber manufactured is cut into deals, although a larger quantity is cut into 1 inch and scantling for South American and New England markets, deals being almost entirely for European demand. In many sections spruce forests, not cut too close, will reproduce themselves in from ten to twelve years. I have seen fine spruce forests on the Mirimichi River in New Brunswick growing where the old dead furrows are plainly to be seen, showing that the land was one time cultivated. In this fact it only remains for the lumbermen of these Provinces to lumber judiciously their limit and barring fire to have a perpetual paying territory and the Government a never ending source of revenue. In many sections hemlock exists in large quantities; but for the U. S. market, the present mode of manufacture would have to be materially changed.

NEW BRUNSWICK SHINGLES.

Cedar exists in immense quantities and of excellent quality in all northern New Brunswick, and is largely manufactured into

shingles. These they make in first-rate shape, but their machines are usually slow, averging from 12,000 to 15,000 per day per each machine. These all go to New England markets, a few going to Prince Edward Island and Nova Scotia points. I think on the whole, in no place in Canada, are better shingles cut and better packed and graded than in northern New Brunswick.

At the present time the lumbermen are much exercised over the sawdust regulations. As heretofore they have mostly been pouring their refuse in the streams; this has become such a nuisance, that the government has wisely decided to put a stop to it, and none too soon, as many splendid salmon and trout streams are almost destroyed.

OBSERVING LUMBERMAN.

WHY DO BAND SAWS BREAK?

PROBABLY no one question pertaining to saws has been asked in the last ten years as often as this, and it would be difficult to find one that has been more imperfectly answered. It has been claimed alike by both mill owners and filers that fractures in band saws are mainly caused by poor steel or uneven temper, but this is far from the true answer.

The writer has had a long and varied experience in operating band saws, and most excellent opportunities for experimenting with them under various conditions, and it is his opinion, gathered from this actual experience and extensive observation, that not one band saw in twenty-five sent out by leading and reputable saw houses sustains a fracture through inferior or imperfectly tempered steel. So much has already been said and written about the fitting and tensioning of band saws that it is unnecessary to go deeply into that really important factor in the life of band saws at this writing. I will simply say in this connection that the filers and fitters generally are well acquainted with the fact that fracture will take place in the best saw on earth in short order if it is run with an uneven tension.

Many saws have been ruined by uneven tension, and there is no doubt that many more will be, as beginners are found in every band saw country, and even the experts sometimes overlook a "fast" spot in their saws and find a crack as the direct result. This is a matter that will adjust itself with the growing knowledge and ability of the band-saw "fitter," for the essential points to be observed in his line are perfectly uniform tension, pitch of teeth to prevent crowding back on properly aligned wheels, perfectly square and even set (swage), with amount of clearance adapted to the timber being sawed, rounded gullets, sharp saws and the absence of glaze or case hardening.

I now propose to show the most destructive factor in the life of band-saws, the rather short-sighted policy of mill-owners and operators in allowing it to go on, and the injustice they do themselves and saw makers by attributing the short life of the saw to poor steel. The destructive element is excessive speed of saw travel, which is not only non-beneficial, but a positive detriment.

Band saw steel as now made is the finest, best, toughest and most costly steel used in any wood-working industry. Through the courtesy of one of the most prominent saw manufacturing firms the writer recently saw a number of pieces of their band saw blades broken on a Riehle testing machine, and they showed an average tensile strength of 150,000 pounds per square inch, or 12,000 pounds per inch in width of a fourteen gauge saw.

The fact that the steel in question does possess this enormous tensile strength causes mill men and others not acquainted with working and destructive strains to wonder at fractures taking place in their band saws, and through their lack of knowledge on this subject they almost invariably condemn the quality of steel or temper, when in fact, in a great majority of the cases of fracture, the saw is simply taxed beyond its tensile strength. The average operator will naturally inquire, "How can this be possible when we are only running from two to four tons strain on a ten-inch or twelve-inch saw?" The answer is so simple that it is surprising that it is not more generally known. Most of the strain comes on the edge of the saw, which, when run at a rate of speed nearly equalling two miles per minute (10,000 feet) causes the slack side of the saw to vibrate very materially, the amount of vibration varying under a given speed, according to uniformity of tension of saw, balance and rigidity of mill and stability of its foundation. This

vibration of the saw creates an additional strain that is beyond computation. In a measure it is an unknown quantity, but that it adds a strain beyond the great tensile strength of the saw has been clearly demonstrated by a long series of experiments in high and low speeds, fracture taking place in the high speed and not in the low. These experiments were made in mills running and sawing regularly and on a mill which did no sawing, but which was put up for the purpose of testing for speed only. Every one of these tests established the fact that the high speed with its attending vibration is detrimental to the life of the saw without any commensurate returns in the quality or quantity of lumber manufactured.

My experiments and observations justify me in taking the position that better lumber and fully as large a quantity can be turned out on a speed of seven thousand feet per minute (all other conditions being equal) than on a speed of 10,000 feet, as a higher rate of feed can be maintained when the vibration is reduced to the minimum. That a large saving can be effected in saws, belting and machinery through reduction in speed is self-evident. Here are some comparisons of relative speeds and feeds, the entire feasibility and practicability of which were demonstrated by the numerous tests mentioned.

To make the illustration easy to figure and comprehend we will take but one length of saw and one space of teeth, and call the feed continuous: a saw fifty feet long with teeth space one and a half inches running ten thousand feet per minute, and for a basis of speed we will take twelve inches. The same relative proportions follow any reasonable change from this basis of speed and feed, though twelve inches makes a fair average of feed.

Given, then, a fifty-foot saw with one and one-half inch space, running 10,000 feet per minute, you have on a twelve-inch feed as many feet of feed as 50 will go times into 10,000, which is 200 feet of feed, and allows $33\frac{1}{3}$ teeth per inch of feed. If speed of saw is reduced to 9,000 feet per minute the feed can be increased to fourteen inches and maintain as easily as twelve inches on the first speed given; 9,000 feet of saw travel gives a 180 revolutions of saw, which on a fourteen-inch feed gives 210 feet of feed per minute and allows 28 4-7 teeth per inch of feed. A further reduction of speed to 8,000 feet per minute and a corresponding increase of two inches in the feed gives 160 revolutions of the saw, and makes on a sixteen-inch feed $213\frac{1}{3}$ feet per minute and allows 25 teeth per inch of feed. A speed of 7,000 feet per minute gives a 140 revolutions of saw, which on an eighteen-inch feed makes 210 feet of feed per minute, and allows 22 2-9 teeth per inch of feed. It will be noticed in this comparison that the highest rate of feed given is eighteen inches, while the lowest is twelve inches, and that the number of teeth per minute in each case is perfectly safe. The basis of twelve-inch feed is a fair average, take the country through. Soft pine operators can take eighteen inches of feed for their basis, and when they get up to a twenty-four inch speed they still have $16\frac{2}{3}$ teeth to each inch of feed they carry.

The figures proved the proposition that a higher rate of speed can be maintained on a reasonably slower speed than 10,000 feet, and it can be demonstrated by any operator who conscientiously tries to save saw bills and extra work in brazing and tensioning. Vibration is increased by vibration, and fracture of blade by both. While a high rate of speed and extra vibration occasioned by it are responsible for the majority of fractures, it is well to consider other points that may have a tendency to produce cracks. Unless the operator knows positively the cause of the trouble he is not competent to treat it and is very much handicapped in all efforts to overcome the difficulty. When all things pertaining to the mill are in the best possible condition there still remains the ever constant hammering of the saw by its impact with and on the wheels, to say nothing of the bending and straightening while it is in motion. When one considers that a fifty feet band saw running 10,000 feet per minute is bent and straightened in every portion of its length 400 times per minute, 24,000 times per hour, 60,000 times per run of two and one-half hours, while all the time it is under a severe tensile and torsional strain, the wonder is that it does not break more often.—Lumber.

HARDWOOD MEN PROTEST.

A DEPUTATION of hardwood lumbermen, consisting of James Tennant, J. G. Cane, McBean Bros., Mr. Eyer, of Read & Eyer, F. N. Tennant & Co., and W. N. McEachren, held a consultation, on Dec., 6th, in the Grand Trunk offices, Toronto, with Mr. J. Burton, general freight agent, and District Freight Agent White, to ascertain if the G. T. R. could be prevailed upon to reduce the present freight rate of 8½c. per 100 lbs. on hardwoods to the former rate of 6½c. Mr. James Tennant was spokesman for the deputation and pointed out that in several respects the conditions of lumbering in hardwoods were favorable to the securing of a larger freight trade by the railroads than was the case with pine lumber. There was no large quantity of hardwood at any one point, and the result was that it had to be gathered in small quantities at different points and despatched to some central place for shipment. This meant additional carriage for the railroads. There was no such a thing as flotage with hardwoods, as was the case with pine. Hardwoods were much heavier than pine, a car of the former weighing from 36,000 to 40,000 lbs., where a car of white pine would only average, perhaps, 25,000 lbs. It was, therefore more profitable to the railways to carry hardwoods than pine. Then the hardwood men labored under the disadvantage of not being able to dispose of culls as was the case with pine, and this ought to be an item of consideration by the railways in fixing rates. Altogether the position of the hardwood man was handicapped in different ways, and it seemed unfair that his difficulties should be enhanced by a discriminating rate when it came to the shipment of stocks. Mr. Burton noted carefully the objections of Mr. Tennant, and these were supplemented by comments from other members of the deputation, but he would not promise any answer before the following Tuesday, at the earliest, when there was to be a conference of G. T. R. and C. P. R. freight managers in Montreal, when this question would, probably, be considered along with other matters and the lumbermen were asked to state their grievances in writing and forward such a letter to Montreal. Mr. Burton intimated that the railroads were desirous of seeing rates increased rather than lowered. White pine rates were regulated to some extent by vessel rates, a condition which did not apply in hardwoods. The deputation pointed out another grievance that bore unfairly upon the hardwood men, namely, the method of computing when the quantity of hardwood shipped fell below 30,000 lbs. F. N. Tennant & Co., for example, cited a case of a load of lumber that they had sent forward to a customer and which was billed to that customer as 30,000 lbs. where, when the car load was weighed it was found to contain only 25,500 lbs. The customer refused to pay freight except on the actual weight of lumber, and the shipper was out about \$4.00, a discount which, he remarked, hardwoods would not stand at present prices. Mr. J. G. Cane and others cited similar cases. Mr. Burton fell back on the clause, which fixed the minimum of weight, and whilst promising to look into the matter was not disposed to treat the subject seriously.

WASTE IN MANUFACTURE.

MANUFACTURERS are always looking for new uses for waste material by which value can be obtained, and thus diminish the cost of the material worked up. But about a large mill or other manufacturing establishment, says the Manufacturers Gazette, there are many sources of wealth which, though indirect, if neglected just as positively add to the cost of the final product as though the price of the raw material had been enhanced.

Cleanliness of machinery and buildings helps to diminish the cost. A proper system of lighting, natural and artificial, and of ventilation, effects the cost. The steam heating arrangements of a mill are often neglected and become wasteful.

An engineer of our acquaintance was once employed to reduce, if possible, the consumption of coal of a mill which every year required an increasing outlay for fuel, and was then consuming several thousand tons annually. He found that there were over one hundred leaking steam valves in the various departments, and that the help or overseers never gave the matter a thought, but

when the rooms were too warm opened the windows, and never shut off the steam. In many cases this could not be done on account of the worn condition of the valves. These were all removed and ground or new valves substituted. The result was a falling off in the coal consumption during the following months of nearly a ton per day average. Steam was carried in this mill about a thousand feet in uncovered pipes, and these were next covered, resulting in a further material reduction. Then the coal house door was kept locked, and records kept of the weight of coal consumed each day. By making one person responsible for this department a saving was kept up during the year that much more than paid the salary of the one employed, although he had other duties as well.

All saving from waste is better than an increase of business to the same amount, for it is an additional net profit or dividend obtained without risk or cost.

The subject is too large to more than suggest the many directions and methods which could be studied and applied.

THE BEST STEAM ENGINE.

WHAT will always seem like a mistake to outside engineers is not frequently made by the builders of steam engines, in assuming that the particular type of engine they build is the best for all purposes for which steam engines are used. All will remember the rather warm contention of a few years ago regarding the relative merits of high and slow speed engines. Expressions of opinion were rather positive on both sides, but if the arrangements made did not entirely convince the builders of either type that there was room for the other, they did have some effect in the way of confirming this belief in the minds of others, so that to-day there are uses for which it would be useless to attempt to sell a high-speed engine, and others for which a low-speed engine would find no favor—for the requirements of steam engineering go beyond the question of rotative speed, and one requirement will come strongly to the front in one place, or for one purpose, and another for another purpose.

Fuel may be so plenty in one location as to cut no figure in determining the type of engine to be used. In fact, in the instance of saw and lumber mills it is frequently the case that it is an advantage to burn as much of the refuse as possible under the boilers. And this may be the case in tanneries, and in the instance of engines used for the purposes. Now, under such circumstances it would be of no avail to talk to those wanting engines about the saving of fuel. Fuel is the one thing that it is not economical to save. So the saw mill, the lumber mill and the tannery have their special requirements. They are usually located in what may be called out-of-the-way places. The engines used in them are generally rather roughly handled, and there is no nearby machine shops to go to for repairs. Manifestly the requirements are for engines that will hold together under the rough usage they receive, and in the construction of which there is nothing that cannot be comprehended by the village doctor. Refinements for steam saving or for other purposes would be as much out of place as polish on a grate bar. What is wanted is something that will turn over right along without regard to pounds of steam or pounds of fuel, that is as near as possible proof against breakage, and utterly devoid of complication. There are many high-class engines that never ought to be bought or sold in such locations. Their refinements would be materially worse than wasted; a cause for dissatisfaction rather than for satisfaction. They would not be worth a moment's consideration until they gave trouble some day beyond the skill of local talent to cope with.

Transplant the saw mill engine where coal is worth five or six dollars a ton—where there is no waste material for steam making—and, of course, it is all wrong. The conditions are as unfavorable now as they were favorable before. Fuel must be carefully considered, and to this end devices or parts that may be more liable to derangement will be tolerated. Better talent is employed around the engines and the machine shop is at hand.

Here then, in the two instances cited is a place for two types of engines—the one that is nothing but an

engine, a machine, that couldn't do much to or for if he tried, and that is little liable to require the doing of anything until it goes "all at once" or requires a complete rebuilding, which it will hardly be worth, and the one upon which greater care can well be afforded to the end of saving fuel. Neither is suitable for the place occupied by the other.

