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CANADA LUMBERMAN

WOOD WORKERS' MANUFACTURERS' AND MILLERS' GAZETTE

VOLUME XIII. }
NUMBER 8.

TORONTO, ONT., AUGUST, 1892

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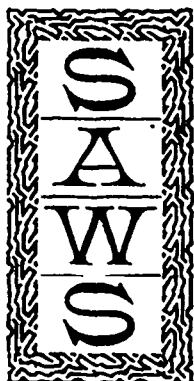
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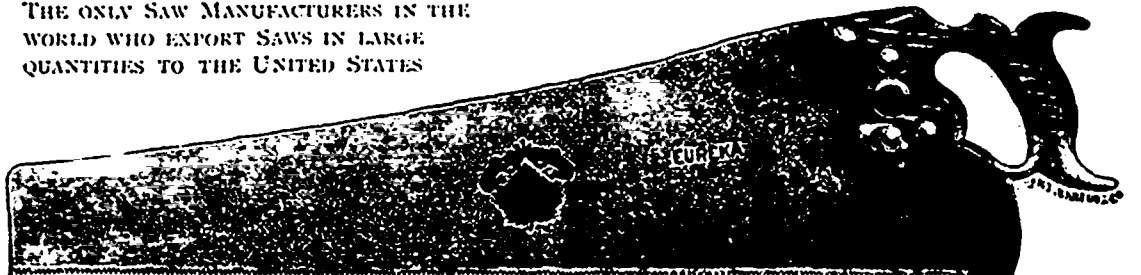
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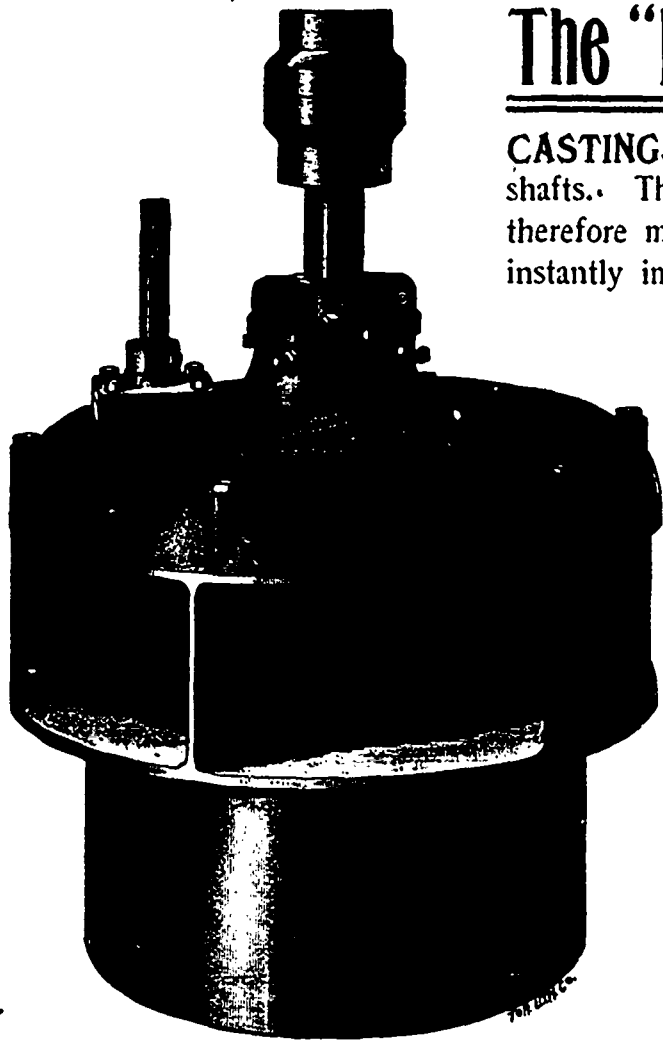
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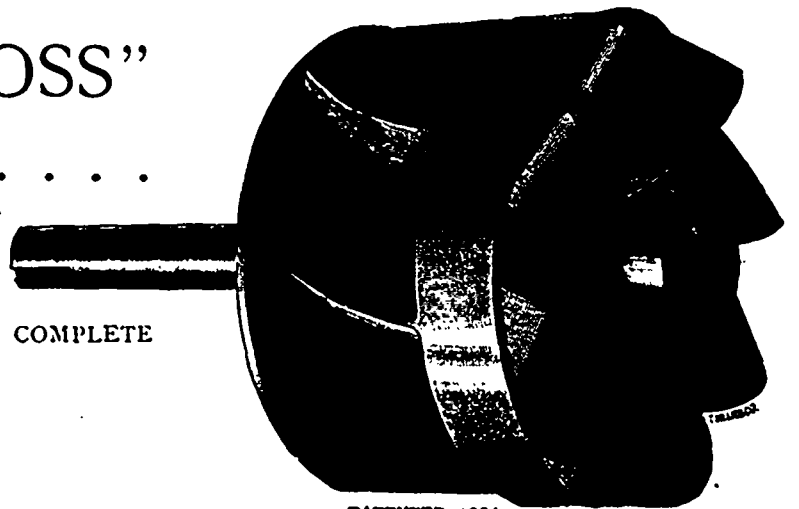
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THE CANADA LUMBERMAN

VOLUME XIII.
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TORONTO, ONT., AUGUST, 1892

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(SINGLE COPIES, 10 CENTS)

BY THE WAY.

ABOUT a fortnight ago Graham, Horne & Co., of Port Arthur, received a large raft of logs which had been towed across Lake Superior from Wisconsin to be manufactured into lumber in Canadian mills. So it is a poor rule that will not work both ways. The Americans are taking our logs. If we are so disposed what is to prevent Canadians from taking their logs? Sauce for the goose is sauce for the gander. The towing, we are told, was accomplished with complete success.

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What to some people may be an extraordinary occurrence may be to others a matter of no particular remark. Peculiar phenomena will mark certain localities, but to the residents of these localities they possess nothing peculiar, because common to the locality. A stranger in that locality would find these a feature of wonderment. It is here that one of the delights of travel asserts itself. The London Timber Trades Journal prints a photographic view of a log jam, or "salom," as it is called, that occurred at Riga, in the Baltic provinces of Russia, and gives a lengthy account of the disaster. A "salom" is not an unknown difficulty of lumbering in the Baltic, but it is unusual evidently to witness anything as large as that described by our English contemporary. In this newer world a log jam is a frequent occurrence, and the size of some of them is not to be measured by that on the Riga.

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Not less than one hundred men and boys make a living picking up and selling pieces of wood that fall from the mills into the Ottawa river, and 150 others, who work between times and after regular working and school hours, find occupation and some remuneration in the same business. Up and down the river these fishers of wood may be seen at all hours, early and late more particularly, in their flat-bottomed bonnes, some with pike pole and others with nature's own grappling rod, the arm and hand, dragging in their product. The wood is piled on the shore to dry and afterwards hawked around the streets for sale. Those who can afford it hold their supplies for the winter when a better price is secured. Some hold their draggings for home consumption, filling in a useful niche when the cold sweeps down the Ottawa and money and work is less plentiful than in the summer. The quantity of driftwood, as it is termed, gathered in a summer in this way runs up into many thousands of loads. Were it not that the river is relieved of this refuse the wood would sink in time and fill the river bottom or block the bays. And so it is that very little of anything counts for waste in this day.

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In a sketchy compliment paid by one newspaper man to another—and strange to say they are rival journalists catering to the same field—there is found these words: "Haven't you noticed that there are men who always have an eye on boys who show signs of promise, which means gentlemanly boys, who try to do their best every time? Well, there are, and boys would be surprised if they knew how they were being watched by men who were on the lookout for brainy, reliable help, and some of them if they knew anything would behave themselves better than they do." Walking along the streets of any of our towns or cities, small or large, the observing man must be impressed with the thought that either there are many boys who do not know they are "being watched by men on the look-out for brainy, reliable help," or, if knowing this, they must hold strange ideas of what goes to decide an employer of labor in selecting his help. There goes a boy on a message for his employer; what is he doing? He has lost fifteen minutes of his master's

time betwixt staring in a shop window and chattering with an idle companion. There is a young man out on a business commission and with a friend he steps into a corner saloon, and the moisture on his upper lip is the tell-tale of his business in that place. Another indoors gives no thoughtful care to the work in his hand. His heart is not in his work. What employer wants anything to do with any of these boys? These are not the boys, who like the one of whom we have been reading, has forged his way from common school to high school, and the rudimentary positions of a newspaper office to one calling for enlarged abilities and greater responsibilities. The LUMBERMAN touches on these matters because it has an interest in the younger generation of lumbermen, as well as those who have climbed successfully over the difficulties of earlier years. We have a strong attachment for the boys, and we want to see them start right.