The foregoing is a strong contrast: There are other requirements that may not seem so striking, but which may be of consequence. For example, the requirement may be for the nearest practicable approach to absolutely uniform turning, something beyond what would be of any particular advantage in the instance of the majority of steam engines. There are types of engines better suited to accomplish this end than others are, and so on; other examples might be given if necessary. Enough has all ready been said to show the unwisdom of claiming for any single type of engine the advantages that can belong to all.

Theoretically speaking, it might be reasoned that every steam engine should have all the good features of a dozen types, or at least all it was possible to embody. Practically, there would be waste in this. In the machine business there are required for some purposes tools and machines of great precision, tools and machines that cannot be made too well, no matter what the cost may be. But for a large part of the work of the machine shop something that costs much less is equally as good—in some instances better. It would be foolish to reason that all the tools and machines should be made like the more costly ones, just as foolish as to reason that the costly ones should not be made. To a certain extent this is true of steam engines. No single builder builds the best for all purposes.—American Machinist.

FINISHING HARDWOODS.

HOW to treat the face of hardwood joinery frequently requires, says Timber Trades Journal, much consideration, and deserves a passing notice. In the case of oak, the action of the atmosphere would tone it down admirably; but this takes time, and the first appearance of newness is often removed by the fumes of ammonia, which may be regulated to produce any desired shade, and the treatment is a good one when the work is not subject to much handling. Where it is, however, beeswax and turpentine are generally applied afterward, otherwise the damp heat of the hands will leave dark marks; care must, however, be taken that as much of the wax is rubbed off as possible, or the work will very probably turn yellow in time.

After this application the oak will cease to darken, as the wax fills up the pores and prevents any further action of the air. Beeswax and turpentine alone produce good results on most hardwoods when well rubbed in, and a pleasant surface is the result, much the same as the light polish seen on an egg shell.

This treatment is particularly useful for floors. These, however, require periodical attention. Simple oiling is never satisfactory. French polishing is a very general treatment, but it is too well known to need any description.

It is of the most vital consequence to remember that damp plays havoc with seasoned work, causing it to swell and warp. It is therefore fatal to put it up against damp walls: when it is impossible for these to have time to dry, the wood should be well coated at the back with a damp-resisting preparation, and not be fixed close against the wall.

Don't imagine that because a machine is not being used that the countershaft does not need oiling just the same, for unless the belts are off and the countershaft is idle too, it needs just as much attention as though it were running. Neglecting this has caused more than one troublesome loose pulley, and the oiler should be made to attend to all counters, whether the machines are running or not.—Machinery.

A new belt fastener recently patented in England consists of a metal plate adapted to extend across the meeting edges, the plate having one straight side and at the other side a series of spurs arranged in pairs longitudinally opposite, the spurs of each pair being at equidistant points from the transverse center of the plate and arranged in advance of the preceding pair in both directions, so that each pair will penetrate the belt at different points.



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THE CANADA LUMBERMAN is published in the interests of the lumber trade and of allied industries throughout the Dominion, being the only representative in Canada of this foremost branch of the commerce of this country. It aims at giving full and timely information on all subjects touching these interests, discussing these topics editorially and inviting free discussion by others.

Special pains are taken to secure the latest and most trustworthy market quotations from various points throughout the world, so as to afford to the trade in Canada information on which it can rely in its operations.

Special correspondents in localities of importance present an accurate report not only of prices and the condition of the market, but also of other matters specially interesting to our readers. But correspondence is not only welcome, but is invited from all who have any information to communicate or subjects to discuss relating to the trade or in any way affecting it. Even when we may not be able to agree with the writers we will give them a fair opportunity for free discussion as the best means of eliciting the truth. Any items of interest are particularly requested, for even if not of great importance individually they contribute to a fund of information from which general results are obtained.

Advertisers will receive careful attention and liberal treatment. We need not point out that for many the CANADA LUMBERMAN, with its special class of readers, is not only an exceptionally good medium for securing publicity, but is indispensable for those who would bring themselves before the notice of that class. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which will be inserted in a conspicuous position at the uniform price of 15 cents per line for each insertion. Announcements of this character will be subject to a discount of 25 per cent. if ordered for four successive issues or longer.

Subscribers will find the small amount they pay for the CANADA LUMBERMAN quite insignificant as compared with its value to them. There is not an individual in the trade, or specially interested in it, who should not be on our list, thus obtaining the present benefit and aiding and encouraging us to render it even more complete.

A NEW YEAR'S GREETING.

THIS issue of the CANADA LUMBERMAN bears the date of a new year, and marks the commencement of the sixteenth year of publication. The year left behind has not been one to draw forth the enthusiasm of the lumber trade, which started in with great expectations, but commercial depression quickly laid its hands upon it, and the year through it has been a struggle to make things go. However, the outlook in the closing days of the year improved, and not alone as a matter of happy custom, but with grounds for the expectation, we may wish all our readers a happy and prosperous New Year. There is good reason to believe that these hopes will be realized. So far as this journal is concerned no effort will be spared to help to give prosperity to the lumber trades, and one earnest of our effort in this direction will be the commencement at once of the publication, as already announced, of a weekly edition of the CANADA LUMBERMAN.

FRAUDS IN LUMBER.

THE remarks in these columns last month of fraudulent buying has brought to light the fact that there is, perhaps, more of this business carried on, both in Canada and the United States, than is generally supposed. For some time back lumber journals across the border have been paying attention to this subject, and exposing very thoroughly the transactions of certain firms who have sent forth their cards as lumber dealers. Some times the fraudulent transaction takes the shape of securing goods for which there has been no intention, nor is there ability, to pay. Again the fraud consists in a dispute as to the character of the inspection, even though this had been thoroughly covered at the time the sale was made. It would appear that dishonest practices of the latter character are practiced near home. The LUMBERMAN is in receipt of a letter within the past week from Mr. Joseph S. Wallis, lumberman, of Port Carling, Ont. After referring in complimentary terms to the position assumed by the LUMBERMAN in its treatment of this question last month, Mr. Wallis says: "All the

frauds are not confined to the United States. I have had the misfortune to have an inspector come to my yard, go carefully through the stock, and to make things sure, go carefully through the figures several times, leave a statement, agree to pay prompt spot cash less a given discount, get the lumber in his possession, and long after the spot cash should have been forthcoming, send on a statement to the effect that there was a shortage, and I would have to take back so much or—, and the so much would amount to 8% less than the price agreed upon and the amount of statement given and figured by the inspector, and terms extended by the buyer, without the consent of the seller, to some two months. The above is not a case of being actually done out of the whole amount of money, but it is a case 'give me my own terms or do your best.' I am of the opinion that, to say the least, some of our Ontario buyers need a little care exercised on the part of the seller, as well as with some of the United States buyers."

Mr. Wallis closes his letter, in which he very clearly shows how a certain class of frauds are worked, with the enquiry: "Can't you help?" We may, in plain terms, say that our purpose is to help the lumbermen of the Dominion to put an end, as far as possible, to all such attempts at dishonest business, indicated, not alone by what Mr. Wallis writes us, but by what comes to us from various other sources. We should be glad, if lumbermen who have had the experience of Mr. Wallis and others would write us, giving full particulars of transactions. The information will be used with the one purpose only of getting after the dishonest dealer, and of helping the trade, who are striving to hold up the true ideal of business in the lumber industries.

WHY NOT GROW TIMBER?

FOREST preservation is viewed by the majority of lumbermen so largely as an abstract question or one of theory or sentiment, that it requires almost the proverbial Scotch operation to get the trade to look at the subject as one of strict business. There is nothing new in the remark, whether lumbermen give credence to it or not, that the forests of this country, so rich at one time in pine, are already furnishing evidence of depletion. Five years ago, though the warning note had been sounded a decade before that, lumbermen of Michigan, laughed at those who talked of there being only sufficient pine in that great pine state to last a few years longer. In cold, hard, matter of fact language, Michigan lumbermen say to-day that were it not for the supplies of pine that they are enabled to secure in Canada, Wisconsin or Duluth, they could not keep their mills running a twelve month. Michigan lumbermen, in fact, do not do their lumbering in their own state, outside of the sawing of the logs that are brought from elsewhere.

Let this suffice, at present, for white pine. Hardwood men are in the position of having no virgin soil that they can tap when they have orders to fill for any particular class of hardwood. There is still a fair quantity of hardwood in Ontario, and other parts of Canada, but it exists in patches, only secured by increased labor and expense in haulage and freights. The question has been asked the LUMBERMAN, would it not be a good stroke of business for those who realize this position to take steps to reforest some parts of the province with hardwoods that are most in demand and that will remain practically, for a long time to come, in demand as a commercial commodity. Hon. Mr. Joly, of Quebec, has with energy and enthusiasm shown how well it will pay to plant walnut and secure for the future a supply of this valuable wood.

What this improvident disregard for the future means is shown in the case of certain counties where certain kinds of wood existed, but which had been recklessly cut down by those who recognized no wealth in the standing tree. Take, for example, the county of Kent. Oak that sold there 15 or 20 years ago at \$4.50 per 1000 feet could now be marketed at \$25. per 1000 feet, and walnut which had only brought \$14. per thousand feet, would to-day command \$100. Readers of the LUMBERMAN will remember an account given in these columns some time ago of an ingenious fellow, who managed to strike certain points in the States where roots of walnut trees were to be found in considerable quantity. He bought these up and by economy and ingenuity in

cutting up, was able to realize quite a handsome turn-over from his venture. The farmer has on his 100 or 200 acres a few patches of hardwood and he sees little use for it beyond the trifle it will bring him when cut down. While the agriculturalist would be sleeping he might be making money by allowing this timber to stand. There is not much money in certain branches of farming to-day, with wheat netting Ontario farmers about 45c. a bushel. Why not engage in tree planting? Is there not more than theory or sentiment in the suggestion of our correspondent?

Special correspondence from the Maritime provinces, telling of methods of lumbering down by the sea, is suggestive in the matter of tree planting. This writer tells us that in many sections spruce forests, not cut too close, will reproduce themselves in from 10 to 12 years. As he remarks, what a rich harvest is in store for the shrewd lumberman, who can look far enough ahead, when he has a product like spruce that can be grown with as little trouble and as quickly as, it is stated, is the case with this particular product of the forest.

Growing trees may not be a chimerical scheme after all.

EDITORIAL NOTES.

THE woods of Australia are pushing themselves into the markets of the world in several different directions. We referred last month to the possibility of certain woods from the Antipodes finding a market in Canada, especially in the construction of harbor works, because of the fact that the wood is proof against the ravages of the toredo. Native woods of Australia and New Zealand are commencing to appear on the English market. This applies specially to hardwoods. The New Zealand government has sent to Great Britain a timber expert, whose chief object is to introduce to the notice of English buyers specimens of the numerous woods, of which the colony he represents is so well provided. Karri and jarrah, and New Zealand kauri pine have already established themselves in the United Kingdom, the first two being used to a large extent for wood paving purposes, and the latter as a furniture wood. One of the new woods that is being introduced goes under the name of stringy-bark. Whilst it is the boast of the lumbermen of the mother land that all parts of the world are placed under contribution for various woods, yet lumbermen there are disposed to look with caution upon the present movement, which they fear may result in placing on the market large quantities of woods that will be found to possess comparatively little value for practical purposes, and the result will be to depreciate the woods of the Antipodes that have already proven to be useful and desirable.

AN effort is being made by the lumbermen of the Southern states to bring about an increase in values in yellow pine. The remarks noted in our Eli page from D. L. White, of Michigan, as also by a representative of the LUMBERMAN, show very clearly that yellow pine, for some time past, has been sold at a price so far below its competitor white pine that evidently unhealthy influences have been at work to cause this. It seems that it has been the practice of lumber operators and small mill men in the south to combine in a manner to place yellow pine stocks at a central point at prices below any prices substantial manufacturers are willing to quote. A year or so ago in an interview published in these columns it was shown that it was the practice of unscrupulous dealers to operate in lumber at certain points in the south, hire negro labor, get the stocks shipped east before the season was finally over, and then the operators themselves cleared out without having paid the negroes for the labor performed. This is only another of the difficulties that the lumbermen of the south had to contend with and they are organizing and have already held several meetings, hopeful that they will be able to suppress this unfair and dishonest class of competition. That some good has already been effected by these means is shown in one instance in Chicago, where a contract for yellow pine, ties and guard rails, which was taken at \$16.50 has been abandoned and re-let for \$18. White pine men will certainly wish the legitimate trade of the south success in the direction indicated, for they themselves know something of the unfair competition that exists between yellow pine and white pine.



It is seldom otherwise, let business men anywhere play sharp and their chickens will come home to roost some day. In the interview that took place the early part of the month between the hardwood lumber men and Mr. J. Burton, of the Grand Trunk, the latter made the statement in after conversation with several of the deputation that the practice of underbilling on the part of manufacturers had reached such a point that a little more than a year ago his company had found it necessary to establish a bureau of investigation at a cost of \$20,000 to, if possible, put a stop to this evil; at least to check it. The result so far has been that the bureau had actually saved the company \$130,000. Mr. Burton, of course, meant this as an off-hand, if not an official, reply to the lumbermen who were complaining that they were being called upon to pay freight, very often, on a car billed to hold 30,000 pounds of lumber, where the actual weight probably would be 5,000 pounds less than this. In these cases, said Mr. Burton, the lumberman walks the deck. In a good many cases where underbilling has been going on the Grand Trunk have had to walk the deck. It was not intended that this should serve as a reason why the honest lumberman should pay for the sins of the dishonest man, but it was an illustration, that discreditable practices cannot be perpetrated by anyone, in any line of trade, without the whole trade being effected thereby. It is the old story of dog Tray keeping bad company. Mr. Burton stated that as a matter of fact the biggest sinners were the grain and lumber trades of the country.