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In some measure at least chaos will exist in a district where the conditions of society are still embryotic. We see this in the municipal management of our newer towns. Those charged with the responsibility of controlling affairs are timorous of moving too rapidly, and public works are entered upon as though those concerned were building only for a day. Even so modern and progressive a city as Toronto is not a poor example of this kind. How much of our public works has been of a character that has called for constant tearing down and rebuilding. The younger business men, and some of the older ones, pursue similar methods. They do not recognize the possibilities ahead, and hesitate to go too fast. It is the conservatism of human nature asserting itself, an excellent characteristic, though doubtless exercised with too great vigor sometimes. The lumbermen of the Southern States are having an experience somewhat on these lines. They have realized of late years the large timber wealth of which they are possessors, but by its very abundance they are dazed. There is no such a thing as business organization among them, and as has been indicated by recent interviews in these columns, in their anxiety to place their product on the market, they have had no regard for one another's interests, or, indeed, their own.

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Few studies in life are more interesting than those which illustrate the various methods employed by man to obtain a livelihood. The pressure of living in this age is so great that it tests the wit of the most ingenious and gives rise to many novel occupations. In another paragraph we have told of the driftwood gatherers of the Ottawa river. A step or more higher up in the mercantile ladder are the "millwood" dealers of the Ottawa, who contract with the millowners to remove daily from the mills at the Chaudiere the refuse wood that gathers from the saws. This wood consists largely of blocks and four-foot edgings, which drop from the saw into a place known as the "box." For the proper running of the mill this "box" must be kept clear, and this is a stipulation of the contract. The men engaged in the business need to possess sufficient capital to supply themselves with horse and rig, and must employ more or less help to carry on the work. About 100 loads of blocks and 200 cords of edgings are taken daily from the mills. This business has not assumed its present proportions at a jump. There was a time it is said in the early history of lumbering in Ottawa when millmen not only gave the refuse wood away to have it removed, but paid some one to have it done. Population has increased and with it the demand for wood. It is estimated that 35,000 loads of millwood a year are now taken from the mills. One mill alone, it is said, makes \$1,000 a month out of its refuse wood, or about \$6,000 a year. As a study in economics these facts are not unsuggestive.

THE POWER OF WATER.

THERE are very many, generally unknown, peculiarities about water as a power-making agency, even to a great many mechanics that are quite efficient in practical hydraulic engineering. The spouting velocity of water is controlled by the same law as falling bodies. As an instance the spouting velocity of water under a 16-foot head is the same as that of a body falling 16-foot, that is, the velocity of the falling body at the end of the 16-foot fall is the same as the initial velocity of the spouting water from under a 16-foot head, both being 32.4 feet per second.

The velocity from under a 64-foot head is 64.8 feet. It strikes the careless thinker as being quite strange that water should have a spouting velocity of 32.4 feet from under a 16-foot head, and why 64.8 feet from under a 64-foot head, and each are apt to jump at the conclusion that as the head increases in height it loses relatively in power. That, however, is very far from being true. A 20-inch water wheel will yield eight times as much power under a 64-foot head as it would under a 16-foot head, but would, of course, use twice as much water. The power developed being always directly as the quantity of water used and the height of the head.

The square root of the multiple of increased height is the multiple of the increased spouting velocity. Thus, as we have seen, the head has been increased from 16 to 64 feet or 4 times, while the spouting velocity was increased 2 times only, 2 being the square root of 4.

The spouting velocities of streams of water issuing from under various heads is as the square roots of the heads; or, in other and plainer terms, velocities increase in exactly the same ratio that the square roots of the heads increase; and a convenient way to ascertain the spouting velocity of any given head is to take the square root of it and multiply it by the constant factor 8.1. As an example we will take a head of 16 feet, the square root of which is 4, which multiplied by 8.1 equals 32.4 feet the velocity of a 16-foot head. Again we have a head of 64 feet, the square root of which is 8, which, multiplied by the constant 8.1, equals 64.8 feet per second, the spouting velocity of a 64-foot head.

Now, if we take a 4-foot head as a basis and call its useful effect one, we are able to construct a simple formula for ascertaining the relative useful effect of any other head. First obtain the spouting velocity of the head as above explained, and divide it by 16.2 which is the spouting velocity of a 4-foot head; then divide the height of the head in feet by four and multiply the two together and the product will be the efficiency as compared with a 4-foot head. As an example take a 16-foot head, the spouting velocity of which is 32.4 feet, which divided by 16.2 equals 2; and 16 divided by 4 equals 4, which multiplied by 2 equals 8. Therefore, the efficiency of the 16 foot head is 8 as compared with one for the 4-foot head. Or again, take a 64-foot head, the spouting velocity of which is 64.8, divided by 16.2 equals 4, and 4 divided into 64 equals 16, which multiplied by 4 equals 64, the efficiency of the 64-foot head being that many times greater than the 4-foot head. It must be understood that the vents are the same in size in their calculations. As the size of the openings are decreased or increased the effectiveness is decreased or increased in proportion. The result of these calculations are only relative to get at actual results. In any case we must know the actual quantity of water that can be used.

DECLINE IN SHIPMENTS.

LUMBER shipments from the Saginaw river by lake had amounted up to July 1 to 129,673,000 ft. Last year at the same date the shipments had reached 138,186,000, and in 1882, when the business reached the maximum, it had amounted to 284,794,922 ft. The decline is due to the decline of the business.

VIEWS AND INTERVIEWS.

Large
Trees.

All the large trees of the forest are not a growth of this newer country, though the British Columbia tooth-picks and the big trees of the Pacific coast may be expected to possess an unquestioned lead. An English contemporary tells us of some large trees in that country: "On the top of Shanklin Sand, in Surrey, stands the Hascombe Beech, bearing upon the outside of its stem a board setting forth that it was a remarkable tree in 1772. In Norbury Park is a beech 160 feet high. At Crowhurst, in Sussex, is a venerable yew tree, thirty feet in girth, and supposed to be more than a thousand years old. At Norbury there is a Druids' Grove of yews that might from their appearance be of any age that fancy dictated; they are affectionately spoken of by their proper names, "The Fallen Giant," "The King of the Park," and "The Horse and its Rider." It is the oak family, however, that has produced the most eminent individuals; but it cannot be forgotten that if all the toys and ornamental specimens of cabinet work said to have been manufactured out of the Herne Oak really formed a portion of that Shakespearean tree, it must have possessed a fabulous quantity of solid timber. Panshanger, Hertfordshire, figured even in the last century as the home of the Great Oak, containing a thousand feet of sound timber, and maintained by all good judges to be a model of oak-like form."

Small
Wit.

There is such a thing as being over-smart—at least thinking one's self so. The newspapers are as guilty in this respect as anyone. A writer in a recent Atlantic wraps on the knuckles none too severely those people who want to take fun out of everybody and everything, and enters an intelligent plea for greater seriousness in the world's concerns. Everything is not to be sacrificed to the wits of the day. The Northwestern Lumberman makes a practical application of this line of thought to matters closely related to lumber. "It's in bad taste," says this journal, "for cheap newspaper writers to sharpen their pencils and what wit they possess, and pounce upon the man who declares he is on the path that leads to perpetual motion. If a man has an idea in his head he should be permitted to work it out to the best of his ability. There are so many men whose brains are strangers to such a thing as an original idea that by all means the man who does possess such an idea should be given a chance. We all remember right in our own line how inventions and their applications have been attacked. Mike Engelmann was called very short-sighted when in 1854 he put a circular saw in his mill at Manistee. Years ago when the first band saw used in Bay City was discarded and hung out on the fence to bleach, every man who passed along the highway and who thought he knew all about the points of a sawmill, remarked cheerfully and complementarily, "The blank old fool," or words to that effect. Yet look at band saws to-day. Hill, the nigger man, and Prescott, the steam feed man, came in for their share of abuse. It has been so all along. Of course not a man who reads this expects to see a machine that will furnish its own power and run forever, but the crank who believes he can produce such a machine is harmless, and in his investigations may stumble upon something that will prove of value. We wish for once the pens of the wits of the press might be turned on the men who are not trying to do anything. The perpetual motion crank has this virtue at least—he is trying to do the best he can."