* * * *

A fortnight ago I was in company with a number of Ontario lumbermen when the subject of shingles came up for discussion. No one enthuses over shingles these days, for if lumber generally has been slow for some time past the shingle trade has been slow in a superlative degree. There was a time when the term shingles, so far as this province is concerned, simply meant white pine shingles, but with the introduction of the red cedar shingles of British Columbia, and, though only to a limited extent, the white cedar shingle of New Brunswick, conditions have changed. Perhaps it is natural that Ontario lumbermen should hold to their first love, and think that after all there is no shingle to compare with white pine. I find the impression is growing among them that the red cedar shingle is not going to show itself possessed of that strong measure of endurance that has always been considered its leading recommendation. The Pacific Coast people tell of the red cedar shingle as showing no signs of decadence, after having been 30 years and more on a roof. Ontario lumbermen, as I have hinted, may be prejudiced against their red cedar rival. It is the case that those with whom I talked on this occasion were of one mind that whether it was owing to the process of kiln drying, or what not, red cedar shingles were not even now proving satisfactory. "It is all very well," said Mr. McBean, of McBean Bros., "to talk of the longevity of this shingle, but I doubt if on the Pacific Coast they are put to the test of the severe east rains and snow storms that we get in Ontario, and which will test almost any roof if not well covered, both as regards material and workmanship. I hear complaints of shingles that have only been two or three years in Ontario, as unable to withstand the rains of this province." Probably this point will be disputed by our friends on the Pacific coast, but I am giving some views, at least, that prevail in Ontario.

* * * *

Mr. Eyer, of Read & Eyer, local lumbermen, is of the view that a determined effort ought to be made to organize the lumber trades of Toronto, and, the organization might perhaps include the provinces. "We are seeing the weakness of individual effort," said Mr. Eyer, "at the present time when we have a strong case against the

Grand Trunk in the matter of freight charges. I would not like to say that, as a result of our interview with Mr. Burton a fortnight ago, we are not going to get anywhere, but the case would be very much strengthened if a stronger front could be presented in this matter as in any other case where we have a grievance. Then we see the need of organization in so many different ways. I do not know what others think, but for my part I would not care to ship a stick of hardwood to the United States as the market stands to-day. There is no money in the business for Canadian hardwood men." I remarked on this point that there was certainly a demand for hardwoods from the United States and the enquiries for specific classes of wood from that country were quite numerous. "I will grant this," replied Mr. Eyer, "but our hardwood men seldom act in concert. They have certain quantities of wood to sell and the disposition is to sell at almost any price rather than lose a sale. Were the trade organized there would be an opportunity to establish a fixed price, one that would represent a small margin of profit at least and not a loss. Furthermore the difficulty that is cropping up all the time as regards want of uniformity in inspection and which results in loss to our lumbermen, could be easily remedied. For my part I am disposed to let my stocks accumulate, rather than sacrifice them, knowing that there is value in lumber." I asked Mr. Eyer what seemed to be the bottom difficulty of successful organization of lumbermen. He said: "One drawback is that what you may term the big men of the trade will not affiliate with the smaller men. Perhaps they think themselves above some of the rest. Other people are saying that. I am not saying it. But it seems reasonable to suppose that if a movement could be led by some of the larger concerns, that the smaller ones would come in and the big concerns as well as the little ones would be benefited by such an organization."

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Wherever and whenever it is possible to get after any man who can talk lumber, or who has been where there is a likelihood of securing lumber information, I am brigan enough to waylay him without ceremony. A representative of the business end of the LUMBERMAN recently made a trip through the leading cities of the eastern states, calling upon the lumber trade, and on his return I was after him. "Tell us how you found the lumber trade, and what were the features of it that particularly impressed you." This is the way I started at our man from the counting-house. "Let me say," he replied, "I enjoyed my trip immensely and found United States lumbermen jolly good fellows and business from the word go. Whether in New York, Albany, Buffalo or Philadelphia, I found no one talking very loud of the splendid trade they were doing. All had one story to tell in this respect, that trade throughout the year has been terribly dull. Of course the tariff was blamed. The President came in for his share of censure. Canadians and free lumber caught it occasionally, though seldom—but trade was dull. That was the point. White pine men say that yellow pine is proving a competitor in certain lower grades, and the difference in price is sufficient to knock out white pine to some extent. Since the tariff has changed business has revived in part, but the year is going to close with the annual statements of most lumber concerns, showing a serious shrinkage in sales. But there is a lot of rubber in the composition of the average American. Whilst there is nothing bright to tell of lumber trade now, I found the feeling general that business was going to be all right after the turn of the year, and that spring would open out with activity in building lines, which is always a help to the lumber trade, and with snap in business at all quarters. When anyone wants white pine or yellow pine they know where to get plenty of it, if they have got the money to pay for it, but I found lumbermen nearly every place I visited making enquiry, 'where can we get supplies of hemlock or birch or ash or elm or some other particular class of hardwoods?' It occurred to me that hardwood trade in Canada ought to be good if our lumbermen would just lay themselves out to meet the needs of those who are enquiring for supplies of this kind. Just let me put in a word for the business end of the concern here by saying that I found United States lumbermen of the

view that the issue of a weekly edition of the CANADA LUMBERMAN was going to prove an important factor in helping business in this direction, and generally, between the two countries."

* * * *

Comfortably seated in the reading room of the Queen's Hotel, I had an opportunity recently of chatting on lumber matters with Mr. D. L. White, jr., one of the large lumbermen of Saginaw, Mich., whose firm is interested in Canadian lumber. "A number of us", said Mr. White, "have just returned from Ottawa where we have been interviewing the Minister of Trade and Commerce, Hon. Mr. Bowell, and other members of the Cabinet, concerning the duty on boom sticks. The visit was pleasant and will, I believe, result satisfactorily for the lumber trades of Michigan and of Canada. Of course, diplomatic like, the Ministers, after hearing our case, agreed only to take the matter into their serious consideration, but we have every expectation that the decision will mean a removal of this obnoxious regulation." The lumbermen of Canada, as much as those of the country to the south of us, will, I believe, regard this as a satisfactory ending of an unpleasant difficulty. On no point have I found lumbermen more completely of one mind than on this question of the exacting of a tax on boom sticks. Naturally we talked about lumber conditions. Taking it altogether, whilst trade had certainly been slow during the year, Mr. White leaned to the opinion that 1894 would not close as unfavorably as some of the trade had expected. The stocks on hand in Michigan, in Mr. White's judgment, will not go beyond, probably, 200,000,000 to 300,000,000 feet, in place of 600,000,000 feet, as was stated a few months since by certain lumber authorities. Prices, of course, are not what they were a year ago and Mr. White hardly thinks they will reach so high a level again for some time. At present, however, they are firm and will likely hold at present figures. The outlook, after the turn of the year has been reached, is deemed to be encouraging, though no great boom is anticipated. Improvement will be gradual and sure. I asked this Michigan lumberman if he anticipated that the change in the complexion of the American Congress, a result of the late elections, would mean any amendment to the lumber tariff. "Unless there should be some unpleasant friction," said Mr. White, "between the Canadian and United States governments, I do not think that the tariff, so far as lumber is concerned, even in the case of dressed lumber, will be disturbed." To what extent free lumber may result in the building of saw and planing mills by American lumbermen in Canadian territories, is a disputed question on both sides of the line. Just as a number of mills have already been built here and will be operated by United States lumbermen, to a still greater extent Mr. White thinks this plan would be pursued, whilst the rafting of logs from the Georgian Bay shores to Michigan would probably fall off some. Methods of handling lumber, I learned, are changing to a considerable extent in the United States. The commission man is gradually being wiped out. In Wisconsin and Duluth, Mr. White said, the mills were establishing their own yards and distributing their own lumber. This method of doing business was growing. Another change, as effecting the white pine trade, was to be seen in the steady demand for yellow pine in eastern markets. Mr. White said that for flooring, ceiling, joist and car sills, yellow pine was now being largely used, and the prices at which it could be brought into the east was something that white pine operators could hardly understand. A good clear lumber can be secured laid down in Michigan for \$15. per thousand and the same wood can be laid down in Canada for 16.50 "We could not begin," said Mr. White, "to give any such grade of white pine for these figures." As a parting query I tapped Mr. White for information on the probable cut in the woods this winter, but as is the case with lumbermen generally, he felt that this was a subject that could not be touched upon with certainty so early in the season.

PUBLICATIONS.

Edward Bellamy, the author of "Looking Backward," is to tell in the next issue of The Ladies' Home Journal what he believes a "Christmas in the Year 2000" will be like.

OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

NO decision has yet been reached in the matter of sawdust legislation. It is hoped, however, with the lumbermen of the Chaudiere and those of the Maritime provinces moving aggressively in one direction, that some amendment will be made to the law as it now stands to come into effect on May 1st. Locally, the question is a serious one for Ottawa. The distance between the saw mills and lumber limits has been gradually increasing in this district until now some lumbermen are talking of the necessity of placing their mills nearer to the limits and thus reducing materially the cost of log driving, as well as saving expense in other ways. If the proposed sawdust legislation should be rigidly enforced, the measure will go a long way to cause lumbermen here to take the step already, in a measure, premeditated. An estimate has been furnished J. R. Booth, showing that it would cost him \$60,000 to have his mills at the Chaudiere altered so that the sawdust be destroyed by burners. The Hawkesbury Lumber Co. say that if the legislation is enforced they will be compelled to change the location of their mills, which would mean an expense hardly less than \$300,000.

THE DUTY ON BOOM STICKS.

A strong deputation of Michigan lumbermen had an interview on the 6th inst. with members of the Cabinet, including Mr. Mackenzie Bowell, Minister of Trade and Commerce, who occupied the chair, and Messrs. Foster, Ouimet, Costigan, Daly and Angers. The deputation consisted of S. Eddy, S. O. Fisher, B. Boutell, S. G. M. Gates, E. T. Carrington and Temple Emery, of Bay City, and F. R. Potter and D. L. White, jr., of Saginaw. Mr. W. R. White, Q.C., Pembroke, brother of Speaker White, acted as Canadian counsel, and Mr. T. Weadock, congressman from Michigan, as American counsel. Mr. J. W. McRae, representing the lumbermen of the Ottawa Valley, introduced the delegation to the Ministers. I need hardly go over at length the arguments presented by the deputation, as these have been fully covered in various ways in your columns. I may say that the view of this question taken by the LUMBERMAN has been generally approved of by the trade in this district. Counsel White argued that it would take a big stretching of any of the clauses of the tariff to show that the boom sticks ought to be taxed as "packages" or as manufactured timber. Some 40% of the boom sticks were Canadian. They were used as such for a time and afterwards were sawn up with the other logs. Without these booms the steam tugs would not be of any value. In fact they were part and parcel of the tug, just the same as a barge for lumber was, or the tow rope. The United States government did not impose any such duty and its imposition by Canada might lead to an interference with free lumber, which would injure the whole trade. American Counsel Weadock in his address covered largely the same ground as Mr. White. He drew attention to the fact that the stumpage dues by Quebec were removed, because it was shown to be unfair, and no matter how it was viewed the duty on boom sticks was simply another way of imposing an export duty on logs. The Ministers listened attentively to the case of the American lumbermen, and whilst no decision was then given by the Cabinet, the deputation retired feeling satisfied with the treatment they had received and strong in the belief that there would be no further trouble in connection with this matter. Mr. Foster called the attention of Congressman Weadock to the fact that in British Columbia exporters of cedar to the United States had to face a duty of 25% under the Wilson Bill as against 15% under the McKinley tariff. The American lumbermen expressed surprise generally at this statement, saying that it was news to them and that it might be expected that Congress would remedy the difficulty.

INDIFFERENT LENGTHS.

Buell, Orr & Co.'s mill has closed down for the season, and the cut has been one of the largest made by this firm.

Contracts for 3,000,000 railway ties have been awarded by the Canadian Pacific Railway for the road west of Winnipeg.

Mr. Thomas Osborne, who has been engaged each season in towing saw logs, says that the number of logs passing down the Ottawa river to points below the capital has been very large this summer.

The railway companies, with the object of increasing their trade in the shipping of lumber, have reduced their charges to \$1.25 a thousand feet, which is equivalent to a reduction of 25c. a thousand feet on the old rate or \$2.50 on a car load.

About 20 miles of valuable virgin forest, heavily timbered, has been opened out through the construction of the Lothbiniere and Majentic railway. One mill employing 600 men has already been established in the district and others will likely follow. The contractors engaged in the work of the road state that in the course of constructing the railway the men cut 5,000,000 logs from 12 to 16 feet long, 1,000,000 sleepers,

300,000 telegraph poles, 3,000,000 fence posts, 200,000 cords of pulp wood, 2,000,000 cords of cordwood and 350,000 cords of hemlock bark.

It is said that the Hon. J. K. Ward, of Montreal, is negotiating for the sale of 500 square miles of timber limits on the River Rouge, which are convenient for taking out pulp wood. The sale, it is expected, will be arranged within a few days, the price being \$100,000. The limits were worked years ago by Hamilton & Bros., of this city, and also by the Hawkesbury Co. The River Rouge is a tributary of the Ottawa, which enters into the latter near Grenville. The limits are in the counties of Ottawa, Argenteuil and Montcalm. The sale is another indication of the attention that is being paid to the spruce industry.

OTTAWA, CAN., Dec. 22, 1894.

BRITISH COLUMBIA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE labor difficulties that had prevented the running of the Royal City Mills for a short period, have been overcome, and the mills are now busily engaged cutting. They expect to make one of the largest shipments of the season to the south shortly.

The barque India is loading at Hastings Mills for Valparaiso.

The American barque Colorado is loading at the Hastings Mill for Sidney.

The Brunette Saw Mills have been sending some large shipments to the east during the month.

The Moodyville Saw Mill is closed down, owing to the bursting of the engine. Vessels loading at the Moodyville Mills will complete their cargo at the Hastings Mill.

The Brunette Saw Mills have an order from the interior for 40 carloads of lumber, on which they are now at work. The lumber, it is understood, will be used in bridge building, replacing the structures swept away by the floods last June. The heavy sticks will all be clear of knots and flaws and of the finest Douglas fir.

NEW WESTMINSTER, B.C., Dec. 15, 1894.

NEW BRUNSWICK LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE outlook in lumber in the Maritime provinces during the coming winter may, to some extent, be gleaned by certain expressions of opinion from local lumbermen. Mr. I. C. Prescott, of Albert, N. B., whose firm employs 100 men and cuts 3,000,000 feet a year, does not anticipate they will cut more than half their usual quantity of lumber, but would, probably, increase their handling of hardwood timber. Mr. Wm. Chisholm, of Halifax, places the lumber cut of Nova Scotia about the average cut of former years. Mr. D. J. McLaughlin, of St. John, will saw his usual quantity of from 4,000,000 to 5,000,000 feet. He anticipates an increased trade in American markets next year. Mr. Wright, of Salisbury, N. B., shares the same view. His firm saws 4,000,000 and 5,000,000 a year. F. O. Talbot, of Alma, N. B., who cuts 5,000,000 a year usually, is not likely to increase his output next year. E. J. Smith, of Shediac, will take out probably 2,500,000. Young Bros., of Newville and River Herbert, cut last year 8,500,000 feet of lumber and 8,000,000 laths. They expect to do fully as well the coming season. The firm has over 100 men in the woods. Messrs. C. F. & T. R. Eaton cut about 6,000,000 feet of deals at Eatonville this season and they will likely cut an equal amount next year.