Weighing
Cars.

During the past winter it came to the LUMBERMAN to make enquiries regarding the weighing of lumber shipped by car. The complaint was that the car weight invariably gave to the lumber a greater weight than the lumber itself carried. The cars, especially in winter, were loaded up in no small degree with ice and dirt gathered during their various journeys. These things were not allowed for in the net official weight of the car, and consequently counted as lumber when the loaded car was placed on the scales. The evidence of these conditions was verified by specific cases that had been placed in our hands, and further in interviews among the trade in the city. Our bright little contemporary,

Hardwood, has lately been giving its views on this question. The subject is introduced by the statement, known to be the rule in railway construction, that all cars have the shop weight stencilled on the sides when the car is finished, which is seldom changed till the car goes to the bone yard. "This might possibly be honest," this authority goes on to say, "if the car never had to be repaired or did not so often accumulate dirt and rubbish for which little or no allowance is made by the weigh clerk. Often in winter cars will be run into the lumber yard with hundreds of pounds of dirt of various kinds frozen tightly to the deck and on to the running gear, to which is added as much more ice and snow, too solid to be removed without great expense, all of which adds to the gross weight of the car. Compelled to use the cars, the lumberman loads them and trusts to the weigh clerk to make the reduction as near right as he can guess, which can scarcely be very close, and must naturally be in favor of the railroad company, if made at all. If the lumber is weighed in transit or at destinations, the case is rendered worse still. In transit weighing is almost always the most unsatisfactory, as it is generally done in a hurry and carelessly, the distance from and ignorance of the shipper's personality somehow operating to produce a feeling of irresponsibility in all the railroad employes concerned. If lumber is sold delivered, the receiver is relieved of all responsibility, generally paying all freight bills as presented, without reference to possible overweight. And once paid, every shipper knows only too well how difficult it is to get an error corrected, and how few errors in weighing are ever fully or satisfactorily corrected. About the only safeguard on weighing the shipper can possibly have, is to weigh all lumber himself on his own scales, as it is loaded. But even this, in many cases will only act as a check against the most flagrant errors; minor ones, amounting to only a few hundred pounds to a single car, seldom being corrected. A large shipper who had placed scales at his mill, on which every foot of lumber he shipped was weighed, relates that of 1,000 cars he loaded, the railroad weights corresponded to his in the case of only fifty-two cars, and that of the remainder all except forty-seven ran over, the net increase averaging slightly over 300 pounds per car for the entire 1,000 cars, or 300,000 pounds altogether. As the average freight on this lumber was between eighteen and nineteen cents per hundred, he actually paid the railroad company something over \$540 overcharged freight on the 1,000 cars in one season; and there being no competition from his shipping point, he with the greatest difficulty only managed to secure a refund of a little more than one-half the amount."

Certain
Business Methods.

Perhaps in the good times to come, when Bulwer Lytton's "Coming Race" will have peopled this earth, or Bellamy's new world has been ushered in, excessive profits and excessive competition may be consigned to the limbo of the past. These two abnormal elements, in the opinion of the Bankers' Magazine, give rise to the various difficulties in production and exchange. The pity is, though the wish may seem chimerical, that we are not able to right these matters now, and not be obliged to wait for another generation, when the remedy will do no good, at least to those of us who are about here at the present time. Conditions are unevenly balanced. Constantly one end of the reeter and again the other is in the ascendant. The see-saw is not guided by any rules of a fair equilibrium. Is the trouble where the Bankers' Magazine places it? Our impression is that this journal has very squarely struck the mark. The reasoning is supported by the logic of a wise political economy and the lessons that one's own observation and experience teach. The journal in question says: "The profits from production and exchange in many cases are so great that those who reap them seek to produce and exchange beyond what may be termed the normal or healthful limits of society. That this remark is true is within the ken of everyone's experience. The modern machinery for forcing business in many directions furnishes abundant proof. The conduct of many producers and exchangers would seem to imply that men no longer had any wants; that production and exchange were not based on mutual interest, but could be affected only by the application of extraordinary energy. This seems to

be the underlying idea in much of our modern exchange, and yet, as we have seen, it must be wholly false, or else our leading premise is erroneous. Another explanation for thus forcing business is the small profits, which compels producers and exchangers to increase their business in every possible manner in order to get enough to pay their expenditures and save themselves from bankruptcy. We are all familiar with the consequences of attempting to do business when insolvency is pending. All know what extraordinary efforts are often made in order to avert that event. How goods are pledged for future advances; how they are sold at very low prices and often at ruinous loss; how money is borrowed at high rates of interest; in short, all sorts of methods adopted in order to escape such an unwelcome fate; and the result of these things, of course, is most destructive to all legitimate business. Reasonable prices are destroyed, the entire market is demoralized, and, in fine, the whole process of production and exchange thrown out of gear, when the pressure to produce and sell originates from this state of things. And yet, in the past, a great deal of production and exchange has had such an origin; the unlucky are always with us, who, in trying to save themselves, too often draw many others nearer to the danger line than they were before. These, in brief are the leading explanations of the phenomena which we set out to explain. Men seek to produce and exchange beyond any rational desire, either to enhance their profits or to escape ruin. It is either a fight for too much or a fight for life. Probably society suffers more from the operation of the last cause than from the operation of the former; but in either case the suffering is great. Production and exchange should lead to no such results; these processes should yield mutual gains and pleasure. And they would if kept within proper limits. What produces so much loss and misery at the end is the extension of production and exchange beyond these boundaries."

MILL SAWS: THEIR USES AND ABUSES.

ACKNOWLEDGING that many writers on mechanical subjects have imparted much valuable information on the care and management of circular saws that is not only interesting but instructive to the thousands of users of that useful tool, yet, notwithstanding all this, says Mr. C. R. Tompkins, M.E., there is still the same old trouble that has for years been complained of, especially with new ones, and unless the sawyer or filer is an expert, and has the necessary tools for correcting certain faults, or rather adapting them to certain conditions saws will be continually sent back to the factory with the stereotyped phrase, "the saw won't work." And this is not always the end of it, and saws have often been sent back two or three times before they will work satisfactorily. Now, the question is: Who is at fault? In this age of competition it is not probable that any saw-maker would knowingly send out an inferior article, but, on the contrary, all saw makers intend to use the best material and employ the best mechanical skill in their construction, and yet after all there is just as much fault found with the saws sent out by the largest and most prominent saw makers as those from smaller establishments; and the fact is that probably not one saw in fifty that are condemned and sent back for alterations or changes has really any faults whatever in the quality of the stock or the workmanship, and if each saw were used under precisely the same conditions there is no reason why one would not work just as well as another.

But here is where the greatest difficulty is found, and one that saw makers are obliged to contend with. The manufacturer may have in stock a dozen saws, all of the same diameter and the same gauge, and all fitted up with the same care, and each hammered for a tension to correspond with a certain speed. Now, an order comes in for a saw of a certain diameter and gauge; nothing is said about the speed or other conditions—only the saw must be shipped at once, and the best and only thing the manufacturer can do is to fill the order from his stock and trust to Providence or good luck for it to fill the bill in a satisfactory manner; but if not, then trouble will commence as soon as it is started. Thus while two saws are out of the same lot and as near alike as possible, one may work well and give perfect satisfaction, and the

other will be sent back as worthless until certain changes are made in the tension or something else.

Now, how is the saw maker to know, in the first instance, from whence the trouble arises, unless he is informed as to the conditions of speed, etc.? In the first place, there should be an established standard of speed adopted for all circular saws of different sizes, and that standard should be adopted in all mills, and then the saw makers would have something to go by, but so long as every mill has its own speed, and some have two or three different speeds, according to the size of the log, how is it possible for him to give a saw the proper tension for any speed?

The feed is another consideration. As the strain upon a saw varies with the feed, as well as the centrifugal force, a saw that might be well adapted to one feed at a certain speed might not be so well adapted to another, and while one saw may be all right, another from the same lot may be all wrong in the estimation of the Sawyer. Imperfect collars are frequently the cause of trouble, and it cannot be supposed that a saw which of itself may be perfectly true, will run so upon imperfect collars, and to pack up a new saw with paper to compensate for imperfect collars is a remedy as bad as the disease.

Cases are sometimes found where the carriage was not square with or at right angles with the mandrel, and this is frequently the cause of trouble with a saw.