In response to pressure brought upon the Intercolonial Railway for more favorable freight rates, Mr. J. G. Forbes, secretary of the lumber association of the Maritime provinces, has received a letter from J. J. Wallace, general freight agent at St. John, in which he says: "I have your letter of 11th inst., addressed to the general manager, with reference to the rebate on lumber for export, and asking what is meant by the twenty per cent. rebate. Formerly a car of lumber was estimated to weigh 20,000 lbs., which was equal to 8,000 superficial feet of soft wood or 5,000 superficial of hardwood. Supposing this was charged at five (5) cents per 100 lbs., it would be \$10. We now propose to load the cars up to their capacity, or minimum of 25,000 lbs., equal to 10,000 superficial feet of soft wood, or 6,250 feet of hardwood which at five (5) cents per 100 lbs., would be equal to \$12.50. Making a rebate of 20 per cent. would reduce the charges to \$10, thus carrying 10,000 superficial feet of soft wood at the former rate for 8,000 superficial feet. I might say 6,250 feet of hardwood is estimated to weigh about the same as 10,000 superficial feet of soft wood.

It is thought that the cut of lumber in King's county will be larger this winter than last.

A large number of small mill concerns will operate on their

own account this winter, and will dispose of their lumber in the spring to St. John buyers.

Lumber dealers say the cut on the St. Croix this winter will be between 25,000,000 and 30,000,000 feet, possibly not more than 25,000,000. Last year it was nearly 50,000,000.

Senator J. B. Snowball has expressed the opinion that the lumber cut along the North Shore will be larger this winter than last if the operators are not hindered by the snow as they were last year.

The Aberdeen mill, operated by McDonald & Fraser, has closed down for the winter. It did not commence cutting until August, and the total of the season's work is only about 3,000,000 feet.

ST. JOHN, N. B., Dec. 20., 1894.

MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE deputation of lumbermen that left the Saginaw Valley the early part of the month to interview the government at Ottawa, have returned home well satisfied with the outcome of their visit. True they have not brought back in their grip-sacks any official document showing that boom sticks will be free of duty in the future. This is not the way politicians handle the question, but they have every reason to believe, from the manner in which their complaint was received, and the reply, though in a measure non-committal, from the Hon. Mr. Bowell and his associates, that their request will be granted. Such a result is going to be beneficial, not alone to the lumber trades of the two countries, but will go a long way to remove any prejudice that may have existed in this country against the Canadian government, and help to make it easier in the future for the two countries to arrive at improved methods of trade.

With the business of the year, to all intents and purposes, at an end, the oft-recurring question of how far the forests of Michigan have become depleted of marketable timber, comes again to the front. And the more the subject is studied and looked into with care and exactness, the stronger becomes the verdict that Michigan has got to depend on Canada for her white pine. One piece of evidence in this direction is the statement made on good authority that taking an average of the annual cut for ten years past, that of 1894 will show a falling off of about 35%.

BITS OF LUMBER.

The Saginaw Lumber and Salt Co. has sold and shipped 30,000,000 feet this season.

It is thought that there will be an increased output of hardwood logs in Saginaw this winter.

From 800 to 1000 men, it is estimated, have gone from Saginaw Valley to Canada and Upper Michigan pineries this fall.

Over 151,000,000 feet of lumber has been moved by water from Bay City, whilst shipments by rail show a very large increase over any former season.

Cleveland heads off Tonawanda this season in its receipts of lumber from the Saginaw river, the figures standing 40,712,132 feet for the former and 39,831,147 feet for the latter.

The following figures, showing the aggregate lake shipments from the Saginaw river for a series of years, may be of service to readers, as a matter of reference and comparison:

	Lumber.	Shingles.
1868.....	430,128,000	74,141,105
1869.....	474,912,425	86,178,500
1870.....	487,489,268	130,448,490
1871.....	516,629,474	142,661,500
1872.....	492,834,900	87,204,500
1873.....	452,768,562	38,521,500
1874.....	448,707,652	82,164,500
1875.....	445,149,155	117,832,500
1876.....	456,227,252	105,743,000
1877.....	539,886,074	162,594,250
1878.....	525,282,098	86,699,380
1879.....	678,298,866	222,602,731
1880.....	769,573,000	168,145,400
1881.....	833,050,939	149,816,000
1882.....	858,344,000	176,376,500
1883.....	778,702,067	164,032,000
1884.....	734,938,469	153,333,000
1885.....	659,575,000	129,539,005
1886.....	591,013,100	117,494,000
1887.....	486,285,000	85,698,000
1888.....	451,391,000	75,892,000
1889.....	432,130,000	98,977,000
1890.....	409,972,000	89,249,000
1891.....	404,577,000	80,487,000
1892.....	347,866,091	50,447,000
1893.....	173,154,000	12,900,000
1894.....	182,600,017	12,011,000

Of a contemplated cut of 20,000,000 feet of logs by Eddy Bros. & Co., Canada will supply 16,000,000 feet. This firm has recently purchased 100,000,000 feet of Canada pine from Daniel Harden, of Saginaw, at a sum generally stated to be \$250,000.

SAGINAW, MICH., Dec. 21, 1894.

THE NEWS.

- G. C. Crawford, sawmill, Zimmerman, Ont., is dead.

- Chew Bros. purpose enlarging their saw mills at Midland, Ont.

- Goodday, Benson & Co., lumber merchants, Quebec, have dissolved.

- J. Irwin Armstrong, lumber dealer, Belmont, Man., has assigned.

- Mr. Barker is erecting a saw mill at Burford, Ont., near Brantford.

- Benson & Co. is the name of a new firm of lumber dealers at Quebec.

- The Assiniboine Lumber Co., Brandon, Man., has been incorporated.

- The saw mill at Josephine, Ont., has been purchased by Mr. Baldwin.

- Vigers Bros., will get out a million feet of pine logs near Sand Lake, Ont.

- Murphy & Co. have formed a partnership in Quebec as lumber merchants.

- An addition will be erected to Buell Hurdman & Co.'s saw mill at Hull, Que.

- Gillies' Bros., of Braeside, Ont., are putting in two new engines at their saw mill.

- James Hayden's steam saw mill at Hartland, N. B., is about to resume operations.

- Jas. Playfair & Co., of Midland, Ont., are about to build a large tug similar to the Reliance.

- Duffy Bros. have again commenced operations with their steam saw mill at Lake Dore, Ont.

- It is stated that a new company will erect a saw mill at Rolling Dam, Charlotte Co., N. B.

- J. B. Smith & Sons and McBurney & Laycock have closed their saw mills at Calendar, for this season.

- The Edmonton Saw Mill Co., Edmonton, N. W. T., will take out about a million and a half feet of saw logs this winter.

- The Leishman Maundrell Co., lumber dealers, of Stratford, Ont., are developing an extensive trade in that city and surrounding country.

- A new engine has been placed in Prince's saw mill at Buckingham, Que. There will be about twenty-five men employed in the mill during the winter.

- G. K. McLeod has sold to C. & I. and G. D. Prescott his timber reserves on Benjamin river in Restigouche county, N. B. The price paid was about \$5,000.

- The Sable and Spanish Boom and Slide Company, of Algoma, will ask Parliament to amend the schedule of tolls which it may collect on lumber passing through its booms and slides.

- The Drummond Lumber Co. are building a large saw mill at Forestdale, Quebec. They will build a dam across the Deschene River, about 7 miles from Forestdale, to supply power for the same.

- The widow of W. S. Spence, who met his death while adjusting a belt in Craig & Co.'s planing mill on Dundas street, Toronto, has entered suit against the company to recover the sum of \$2,000 damages.

- It is expected that J. & T. Conlon's new saw mill at Little Current, Ont., will be ready for cutting about the 1st of February. When completed it will be one of the best equipped mills on the Georgian Bay.

- Negotiations are said to be in progress between Eaton & Sons, of Calais, Me., and W. H. and J. Rourke of St. Martins, N. B., for the purchase of the mill property of the latter firm, together with considerable timber limits.

- The Newmarket Era states that Messrs. Wm. Cane & Sons have recently fitted up a portable saw mill for the purpose of converting the 60 cars of saw logs, which were brought down from Penetanguishene, into bolts from which pails and tubs are manufactured.

- Some dock lumber for the Montreal Transportation Company has been purchased in British Columbia. It will be shipped by boat via the Pacific ocean and up the Atlantic to the St. Lawrence river, and thence to Montreal. The trip will take four months.

- The St. Anthony Lumber Company, with chief place of business at Whitney, Ont., are applying for incorporation, with a capital stock of \$1,500,000. E. M. Fowler, Chicago, Ill., E. C. Whitney, Minneapolis, Minn., and Arthur Hill, Saginaw, Mich., are to be the first directors.

- Mr. T. J. Ryan, Crown Lands Agent at Sudbury, Ont., who recently paid a visit to Toronto, states that the lumbering

industry in that section has improved greatly owing to the changes in the American tariff, and there are more applications now being made for timber limits than at any time in the last four years.

- A cedar tree 407 feet in height and measuring seventy feet in circumference at the base has just been felled near Ocosta, Wash. It was sixty feet to the first limb of the tree and the limb itself was seven feet in diameter. It is estimated that the tree furnishes 100,000 feet of boards, enough to make over a hundred carloads of shingles.

- Incorporation is being asked for by the Niebergall Stave and Lumber Company, of Staples, Ont., with a capital stock of \$45,000, to manufacture lumber, staves, etc. The first directors are Geo. Niebergall, Geo. Acheson and S. P. Halls, of Goderich, Ont.; Geo. M. McEwan, Hensall, Ont., and David R. Menzies, of Clinton, Ont.

- A London detective has recently returned from Dawn township, Lambton county, where he had been investigating the alleged robbery of timber from the estate of the late Sheriff Glass. He reports that acres of fine timber land have been stripped by the thieves. Four men are now confined in Petrolia gaol charged with complicity in the offence.

- Formal notice has been given of an application for an act to incorporate the Royal Paper Mill Company, of Sherbrooke, Que., to manufacture pulp, paper and lumber, with power to acquire the property of the Royal Pulp and Paper Company, of East Angus. The new company will have a capital of \$400,000. The applicants are: W. B. Ives and F. P. Buck, of Sherbrooke; Rufus H. Pope, Cookshire, and George Van Dyke and Irving W. Drew, of Lancaster.

FIRES AND CASUALTIES.

FIRES.

- R. B. Jeffrey's saw mill at Victoria Road, Ont., was burned on the 7th of December. The loss is about \$1,000, with no insurance.

- A fire around the wharves, near W. B. Hayford's mill, three miles up the river from St. John, N. B., destroyed about \$6,000 worth of lumber the early part of last month.

- The shingle mill of Cowan & McGinty, at Marble Cove, N. B., was consumed by fire a couple of weeks ago. The mill was erected about seven years ago, at a cost of \$14,000, but had not been in operation for the past eight months. The insurance is \$4,000.

- About the middle of December Robert Gaw & Co.'s planing mill at Kingston, Ont., was destroyed by fire. Among the contents were a large quantity of sashes, doors and blinds ready for shipment, and many in the course of manufacture. Loss, \$7,000; insurance, \$6,000.

- The saw mill belonging to Messrs. Trueman Brothers, at Trumanville, N. S., about nine miles from Amherst, was totally destroyed by fire early in December. The mill was comparatively new and valued at about \$2,000. It was a rotary mill, water power, and fully equipped with sawing apparatus and a grain mashing outfit.

CASUALTIES.

- While engaged in felling a tree in the lumber woods at Parry Sound, John O'Connor had one of his legs badly crushed. He was taken to the hospital at Toronto.

- Wm. Brotherston, foreman for the Georgian Bay Lumber Co., accidentally shot himself through the heart while handling a rifle, near Coldwater, a fortnight ago.

- Ed. Clapp, Bridgewater, was killed in the woods near Gilmour. A tree fell into the crutch of another, which gave way, one piece of it hitting him on the head; he lived only about an hour. Deceased was single and about twenty-four years of age.

- An employee of Mickle, Dymont & Co., named Alex. Sanville, recently met with an accident which resulted in his death. The unfortunate man was felling a tree, when a large limb struck him, breaking his back. He died in about twenty-four hours. He was a hard-working, steady man, and leaves a widow and five small children to mourn his loss.

THE WORLD'S GREATEST BLMS.

THE elm (*Ulmus Campetris*) is an old and long familiar tree, the wood of which, however, according to Timber, of London, Eng., is of no great importance, and is used for a variety of purposes, while knobs or monstrosities found on the tree are cut into thin slices and polished, and employed by carpenters in the process of veneering. The wood is very durable, and the keels of troughs and waterpipes are always constructed of elm timber. The elm trees live to a great age, and some trees in Oxfordshire were famous even in the time

of Queen Elizabeth. The "Long Walk" at Windsor was planted at the beginning of the last century, and is well known and greatly admired, though some of the trees have passed their prime. There is a great elm tree in the south of England that measures sixty-one feet in circumference. Its trunk is hollow and has a door fitted into it and fastened by a lock and key. Another great elm, near London, has a winding staircase cut within it, and a turret on top where at least twenty persons can stand. But the largest and finest elm tree in the world was (for it unfortunately is not) in the county of Kildare, Ireland. Two of the huge branches fell down of their own weight, and that on a still, calm day, when there was not a breath of wind. The timber of the branches was conveyed away and sold for guineas. The noble tree did not long survive the loss of the branches. It was already tottering to its fall, and a violent storm tore it up by the roots, a great mass of earth and rocks being torn up with them. The elm is taller than most of our forest trees, and the masses of light shade, formed by its abundant, yet loose, foliage, impart much beauty to a woodland scene.

IMPORTANT LUMBER SUIT.

A CASE of heavy litigation has come before Justice Ferguson at the sitting of the High Court of Justice for the Province of Ontario at Rat Portage. About a year and a half ago a trust was formed by which all the lumber properties at Rat Portage, Keewatin and Norman, excepting the Keewatin Lumber company were placed in the hands of trustees with the object of forming a combine under the name of the Ontario and Western Lumber Company, (limited). The trustees were W. P. Creighton, J. M. Savage, D. C. Cameron, John Dick, H. W. Kennedy and Walter Ross, and it was provided that certain parties interested in the various firms should obtain letters of incorporation under the name of the Western Ontario Lumber Company, (limited), and that all the properties should be transferred to that Company, and that stock in that company should be issued in payment for the assets to be transferred. It was also provided that valuers should be appointed, and that the valuations of the various properties would be accepted by the owners, and that stock should issue in the new Company for the amount at which the valuation should be made.

James Pringle, of Montreal, and J. N. Johnston, of St. Paul, Minnesota, were appointed valuers and made valuations of the different properties, but these valuations were not satisfactory to some of the parties, and more particularly to Dennis Ryan, of St. Paul, who is the chief stockholder in the Minnesota & Ontario Lumber Company, whose mill and lumber property were affected by this arrangement.

An action was at once commenced by Mr. Ryan to set aside the agreement providing for the trust and for the formation of the new company, and the case has been adjourned from time to time, but is now on for hearing. In June another action was commenced in the name of the Attorney General of Canada, in which it is endeavored to set aside the letters patent to the new company, that is, of the Ontario and Western Lumber Company, (limited). The chief grounds upon which these letters patent are being attacked are, that while \$500,000 worth of stock was subscribed for, there was not in reality a bonafide subscription for that amount. Another ground is, that while \$50,000 deposit was required to be made before the application for the letters patent would be granted, that this matter was arranged by discounting a note for \$50,000 which was afterwards retired by a cheque of the company for the same amount and although this is a very ordinary way of arranging a deposit for a charter, it is proposed to test the validity of it.

If the letters patent of the Ontario and Western Lumber Company are annulled financial complications of a very serious character, it is said, are quite possible.

S. H. Blake, Q. C., of Toronto, will represent Mr. Ryan and the Attorney-General of Canada. With him will be associated T. H. Gilmour, Q. C., and N. F. Hage, Q. C., of Winnipeg; and the defendants will be represented by H. M. Howell, Q. C., W. H. Culver, Q. C., C. P. Wilson and James Fisher.

TRADE REVIEW.

Office of CANADA LUMBERMAN, } Dec. 26, 1894. }

THE GENERAL SURVEY.

THE present season of the year in the lumber trades is one that marks a parting of the roads. It is the end of the year and no great attention is given to immediate business.

Nor has the trade commenced yet to look out into the future. After the books have been balanced the vision will be clearer. An impression prevails, however, notwithstanding the dullness of 1894, that better days are in store for the lumber trade, and these will commence to show themselves shortly after the turn of the new year.

Various figures are being given out to indicate the cut of the mills during the season of 1894 in all the important manufacturing centres. Considerable data of this character is in possession of the LUMBERMAN, which we shall put into shape with other matter that will come before us for our annual review of the trade that will appear in next month's issue of this journal.

The following official figures, for the quarter ending Sept. 30, though fragmentary and incomplete, will give some indication of the conditions of trade. Excepting Manitoba and British Columbia, the export of lumber, timber and logs from Canada to the United States, for the three months named, amounts to \$3,648,807.

Ontario wood exports to the United States were: Lath and shingles, \$96,068; bark, \$15,972; logs and timber, \$1,501,550; lumber, \$1,183,830; lumber for export, \$54,506; picket and palings, \$3,901; poles, telegraph and hop, \$24,792; posts, \$2,706; pulp, \$43,353; hooks, staves, headings and bolts, \$189,985; cordwood, \$8,685; pulp wood, \$70,670. Quebec exported to the United States during the same period: Hemlock bark, \$2,930; lumber, \$350,601; pulp wood, \$72,784; railway ties, \$17,732; match blocks, \$6,302; shingles, \$9,336; wood pulp, \$13,071; clapboards, \$26,163; logs, \$23,281; all other wood products, \$6,990.

In New Brunswick the opinion grows that trade during the incoming year with the United States will show a considerable enlargement. The season closed has not been a very large one in the Lake of the Woods district, the cut amounting to only about 25,000,000 feet.

UNITED STATES.

It can seldom be written of December in the lumber business that trade has assumed large proportions. It is not the month for big business, and contrasted with November, where even in the duller times trade runs into considerable size, the contrast is noticeable.

that will be completed on Jan. 1st will, in neither case, show heavy holdings. The average trade, as a matter of fact, have purchased cautiously enough for months back to render heavy stocks an impossibility.

FOREIGN.

Trade is on the quiet side in the markets of Great Britain and the impression prevails that pine and spruce supplies shipped to these markets annually will, during next season, fall below the average. A stronger hope of increased trade from Australia is born of the departure of the Canadian commissioner to that colony.

HARDWOODS.

Canadian hardwood men are by no means in good spirits. Whilst there is a demand for many lines of hardwood, prices do not encourage doing much business. The most hopeful sign in the hardwood trade is the growing impression that in the future hardwoods are going to cut an important figure in the lumber trade.

SHINGLES.

Dullness, with no let-up to it, has still to be written of the shingle trade, locally, or anywhere else. In the Washington territory red cedar shingle trade has been further demoralized through the big cut made by the Ballard Co., of Tacoma.

TORONTO, ONT.

TORONTO, December 26, 1894.

CAR OR CARGO LOTS.

Table listing lumber prices in Toronto, Ontario, including items like 1-4 in. cut up and better, 1x10 and 12 dressing and better, etc.

HARDWOODS—PER M. FERT CAR LOTS.

Table listing prices for various hardwoods such as Ash, Birch, Haswood, Butternut, Chestnut, and Cherry.

OTTAWA, ONT.

OTTAWA, Dec. 26, 1894.

Table listing lumber prices in Ottawa, Ontario, including items like Pine, 1 sidings, per M feet, b.m., etc.

NEW YORK CITY.

NEW YORK, N. Y. Dec. 26th.—There is really nothing particularly noteworthy in this market. The trade generally are preparing themselves to sum up the season's trade and there will not be any great activity until the turn of the new year.

WHITE PINE LUMBER

Prices for white pine lumber are governed entirely by source of supply rendering it useless to give prices for local market.

WHITE PINE TIMBER.

Table listing prices for white pine timber, including Bridge timber, Decking, and Building orders.

ALBANY, N. Y.

ALBANY, N. Y., Dec. 26th.—Lumbermen are practically into their winter quarters, and trade has commenced to take on the quietude of the holiday season.

PINE.

Table listing prices for various types of pine lumber, including 2 1/2 in. and up, good, etc.

LATH.

Table listing prices for lath, including Pine and Spruce.

SHINGLES.

Table listing prices for shingles, including Sawed Pine, Clear butts, and Smooth.

OSWEGO, N. Y.

OSWEGO, N. Y., Dec. 26th.—Trade is quiet now, and with navigation closed and the holidays here, will remain so for some weeks at any rate.

WHITE PINE.

Table listing prices for white pine, including Three uppers, Pickings, and No. 1 cutting up.

SIDING.

Table listing prices for siding, including 1 in siding, cutting up, and 1 in dressing.

1X12 INCH.

Table listing prices for 1x12 inch lumber, including 12 and 16 feet, mill run, etc.

1X10 INCH.

Table listing prices for 1x10 inch lumber, including 12 and 13 feet, mill run, etc.

1 1/2 X 10 INCHES.

Table listing prices for 1 1/2 x 10 inch lumber, including Mill run, mill culls out, etc.

1X4 INCHES.

Table listing prices for 1x4 inch lumber, including Mill run, mill culls out, etc.

1X5 INCHES.

Table listing prices for 1x5 inch lumber, including 6, 7 or 8, mill run, mill culls out, etc.

SHINGLES.

Table listing prices for shingles, including XXX, 18 in. pine, etc.

LATH.

Table listing prices for lath, including No. 1, 1 1/2, and No. 2, 1 1/2.

SAGINAW, MICH.

SAGINAW, MICH., Dec. 26th.—With navigation closed for the season there is a dullness in the lumber market that is in contrast with even the slow-going trade that has been done here for some time past.

FINISHING LUMBER—ROUGH. Uppers, 1, 1 1/2 and 1 3/4 in. 44 00. Selects, 1 in. 38 00. 1 1/2 and 1 3/4 in. 38 00.

SHIPPING CULLS OR BOX. 1 in., 4 and 5 in. wide. \$10 00. 1 in., 6 in. wide. 11 00. 1 in., 7 in. wide and up. 11 00.

WHITE PINE. Shelving, No. 1, 13 in. and up, 1 in. 31 00@33 00. Dressing, 1 1/2 in. 25 00 26 00.

BUFFALO AND TONAWANDA, N. Y.

TONAWANDA, N. Y., Dec. 26th.—Business in lumber is slow. The trade of the year, whether large or small, is concluded, and stock-taking and balancing of books is now the programme.

UPPER, 1, 1 1/2, 1 3/4 and 2 in. 45 00 48 00. 2 1/2 and 3 in. 50 00 53 00. Selects, 1 in. 38 00 39 00. 1 1/2 to 2 in. 40 00 42 00.

BOSTON, MASS.

BOSTON, MASS., Dec. 26th.—It is worth remarking of business at the present time that prices are being held stiff. There is a fair demand for clapboards and even shingles.

EASTERN PINE—CARGO OR CAR LOAD. Ordinary planed boards. \$12 00. Coarse No. 5. 15 00 16 00. Refuse. 12 00 12 50.

WESTERN PINE—BY CAR LOAD. Uppers, 1 in. \$50 00@51 00. 1 1/2, 1 3/4 and 2 in. 52 00 53 00. Selects, 1 in. 59 00 63 00.

SPRUCE. Mill random. 11 00@12 00. Northern, random boards. 11 50 12 00. Second boards. 10 00.

HEMLOCK. Boards, rough. 9 00@10 00. Planed. 11 00 11 50. LATH. Spruce. 1 80@ 2 00. By cargo. 1 80@ 1 90.

LUMBERMEN'S SUPPLIES

SUGAR. Granulated. 4 30 4 40. Extra bright refined. 4 4 1/2. Bright Yellow. 3 3/4 3 7/8.

SYRUPS AND MOLASSES. Dark. 25 30. Medium. 30 35. Bright. 35 40. Very Bright. 50 60.

RICE, ETC. Rice, Aracan. 3 1/2 3 3/4. Patna. 3 3/4 4. Japan. 5 5 1/2.

FRUITS. Currants, Provincial, bbls. 3 1/2 4. Filiatras, bbls. 4 4 1/2. Currants, Patras, bbls. 5 5 1/2.

DOMESTIC. Apples, Dried, per lb. 5 1/2 6. Evaporated. 8 10.

TOBACCO AND CIGARS. British Consols, 4's; Twin Gold Bar. 59c. Laurel, rough and ready, 8's. 57.

THE SMALL MILL.

TO build a small mill and operate it with the least possible help, writes J. H. Miner in Lumber, would require a considerable outlay in machinery; but a small mill can make a thousand feet of lumber much cheaper than a large mill can.

Some small mills are run successfully with fifteen horse-power, the engine doing its work day by day very well. I have seen other mills that could not keep their engines from pounding.

The saw mill should be of the proper size. Pony saw mills are dear, unless for the lightest possible sawing. One should have good, flat, broad-faced frictions, and should not meddle with the variable friction if one wishes to run the mill every day and lose no time.

sawyer to do his setting correctly. Put in six-inch seasoned turned rollers, with polished journals set in true, and a boy can roll the lumber from the saw.

A good swing saw should be set a good length from the saw and should be easily manipulated so as to cut all slabs, that will not make lath, into fuel.

Every piece of lumber that is not square should be trimmed. There is nothing that adds to the sale of lumber so much as to have it well trimmed.

For a boiler feeder put in a well built force pump and injector. While the mill is running, the pump will feed the boiler with more regularity than anything else will.

On the other hand, if a cheap engine and boiler are bought and poorly set, the whole business will go down hill from the start.

Buy the best of everything, if money is to be made. Use wide belts and large steel-rim pulleys, and there will be no trouble.

A saw-mill built right, having the best machinery and properly cared for, will work like a charm.

DUBE V. THE TEMISCOUATA RAILWAY.

THE case of Mr. E. Dube, of Fraserville, against the Temiscouata Railway Co., was held before the Privy Council at Ottawa a week ago. The complainant was represented by Mr. W. J. White and the company by Mr. Hector Cameron, Q. C.

THE Department of Crown Lands for Ontario are inviting tenders until the 10th of January for the privilege of cutting pine on a small timber berth in Algoma.

A NUMBER of berths of crown land were offered at auction at Fredericton, N. B., on Dec. 19. Fifteen of them were knocked down to respective applicants at the upset price of \$8 per mile.

TALKS WITH WOOD-WORKERS.

IN these occasional talks with wood-workers reference has been made before to the subject of wood bending. About this there are many features of special interest. I have come across a familiar talk on the question by Mr W. J. Shepard, in the Wood Worker. He tells us that wood is subjected to but little longitudinal shrinkage, the minimum occurring in the direction of its length, a larger amount taking place transversely through the growth grain, and the maximum following the direction of the concentric rings. There being, then, but little longitudinal shrinkage, as long as the grain lies straight and regular there is but little tendency for a stick to crook from this cause; but when the grain is turned aside from its straight course, to any great extent, by a knot or knarl, everyone knows the deflection, the twisting and crooking of the stick, that will be likely to occur in drying. When a stick is bent under end pressure, great changes occur in its substance along the inner side of the bend. The grain layers lie no longer straight and regular. Under the powerful compression of the bending process, the substance of the wood at or near the point of bending, goes together wherever the density is least, each particular fibre writhing its way into every adjoining pore and cell, and twining itself about and interlacing itself with its neighbors, until the whole becomes a closely interwoven mass of fibre, much resembling a skein of tangled yarn.