Now, all these points should be carefully examined and corrected before a saw is condemned. Where the collars are out of shape and do not run true on the face, the Sawyer, if he is an expert workman, can easily correct that himself without taking it to a machine shop. He can easily rig up a temporary rest that will be sufficiently rigid for the purpose; then, by running it slowly with a file ground square on the end, and by the use of a short straight edge, he can soon scrape it down to its proper shape with but little trouble, and when this is completed the chances are that the saw will run true, and if other things are equal and the tension adapted to the conditions of speed and resistance, all will be well. If not, then the tension should be so changed as to adapt it to the work.

Again, it is a well-known fact to all sawyers that the best of saws, after a few months of hard work, will lose their tension, become sprung or dishd and require frequent hammering in order to correct it, and the delay and expense of sending the saw to the factory or running it in such condition may be avoided by keeping the necessary tools on hand for this purpose. Therefore, the hammering and ordinary repairs of a circular saw should be part of the education of every Sawyer or filer, especially those who make filing a specialty. With proper tools, which every proprietor should consider part of his outfit, these repairs can be made not only much cheaper, but at a time just when they are needed.

Insufficient and uneasy power is another obstacle that the saw maker has to contend with. In some of the country mills, more especially those that are upon light streams and operated by water power, the speed is variable. Now, if a saw is hammered to run 600 revolutions per minute, it cannot possibly run correctly where the speed frequently runs down to 400. I have often noticed such saws to start into a log at 600 revolutions, and by the time that it had run one-quarter the length of the log the speed would be down to 400 and the saw would be flopping around like the tail of a fish; then the feed would be stopped to allow it to recover, only to be repeated two or three times at every cut. Now, how can it be expected that a saw working under such conditions can maintain any tension or be kept in anything like decent running order. The fact is, if the power is not sufficient to drive a saw through an average-sized log at 600 revolutions per minute, it is better, if the power cannot be increased, to reduce the speed at once to 400, and have the saw hammered to that speed and the feed regulated accordingly, and probably the same amount of work would be accomplished as would be the case where the feed must be stopped every few feet to allow the saw to recover its speed, and under such conditions a thinner saw should be used, not only saving power, but saving lumber also.

A circular saw, like every other tool, in order to per-

form its work in a proper manner and with the use of a reasonable amount of power, must be kept sharp and in good working order, and there is no economy in running a saw after it has become so dull that the lumber is torn out of the saw kerf instead of being cut in a clean, smooth manner.

BURNING HARDWOOD SAWDUST.

THE fact that he could burn his sawdust under his boilers, says Hardwood, has heretofore given the pine manufacturer an advantage over his hardwood brother. One of the most troublesome factors in the sawmill business has always been the disposition of the refuse. The pine men have succeeded in reducing the cost to a minimum by the aid of conveyors and the refuse burner, the dust going directly to the furnace; thus, while disposing of it economically, also reducing the cost of firing by dispensing with one or more firemen, according to size of plant.

It is a well-known fact that one of the most perplexing problems for the hardwood millman to solve is how to dispose of the dust, while a heavy item of expense has been firing the furnace. If the dust could be used for fuel as in the pine mills, there would be a double saving, for while an immense reduction could be made in the cost of handling and the disposition of the dust, and by lessening the labor of firing, an additional and no less important saving could be made in the slabs and edgings, otherwise burned in the furnace. In all hardwood districts they are valuable for house fuel, for which they readily bring a good price, and could they be marketed as such instead of having to go to the furnace room as at present, they would add a not inconsiderable sum to the profit side of the manufacturer's yearly balance sheet.

It is undoubtedly true that could sawdust be entirely substituted for other fuel in hardwood sawmills, many making now a bare living for their owners could be made to pay a profit. In these days of close margins, active competition and high prices for fuel, this is becoming a matter of vital importance to the hardwood manufacturer.

The increasing use of the band saw has served to complicate the problem very materially for, whereas with the circular mill some kinds of sawdust could be burned on a pinch, the band saw cuts all kinds so fine that all are equally refractory when put on the grate bars, the pine men even finding it difficult to burn it alone on the ordinary grate.

The increased use of circular saws of thin gauge has still added another difficulty, for now, with a thin circular on one side and the fine band saw on the other, there is nothing to mix with the latter coarse enough to give passage to the air through the mass of sawdust on the grates. And here is the whole theory in a nut shell. To burn dust there must be some means of supplying each particle with its proper accompaniment of oxygen from the air, without which there can be no combustion, only a coking with a moiety of heat.