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Anyone not intimately acquainted with the characteristics of wood bent in this way, will be astonished, upon investigation, at the extent of the change thus made in the nature and condition of the fibre. Little or no indications of it are to be discovered on the surface, if the bender has done his work well; but as soon as an attempt is made to break or split a piece so treated, its changed nature becomes at once apparent. To split or break it is almost impossible. It will be found to have become literally tougher than whalebone. The compressed portion may be wrung and twisted and bent, in a cold condition after being taken from the form, but it will exhibit a marvellous tenacity, and will hang together and resist any attempt at splitting or breaking. Of course the fibre may be torn asunder by the application of sufficient force, but it will not come with a clean cleavage, as wood splits, but will shred and tear, and show a very ragged edge, not unlike that which would be presented by a piece of heavy woven cloth, showing very clearly the interwoven character of the compressed fibre.

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It might naturally be supposed that the forcible disturbance of the substance of the wood by compression, would leave it in a broken and ruptured, and consequently a weakened, condition. But the exact opposite is the case. There is no wood that grows, which in its natural condition can for a moment equal, in point of toughness, a brashy piece of western ash as it may become under the skilful manipulation of the wood-bender. This may seem to many like a rash and unwarranted statement, but should the fact be doubted the writer stands ready to submit to the editor of this journal such specimens of toughened western ash, or of any one of a half-dozen other kinds of wood, as would, without doubt, convince the most skeptical of the needlessness of a comparative test. Another cause besides the interweaving of the fibres goes to produce this marvellous toughness of the compressed wood. In nearly all woods adapted to bending purposes, there is a starchy, glutinous substance in the grain cells which under the action of steam cooks up to a glue-like consistency and condition, and when the fibre is pressed into the cells by the compression of bending, this natural glue cements the whole very firmly together. Thus it will be seen that the fibres of the wood are not closely interwoven with each other, but they are virtually glued together in this tangled condition. The result of these two causes operating together, is such a toughening of the wood as would seem quite impossible to one having no acquaintance with the compressed fibre.

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Now to follow out the result of shrinkage on this altered condition of the wood. It should be borne in mind that along the strap side of the bent piece there is no

compression, that the layers of grain there lie straight and undisturbed, the compression beginning more or less near the surface, according to the circumstances, and increasing progressively, its greatest amount being at the inner surface of the bend. There, will be, then, no perceptible longitudinal shrinkage on the strap side of the bent piece; but on the form side, where the compressed fibre lies in an irregular, wavy, tangled mass, no longer parallel with the longitudinal surface of the stick, there will occur a contraction of the length of that surface as this mass of fibre shrinks together through drying, and as the inner surface contracts in length while the outer one does not, it necessarily results in curling up the bend to an increased acuteness. A Vienna chair seat, for instance, may be so bent, on a fourteen inch circle, that by mere drying, if left to itself, it will decrease in diameter to eleven or twelve inches. Thus it will be seen that this, at first sight, puzzling phenomenon, is of easy explanation, and but the natural result of shrinkage due to the changed condition of the compressed fibre.

CARELESSNESS AND WASTE OF LUMBER.

TO make good lumber simply to throw it away is folly so egregious as to be almost beyond belief. It would be entirely so, says the St. Louis Lumberman, were it not for the abundant evidence that such practice obtains among saw mill men to an extent that, could it be accurately known and stated, would be appalling. Millions of as good timber as ever grew in a tree is wasted annually in getting it from the saw to the user, involving losses to producers, that saved would speedily make them rich with good facilities for manufacture, a thorough knowledge of all its processes and abundant skill in manipulating them. Many fail of success because they do not understand how to handle stock after it is made. They are good loggers and saw-mill men to the point of being able to turn out lumber of excellent quality and in satisfactory quantity; but they are not good lumbermen, because they fail to properly care for the product of their mills after getting it into merchantable shape.

At too many mills, especially small ones, lumber is still treated from the moment it leaves the saw. It is often improperly piled, imperfectly seasoned, and so carelessly and unskilfully handled as to be injured by many per cent, before it is even ready to ship, and in that operation it is not unlikely that a further injury is done, so that when the stock finally gets to the buyer, its value is only a fraction of what it ought to be, or what it actually was as it came from the mill. Even the most painstaking care will not save it from damage, unless it follows it from the moment of cutting to its delivery at destination and into the hands of the buyer. A case illustrating this came to notice a few days ago. A car load of clear yellow pine, dressed and sized, was recently unloaded that inspected more than two-thirds culls, merely because the shipper had put the stock, not fully dry, into a closed car and sealed it up. The heat with the absence of any ventilation, caused the sap in the lumber to ferment, and when the stock was taken out a large portion of it was so badly stained as to be worthless. Otherwise it was splendid lumber in every way. Perfectly sawed and dressed, every piece of even width, it was lumber to excite the admiration of everyone who saw it; yet it was nothing but culls, worth probably several dollars a thousand less than the producer paid for putting it on the car. No doubt the report the receiver made on this lumber brought a vigorous remonstrance from the shipper, who no doubt found it hard to believe that the splendid stock which he put into the car could be nothing but worthless rubbish when it came out. Yet no judge of lumber who saw it unloaded could deny the justice and fairness of the inspection which made most of it cull. The damage would have been less had the stock been rough, as most of the stain would dress out, but it was ruinous to dress lumber, and for a dealer simply destroy its value entirely.

The fault here was improperly caring for the lumber in shipping, after it had been well handled up to the point of loading. Knowing that it would be some time on the road, the shipper should have either made sure that the stock was thoroughly dry or seen to it that it was so loaded as to provide for proper ventilation. If

it had been suggested to him that he take the same stock and dead-pile it as it came from the planer, and allow it to remain so for two or three weeks, the party who sent this lumber to market would no doubt have been indignant, that anybody should assume that he could be so careless, yet he put the stuff without a second thought into a position far more hazardous, inasmuch as in the car, closely confined, there was no chance for a circulation of air or for the escape of moisture. It was simply a case of carelessness.

No lumbermen need be told that the possible profits of the lumber business are not sufficient to cover losses arising from such a needless waste as this. Every saw-mill operation is figured upon the assumption that the good lumber, and indeed all the lumber, that can be produced from the timber is to reach the market and to be worth the full market price. Allowance is made only for the legitimate cost of production, not for the loss that comes from the needless waste through carelessness and lack of skill. This is one reason why the preliminary calculations of their timber buyers are so seldom realized when they come to operate their saw-mill. A small percentage of stock reduced in grade through imperfect manufacture, imperfect methods of handling, or by sheer carelessness, will easily use up all the expected profit, leaving to the unlucky owners only the barren satisfaction of getting back what their timber and sawing cost, and often not even that. The frequency of failure in the mill business is familiar; may it not be that carelessness in handling and shipping the lumber is one of its principal causes?

THE DANGERS OF CHEAP BOILER INSURANCE.

THE danger of employing unqualified boiler inspectors was recently well exemplified in a small English town by a boiler explosion which did considerable damage to property in the immediate neighborhood of the scene of action. The boiler in question, it would seem, had gone the way that many boilers unfortunately do, after having served nearly the full period of their usefulness, from its last place of fairly safe operation, the paint shop of a second-hand dealer, from which it emerged spick and span, ready to be sold again to some one unacquainted with its history and eager for a change. Paint has a wonderful rejuvenating power over houses as well as some other things, and with the help of an unprincipled inspector's certificate, soon had this boiler again at work with the result, before long, of a wretched boiler house, damaged buildings adjoining, though happily no loss of life, and a bill for the owner for the costs of the usual investigation by the local authorities. The payment of the costs was exacted "as a warning" to other steam users who rely upon unqualified, incompetent inspection, because it is cheap, and afterward plead ignorance as an excuse for their conduct."

This episode pointedly directs attention once more to the subject of cheap boiler inspection and insurance, which off and on has been condemned for many years, though evidently not with sufficient vigor to have brought about its suppression. Cheap inspection and insurance rates, in fact, seems to possess an allurements to many boiler owners which is surprising, when a slight consideration will show that cheap service of any kind in connection with boilers is simply not worth having. It cannot be profitable, but certainly will prove dangerous. England, more than any other country, has suffered from a multiplicity of boiler inspection and insurance companies, and with growing competition among these and failure on the part of steam users to properly appreciate the value of thorough and conscientious examination of the boilers, decrease in price and corresponding decrease in the reliability of the service rendered have become natural and unavoidable results. There is a price, as has often been argued, below which a guarantee of faithful inspection cannot possibly be extended without seriously affecting the financial stability of any insurance company. A close approximation of what this price is could probably be made in most cases without much difficulty, and any offer of insurance at inspection at a much lower rate should be regarded with suspicion. Cassier's Magazine.

VIEWS AND INTERVIEWS.

Creosoting Timber. Some of the drawbacks that come of creosoting timber are stated by the representative of a New Haven, Conn., firm, that has just finished working a lot of 60,000 feet of timber that had been creosoted for a building being erected at Yale College. It cost \$11.50 per thousand to creosote it and a great deal of it was badly cracked and warped by the operation, so that from whatever benefits are gained by the creosoting must be taken the injury to the timber by the creosoting process. It would seem from this that the remedy in this case was as bad as the disease could have been.

Wood for Smoking Pipes. There is good news for the smoker of a pipe, and there is a supply of comfort therein in the pipe, we mean. The official organ of the New South Wales agricultural department announces that a new and altogether superior wood from which to manufacture smoking pipes has recently been discovered in that province. It is obtained from a small tree or large bush which grows in moderate profusion in the interior. It is known by various names: the natives call it "ury," because it has prickly leaves it is called "needle-bush," because a supply of water can be obtained by the thirsty traveller from its fleshy roots it is called the "water tree," and on account of its color and texture it is called "beef wood." The official reporter recommends it thus: "Being a smoker, I can say confidently that it surpasses cherry, briar, or any other pipe material I have ever seen."

Wormy Oak The theory usually given as to why oak does not always stay sound and firm, is that it passes through the prime of life like man, and after that time begins to decline. This is the most reasonable logic, but there is another reason given for wormy timber, and it seems correct, too, and that is the occasional falling of a tree knocks off limbs from other trees, and insects attack the broken branches near the body while fresh, and thus form an entrance into the trunk of the tree and destroy it. Standing a worm-rotten stick against the bark has been said to give the worm a chance to eat into the tree. The woodsman sometimes blazes a tree; hacks a chip or so out to remind him if he comes that way that he had been on that ground, and thus gives insects a chance to get a foothold. Woodpeckers, it is believed by some, cause worms to get into trees, but I would think they were a great benefit by hunting out the insect for food.

Wooden Clothes. Time was when references to a "wooden overcoat" were understood as the irreverent equivalent of measuring a man for a coffin; but it would seem that suits of clothes made of wood may soon be an accomplished fact, says an English paper. The writer is indebted to a merchant of the city of cloth (Leeds) for a glimpse of a species of cloth, and also a sort of cotton, made wholly out of wood fibre, these two woven pieces having all the appearance of attractive articles of their own kind. Both these textile fabrics are the result of prolonged experiments with pine wood and spruce, which have been ingeniously torn to pieces in the first instance, and then bleached by an elaborate process. After several chemical treatments the wood becomes a soft white pulp, which is run through perforated plates, the resulting threads being dried by a steaming process. These threads can be woven, and the material is susceptible of taking readily any sort of dye. The fabric can be made at an astonishingly cheap cost; it looks well, has a certain amount of strength—experiments in this connection are now being carried out—and its appearance on the market, sooner or later, is absolutely certain, especially in the form of imitation cotton.

A THREE CENT STAMP DOES IT.

ON receipt of a three cent stamp we will mail free to any address a copy of our little hand-book entitled "Rules and Regulations for the inspection of pine and hardwood lumber," as adopted by the lumber section and sanctioned by the Council of the Board of Trade, of Toronto June 16, 1890. Address, CANADA LUMBERMAN, Toronto, Ont.

CIRCULAR RESAW MACHINES.

RESAW machines designed for running solid saws are usually comprehended, says Theron L. Hiles in the Wood Worker, within three sizes—for 24, 36 and 44-inch saws. There is also a heavier machine for 46-inch saws. The smaller size is principally used for resawing siding or clapboard stock, and is sometimes used for resawing cigar-box lumber and for making stove board stock, for which latter purpose two saws are run on the same arbor, making three pieces at each cut. The 36-inch machine will cut boards 14 inches wide and is used for resawing box and trunk lumber, panels, furniture stock, etc. Boards are resawed in the center and planks cut into three or more pieces.

The 44-inch machine will cut boards 18 inches wide and perform the same general line of work. The 46-inch machines are of the same general construction, but are heavier than the average; they have longer journals, larger bearings, heavier rolls and in other features are unusually substantial. All these machines have a similarity of design and operation, the salient features of which, being well known, will not be recounted here. The details of construction vary considerably, but the same ends are attained without any very radical variations being made.

All the manufacturers provide for setting the arbor nearer to the feed rolls as the saw is reduced in diameter. Only one maker, at least so far as the writer has observed, provides for raising and lowering the saw in the frame for cutting wide or narrow stock and using the top of the saw in both cases. There is an advantage in this: the teeth cutting more in the direction of the grain, the sawing is more easily done, and the friction is reduced to the minimum by using the thinnest portion of the saw only. Some attempts to accomplish the same end are made by sawyers who fit a board on top of the bed-plate, thus raising the lumber to be sawed. Some provision for readily raising and lowering the saw or the bed-plate would be a desirable feature on all resawing machines.

It sometimes occurs that where one board does not butt up against the end of the one preceding it in the rolls, the end of the latter, as soon as free from the pressure of the rolls and before the saw has cut entirely to the end of the board, is caught in the teeth of the saw and driven with great force against the bed-plate. The shock is usually damaging to the saw, often breaking out teeth, which lodge in the lumber and strip others off the saw before it can be stopped.

There have been some efforts made to extend the jaws at the back of the feed rolls so that they would support and hold the boards close up to the edge of the saw. This is an important point, but usually such jaws are not given sufficient support and fail in a measure to accomplish the end in view. Spreaders, attached to the bed-plate at the sides of the saw, are useful in relieving the side pressure and consequent heating of the saw. A large spreader is set at the rear of the saw.

It would prove the efficiency of some machines if the frame were extended above the rolls to give them more support on top and hold the lumber as surely on the top as on the bottom edge. Such a construction would also have the advantage of providing ample support for the jaws. There are some considerations in favor of extending a top frame to the back of the machine, having the easy adjustment of the bed-plate in view.

The arbors are of special importance in determining the proportions of resaw machines. They are better for having yoked bearings arranged for self-oiling and provided with dust-excluders. The bearings should be large and carefully fitted, as an arbor which runs hot cripples the saw.

The arbor collars are of more than passing interest, as a slight defect here will be multiplied many times at the tooth of the saw. Correctly-made, they clamp first at the extreme edge of the collar and do not strike the saw at all below a line three-fourths to one inch from the edge of the collar. The nut, if a tight fit, will pinch the collar on one side and cause the saw to run out of true.

Upon the form and weight of the frame depend many points for or against the successful operation of resaws. Weight and stiffness are essential. No possible strain from crooked lumber should cause any part to yield or spring from its place. The action of the pressure-bar

must be sensitive to the slightest variations in the thickness of the lumber, and the force exerted very powerful.

The distribution and proportions of metal in the frame, to give support to all parts commensurate to the stress in different parts of the machine, is a subject which requires observation and experience combined with a thorough technical knowledge, to secure correct construction. If the frame is too light for the work it is given to do, it is soon out of condition and the saw not only lacks support but is subjected to strains and concussions which it is not designed for or able to bear. A frame not equally strong in all parts is little if any better than a slight one. The weak point determines the capacity of the machine.

The frames of resaw machines are self-contained and designed to be placed upon any level floor to which they can be secured. No recommendation as to the value of a solid, heavy foundation is usually given to the purchaser by the maker. There is a prevalent opinion that the machine, being self-contained, can be set up most anywhere. As the responsibility of the maker does not extend beyond the machine itself, the setting is usually left entirely with the user.

Indifference as to a lack of knowledge regarding the value of a proper foundation upon which to place machinery of this description, would be dispelled by a thoughtful consideration of the subject by almost any practical mill man. The sensitiveness of saws running at high speeds, and the thinness to which the plate is reduced, make it obvious that all strains and vibrations which it is practicable to avoid should be carefully eliminated.

There is a rapid variation in the resistance of the lumber to the saw. Wide or narrow boards; knots, few or many, hard or soft, transverse or shearing, tight or loose in their sockets; some boards sound, others shaky; some dry, others wet or green; some pieces hug the saw, others spring clear; some warped or winding, while others have short kinks—these and other variances produce many different effects on the saw and machine. Some cause a variation in power consumed in driving the saw; others act like a blow struck against the saw. Shocks and vibrations are absorbed or dissipated by a heavy foundation, which would otherwise give trouble. A steady power, ample for the heaviest demands, keeps the saw running up to speed. The accommodation of the feed to the peculiarities of the lumber depends upon the expertness of the sawyer.

Electricity will doubtless be applied both to driving resaws and feeding the lumber. A motor properly proportioned to the requirements of the saw and feed would furnish an ideal driving power. The current consumed by the motor varies directly with the labor to be performed, so that there is always just enough force to maintain the set conditions. Electro-magnets for feedways would have decided advantages over the prevalent arrangements of feed rolls. It is to be hoped that so promising a field for the extension of the practical application of electricity in the mechanical world, will not long remain unexplored.

TESTING MOISTURE IN STEAM.

A METHOD of testing the amount of moisture in steam has been discussed by the Institution of Engineers and Shipbuilders, Scotland. The principle in this case, more particularly applicable to marine engines, consists in comparing the saltiness of the steam with that of the water in the boiler. The test, as explained, is carried out by means of nitrate of silver, and the reaction is so delicate that, with only one per cent. of salt in the boiler, 1 per cent. of priming water can be accurately determined to the second decimal. To one part of salt boiler water there is added 100 parts of pure condensed water, and into this is poured a small quantity of concentrated solution of yellow chromate of potash: then a nitrate of silver solution containing about 1-10 per cent. of this salt is slowly added. With each drop the salt water turns locally red, but this color disappears at first; later on, when all the salt has been acted on, the whole fluid changes color from pale yellow to orange. The quantity of nitrate solution is noted, and then the experiment is repeated on the condensed steam from the engine undiluted with distilled water. The ratio of the quantities of nitrate of silver solution used in the two tests expresses the amount of priming in per cent.

LUMBER TRADE WITH THE ARGENTINE REPUBLIC.

Mr. J. Arthur Maguire, Consul-General for the Argentine Republic, when in St. John, N. B., a few weeks since was interviewed concerning the probable increase in duty on spruce going into that country. He said: "The commission, which was appointed by the Argentine Republic on the tariff question thought the tariff bill, which passed the United States Congress would reduce the duties on all goods from the Argentine Republic, still more than under the existing reciprocity treaty between that country and the United States, and they recommended to their Government that the duty on hard pine from the States be lowered from \$13 to \$9, and that the duties on spruce and white pine from Canada be increased from \$2.50 per 1,000 feet on the former to \$4.77 and on white pine to \$4.67 as compared to \$2.50. These recommendations, he said, had not yet been carried out, and he did not think they ever would be. He had had cables and letters from Buenos Ayres and had not been notified of any change in the tariff. The Argentine Republic, said Mr. Maguire, grew large quantities of hard woods, equally as good as the United States pine, and if the duties on the latter article were reduced the Argentine merchants feared that the country would be flooded and the home wood could not be sold in its own market. If the suggested new tariff came into force pitch pine would take the place of spruce, as it could be purchased almost as cheaply in the States now and is almost equally as good for the Argentine requirements. In case the tariff is adopted he will take precautions to prevent the shipping of Quebec lumber from Portland as American lumber. He will have it so fixed that all Quebec lumber shipped through Portland will be accompanied by certificates of origin, so that the Americans cannot send the lumber forward as the product of their country. Portland, he says, can never compete with Quebec in the shipments of spruce and white pine. Personally, Mr. Maguire says, he would not have any fears of increased duties if he were sending a cargo to the Argentine Republic.

The other day Mr. Maguire was comparing the shipments of lumber from New Brunswick and Nova Scotia to the Argentine ports, and found that the two Provinces had sent forward four times as much this year as in 1892.

Mr. Maguire feels that the Argentines have a country of wonderful resources. Last year a million bushels of wheat were sent over the world from the Republic, and this year the shipments will amount to one million and a half bushels. Mr. Maguire sailed on Dec. 15th from Halifax for Europe, whence he will go to the Argentine Republic on business connected with his office. He expects to be absent about four months. Mr. Maguire's headquarters are at Quebec.

CHIMNEY DRAUGHT.

If any one will look over the transactions of the mechanical engineer societies, says the Manufacturers' Gazette, and read the discussions on chimney draught, he will be surprised at the differences of opinion expressed by the learned men. But there is one fact as to which there can be no doubt, namely, to produce a good draught in any chimney, the height of the chimney is an essential factor for the economic combustion of fuel.

The draught power of chimneys is dependent on their area of cross section and height, other things being equal. The ordinary tables of formulae for dimensions of chimneys for various horse powers of boilers are based on the following assumed or asserted data:

First The draught power varies as the square root of the height.

Second The power varies directly as the area of the shaft.

Boiler-makers as a rule assume the above to be correct. Now as to the facts in practice: The draught power based on the above for a chimney 48 inches in diameter and 150 feet high would be only sufficient for 425 horse-power boilers, whereas Le Van says he has actually produced 1,000 horse-power based on 30 pounds of water evaporation by a chimney of the above dimensions, and propose to add a 200 horse-power boiler as soon as may be required.

The above is cited to show the fallacy of all the formulae as to draught power of chimneys. It is assumed,

according to the above rule, that their height should be eight times the area of the chimney. The quality or kind of fuel is not stated.

The important factor, grate surface, depends on the different kinds of fuel used, and the conditions under which the fuel is burned. Again, the tables are also based on a temperature in the chimney of 600 degrees a very high temperature, it would seem, having in view proper economy. The intensity or degree of heat evolved by the fuel varies in proportion to the rate at which it burns; the greater the draught is the greater the amount of work produced from the same fuel.

The power of draught is directly proportional to the height of the chimney, and the velocity with which the external air flows in to supply the draught depends upon the temperature of the ascending gases. The higher the temperature is the lighter will be the gases, which consequently will produce a stronger draught.

There is draught in a chimney without fire. In a great many chimneys the infiltration of air through the masonry has, no doubt, a great influence to retard the velocity of the heated gases when in use. The intensity of draught is independent of the area, and depends upon the difference between the inside and outside temperature. The degrees of heat produced by the fuel vary in proportion to the rate at which it burns; the greater the draught, the greater the amount of work that will be produced from the same fuel.

This goes to show the importance of tall chimneys; therefore, the power of draught is directly proportional to the height of the chimney, and the velocity with which the external air flows in to supply the draught, depends upon the temperature of the ascending gases.

Air at 250 degrees temperature expands to double its volume at 32 degrees; therefore, the higher the temperature the lighter will be the gases, which, consequently, will create a stronger draught.

A rapid draught is, in one respect, equivalent to a large fire-grate area, since it enables more fuel to be burned in a given time, and thus increases the power of the boiler in generating steam. A rapid draught, however, has this advantage, that, inasmuch as the temperature of the furnace is higher when the same quality of heat is generated in a small space than it will be when generated in a large space, the heat is transmitted much more rapidly to the water in the boiler in the case of the strong draught, by reason of the higher temperature thus obtained. The manufacturing requirements of modern times demand the building of high chimneys, so as to enable more fuel to be burned in a given space of time, and thus increase the boiler.

HARDWOOD DIMENSION.

THE business of cutting dimension stock from hardwood is one that requires considerable study, and the average operator, not having much experience, usually works at a loss, says C. P. Crosby in an article in *Hardwood*. It must be remembered at all times that a manufacturer of chairs or tables, or any such goods, when buying dimension stock, insists on getting it as low as possible, say about 35 per cent. less than first and second lumber would cost him, and that he will inspect it in the most rigid manner. Should a piece be a trifle warped or checked, or should there be a knot on one side, even if the piece is to be so used that the knot will not show, that piece is culled.

I recently saw about three carloads of rock elm wagon stock that has been cut for a company and rejected, or rather the perfect stock was taken and the balance left at the mill. Scarcely a piece had any more serious defect than a simple sun check or a knot one-quarter inch in diameter, or some other little thing like that; and had this wagon company cut the stock themselves from dry plank, they would most likely have used every piece. This illustrates how dimensions will be culled.

No. The way to do it is to cut all the good lumber out of these culls in the mill; then either work it to the size you want, or pile it by itself, where it can be reached easily when you have orders for it. But usually you can cut it to length and size in the saw mill, and then, if it is piled under cover, it will season without warping or checking.

Do not think you can take the dry culls from the yard and manufacture them as cheaply as the green stock. I

will cite the case of a large concern in Wisconsin which pursued the plan of selling its common and better and piling back the culls, until there was as much cut as anything else in the yard. They would saw the log properly, turning it until the heart was reached, and finally leave a 3x8 or 3x10 heart plank. This heart plank they were in the habit of taking into the planing mill when dry and ripping for table legs, etc. But in many cases they would not get one piece out of a plank, and they were doing all this work for nothing. The one-inch stock they treated the same, but this of course had better material in it and yielded some bed and chair stock as well as some flooring. Still the manager of the company got so discouraged by the culls which seemed to accumulate faster than they could cut them up, that he resigned, and his place was filled by a younger man. I advised the new man to cut his three-inch plank into wood and rip out all the good stock from the culls in the saw mill, but I have not been at the mill in question since the new management took control, and do not know what course was followed.

There are a number of dimension sizes which can be cut and sold green, and this is the best way to sell them, as they have no opportunity to check or warp. I especially allude to neck yokes, singletrees and doubletrees, which are preferable green, as they will turn up more easily than if dry.

A mill man soon gets discouraged trying to cut piece stuff out of culls, as the first contract he takes is usually a large one, and his first shipments are culled pretty liberally, while the price is so low that he can barely get out even when everything is accepted. A few shipments of this kind disgust him so that he stops cutting and disposes of his stock at any price he can get. But when he learns the business slowly, taking no contracts, he finds out where are salable sizes and cuts enough to make a carload or so, and then sells it and cuts some more, cautiously developing the business and gathering experience, he finds a vast field lying open to him, nowhere overstocked with good material; and by making an absolutely perfect article and cutting the sizes ordered he can build up as large a business as he is able to handle, and will probably find it profitable.

Let him learn at the outset that there is no sense in cutting up a 3x10x16 to get one table leg worth five cents, and he has grasped the most important fact in the whole business. If his culls are worth \$5 in the yard, he must get at least \$15 for his product, or he is not doing a successful business. It takes fully as long to handle one table leg as it would to pile or load a piece of lumber that would scale eight or ten times as many feet. As one very bright mill man expressed it: "It takes a lumber piler just as long to pile a piece of 2x2x16 as it would a 2x10x16."

Every piece of dimension stock must be handled separately and examined on all sides before it goes into the car, and it takes a great deal of time to do it. The smaller the sizes, the lower is the price, and yet it costs a great deal more to handle them. After a man has gained experience in the business he can save considerable small stuff out of slabs and edgings, which is so much clear cash in his pockets. There is no limit to the sizes to be cut or to the time one might spend in discussing the question.

WORDS OF CHEER.

J. T. SCHELL, of Macpherson & Schell, Alexandria, Ont., writes: "I have for some years considered the CANADA LUMBERMAN the best of its kind we have had before us as a trade paper, giving general information, good market reports and conveying to my mind freedom from fads, booms and jingo bombast not always absent from lumber journals. Your weekly editor should be appreciated."

Mr. Banford, of the firm of Banford Bros., Listowel, Ont., was accidentally killed in his planing mill at the place, while working with a circular saw.

Messrs. Cutler & Savage, of Michigan, have purchased from Cook Bros. limits 111 and 117 for \$75,000. Mr. Barnet, of Barnet & Mackie, Renfrew, Ont., has bought No. 1 Paxton limit. The price in this case has not been disclosed.

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A call from buyers when in the city solicited.
Letter orders have careful and prompt attention.

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Are invited for the purchase of 458 THOUSAND
XXX AND 400 THOUSAND XX SHINGLES,
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Office and Yards, foot of Erie St. Buffalo, N. Y.
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what supplies are required for the Camps.

MAIL ORDERS GIVEN PROMPT ATTENTION.

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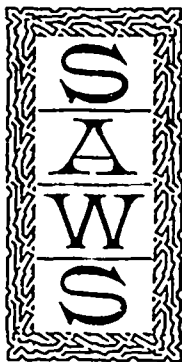
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MONTREAL AND TORONTO

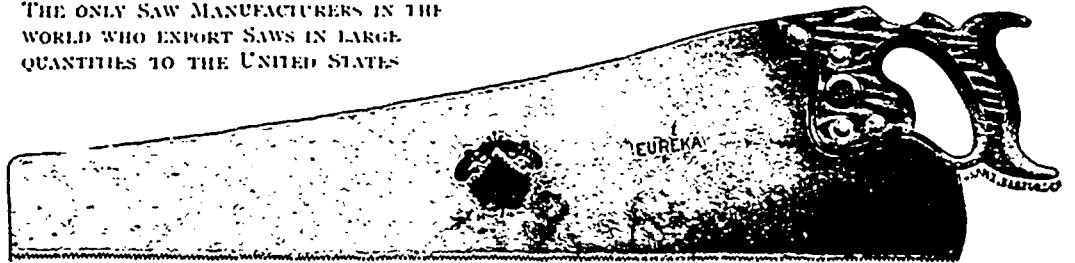
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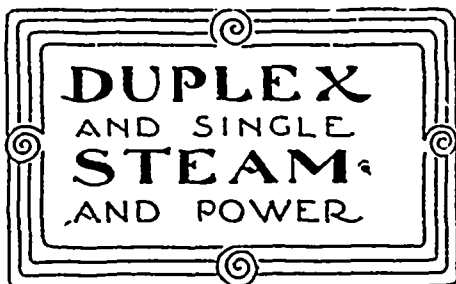


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Advertisements will be inserted in this department at the rate of 15 cents per line each insertion. When four or more consecutive insertions are ordered a discount of 25 per cent will be allowed. The notice shows the width of the line and is set in Nonpareil type. Advertisements must be received not later than the 24th of each month to insure insertion in the following issue.

FOR SALE 50 M. FT. OF 1 AND 2 HARD Maple. W. S. GREENSIDES, Mount Forest Ont.

WANTED

FOR HEMLOCK, DIMENSION LUMBER, hardwood flooring, cedar shingles, pi ex sawdust etc., write E. L. MURPHY, lumberman, Hepworth Station, Ont.

WANTED

TO BUY SMALL TIMBER, PINE AND HEMLOCK, or would put in mill and take contract of cutting by the thousand.

GEO. THOMSON, Wingham, Ont.

WANTED

MANUFACTURERS OR DEALERS HAVING choice Soft Elm, Hard Maple, Basswood, Brown Ash, or Birch, for sale, to correspond with us. L. CLARK & CO., Lumber Dealers, 51 State Street, Room 107, Exchange Building, Boston, Mass.

FOR SALE

STEAM SAW MILL, WITH 60 H. P. STEEL Rider, new, and call engine, and 50 acres of land, with a heavy cut of birch and other timber, also a large quantity of black birch, to be had convenient to mill. G. F. K. switch on the premises. For further particulars, apply to

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UNLIMITED QUANTITIES OF ALL KINDS of hardwood piece stock, kiln-dried if possible, from 2 inches and up wide and 18 inches and up long, 1 inch thick, either planed or rough; also plain Oak Slats 40, 55, 72 inches long, 2 inches wide, dressed two sides to 1/2 in. Splendid chance to work up lower grades. Apply for specifications. Also log planks, boards and squares. Give full particulars of stock on hand, prices and freight rates to New York. Address P. O. Box 2144, New York City.

WANTED

CORRESPONDENCE WITH SOME RESPONSIBLE Canadian Shingle Manufacturer in regard to handling product on commission or otherwise, by wholesale concern travelling continuously. Address: Lock Box 45, Mount Morris, Livingston County, N. Y.

FOR SALE

ON ACCOUNT OF REMOVAL Entire stock of Walnut Rejects and Culls of all thicknesses, principally inch, old dry Indiana lumber, mostly kiln dried. Splendid for cutting up purposes. Special prices, low freight rates.

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STOCK LUMBER IN GOOD SHIPPING CONDITION.

- 50,000 ft. of 4x4 Firsts and Seconds Soft Maple.
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- 50,000 " " 4x4 Common Black Ash.
- 25,000 " " 6x4 and 8x4 Firsts and Seconds White Ash.
- 15,000 " " 4x4 Firsts and Seconds White Ash.
- 15,000 " " 4x4 Plain Firsts and Seconds Sycamore.
- 15,000 " " 4x4 Quartered "
- 25,000 " " 4x4 Firsts and Seconds Cottonwood.

Besides the Common and Culls of above stock; and upon enquiry shall be pleased to quote prices.

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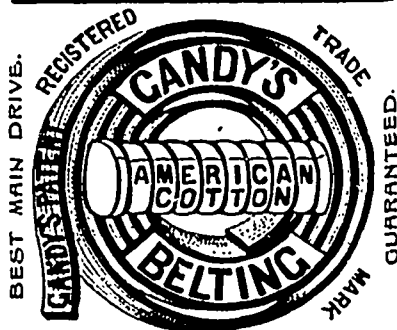
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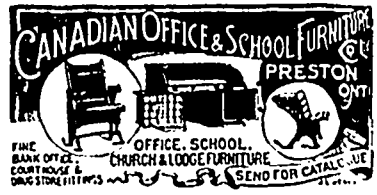
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RAILROAD WHEELS

OFFICES:

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WORKS: LACHINE, QUEBEC

We make a speciality of Wheels suitable for all requirements of Lumbermen and Street Car Service. We can supply them Bored, Finished and Balanced.

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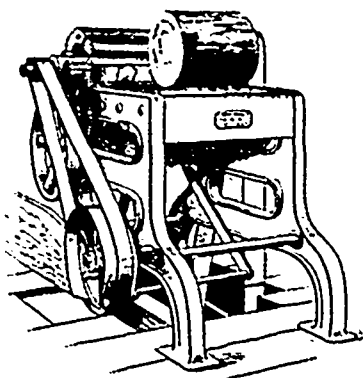
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WE want to contract with mill men for their winter's cut of SOFT ELM, BLACK ASH, BIRCH, BASSWOOD, and ROCK ELM, to be sawed to our order. Our saw-bill will get as much good lumber out of the log as any . . .

WRITE US

Patent Rossing Machine

STEARNS BROTHERS



Why you should use this Rosser. . . .

- It will do double the work of any other.
- It is the only machine made that will peel Cedar Shingle Blocks.
- It will peel dirty blocks without taking the edge off the knives as they cut from the cleanest or block out.
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- It requires less power than a face wheel.
- All iron and steel, very simple and durable.
- It will ross knotty and uneven timber without waste.
- It occupies about the same space as an ordinary planer.
- You can have a chance to try a machine before buying it.

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A book filled with valuable information on the care of band saws. Giving the reasons for breaking; analyzing each reason; giving instructions to dispense with the cause, as laid down in each reason; and full details on filing and brazing. The proper styles of hammers to use are illustrated and described, and views of blades showing the blows of the different styles of hammers form an important part of the illustrations. Improper and unequal tension are then treated, and the manner of properly setting irregular teeth is described. In connection with the treatise is a history of the invention, manufacture and use of the saw from its origin to the present time. The work in whole makes an accumulation of information such as has never before been published.

The book is printed on fine paper, good clear type, and is handsomely and substantially bound in cloth. It will be sent to any address on receipt of the price, ONE DOLLAR.

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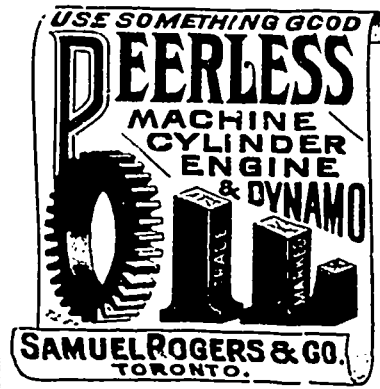
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High Grade ...

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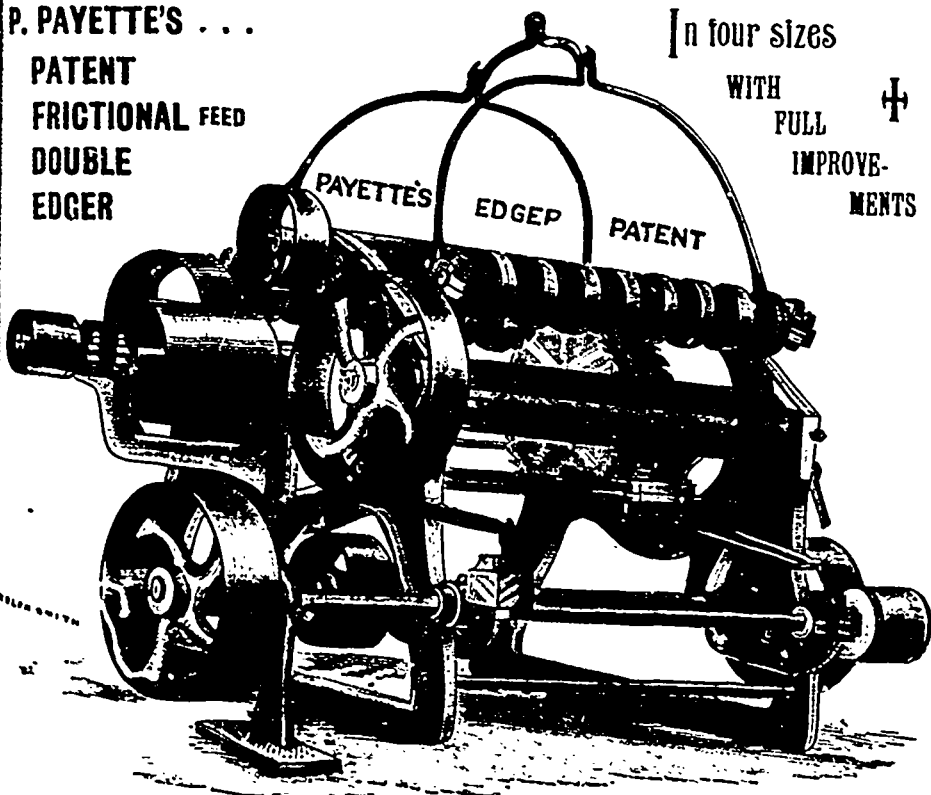
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(Centres of the vast lumber interests of Michigan)

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The last-named place reached by the Company's line of steamships across Lake Michigan.

The line thus forms a short and direct route from

MON'REAL TORONTO

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To ST. PAUL, DULUTH and Pacific Coast Points.

This road traverses a section of Michigan with unrivalled advantages to settlers. Cheap lands, thriving villages and towns, well watered with streams in all directions, a market for every product of Forest and Field.

The policy of the "F. & P. M." is known to all travellers and settlers.

A. PATRIARCHE, Traffic Manager.

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HEMLOCK, WHITE PINE,
YELLOW PINE, GYPRESS,
YELLOW POPLAR,
RED OAK, WHITE OAK, SPRUGE,
CALIFORNIA REDWOOD,
WASHINGTON SPRUGE
AND FIR.



PLAIN AND QUARTER-SAWED
WHITE AND RED OAK AND YELLOW POPLAR
A SPECIALTY.

LATH,

HEMLOCK, SPRUGE, POPLAR,
WHITE PINE, YELLOW PINE
AND GYPRESS
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Ottawa and New York Lumber Line - Ottawa and Boston Lumber Line - Canada Atlantic Fast Freight Line

(Operating over the Grand Trunk, Central Vermont, and Boston and Maine Railways.)

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Dauntless Shingle and Heading Machine

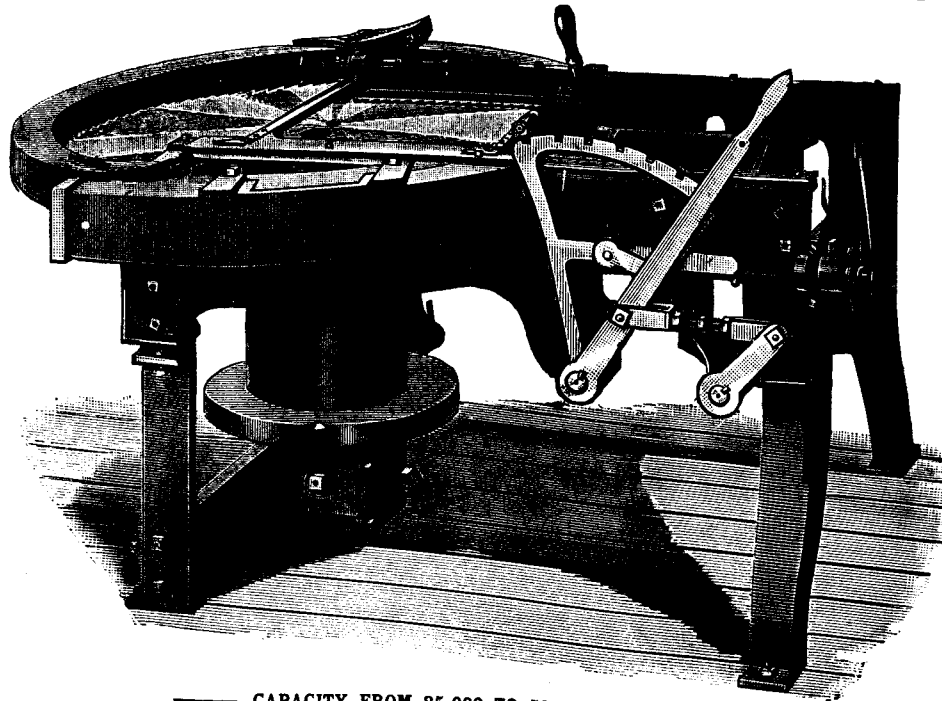
WILL make more Shingles per day than any self-acting machine with vertical saw in existence, and more Shingles from the same quantity of timber.

THE FRAME

Is of Iron throughout, very heavy and rigid, strongly bolted and braced.

THE CARRIAGE

Is very light and strong, made of forged Cast Steel Plate, running on steel ways or tracks. Will take in a block 18 inches wide and 19 inches long, adjustable for 16-inch or 18-inch shingles.



CAPACITY FROM 25,000 TO 50,000 PER DAY

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Your Saw Mill is equal, or nearly equal, to any we have seen of much heavier make, and far in advance of any light rig in the market. The capacity per day is fully up to your guarantee, 40 M per day. We have tested with eight men.

The Shingle Mill cannot be beaten for any kind of timber. Ours being in a manner a custom mill, we have good, bad and indifferent timber, but for all it does the work satisfactorily.

You may use this in any way you please, or refer to us at any time.

Yours truly,
(Sgd.) W. J. & H. W. FOWLDS.

(F. J. DRAKE)

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BELLEVILLE, ONT.