The coarse dust of the thick gauge saws of the old circular mills admitted sufficient air to permit of combustion with careful firing and a draft capable of removing enough of the lighter ash as fast as made to prevent it from clogging the space between the unburned particles. The finer the dust, the less room for the necessary air among its granules. Hardwood dust is, perforce, finer than pine from the fact that the saws have more teeth and are run with less feed, thus giving each tooth a smaller bite on the wood.

Hardwood, owing to its superior density, burns slower than pine, and what is true of the wood is true of the dust. A device that will burn pine dust, therefore, may or may not burn hardwood, and here is where the latter still puzzles the inventors, who have been working on the problem in a desultory way almost from the time of the first use of the saw. It seemed to be understood from the outset that a current of air must be introduced and maintained underneath the grates, which should be of sufficient force to penetrate any mass of dust accumulating on them and large enough to furnish the necessary quantity of oxygen and to prevent the formation of a cake with the ashes and unburned dust.

One of the first recorded attempts made was early in

the fifties, in a sawmill and a general wood-working establishment in Massachusetts. All kinds of wood, native to the state were worked up in the mill, and the dust was mixed. The dry dust of all kinds was mixed with shavings and chips from turning and other lathes, and was easily burned. But this fuel and other coarse refuse from the mill proving insufficient at times for the boiler furnace and the hot-air furnaces of the crude kilns then in use, and wood being expensive, an attempt was made to burn the green sawdust, which proved fairly successful until the establishment was abandoned and dismantled a dozen years later.

The contrivance employed was all home-made and very simple. It consisted mainly of a gridiron of small iron pipes placed transversely across the ash pit close to the under surface of an ordinary set of cast iron grate bars. In the upper side of the pipes a series of small holes was drilled to come opposite the spaces between the bars. Connected to the gridiron was a pipe running from a twenty four inch home-made wooden fan which operated as a blower, and which revolved at about 2,000 revolutions per minute. That was all there was to the machine, and so successful was it that when not needed, there being plenty of dry fuel, or the water-power which ran the mill part of the time being in use, the surplus dust was run into a pile outside the furnace room to be wheeled in when wanted, and for more than a decade that simple, home made device, built by three boys all under age, did its work so well that no more wood had to be furnished for the furnace, and three of the home-made fans were worn out in succession.

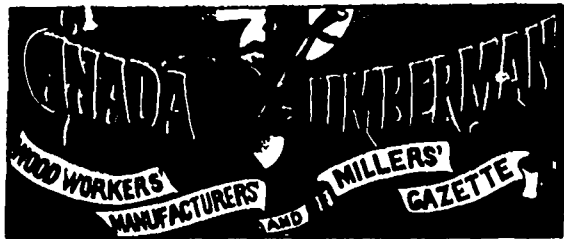
Several fairly effective patents for the same purpose are in use, but it is doubtful if anything yet discovered can beat the simple arrangement here described if it be equipped with a good, substantial steel blower fan. Most of the appliances in use embody more or less of this principle, generally forcing a blast of cold or hot air into the fire pit, either above or below the grates, some combining pipe and grate bar in one piece by a simple change of form, others arranging the air pipes differently. It is still a question whether the hot blast is an improvement, as it is the quantity of oxygen that can be injected among the sawdust grains that produces the desired result, and the amount in the air depends upon its density and not upon its bulk, therefore heated air being expanded and less dense than cold, must contain less oxygen to the cubic foot. Heat also robs the air of a portion of the hydrogen which it holds in the moisture and which it carries in suspension in a natural state, and as hydrogen is an aid to combustion under certain conditions, its loss is of more or less moment.

Until recently the economic questions involved in the burning of hardwood dust have appeared of so little account that scientific investigation as to principles and means has not been stimulated to any great extent. But the question is now assuming so much importance that decisive results may well be looked for in the near future.

WOOD-WORKING TOOLS.

IN many planing mills there is trouble because the grindstones used are not suitable for the tools and bits. A much softer grindstone is needed for tools used for cutting wood than for those used for cutting iron and steel. The quality of work turned out by any modern wood-working machine depends very much on the skill and accuracy exercised in grinding the tools and bits. The grindstones should be kept perfectly true and well balanced, and should not be speeded so fast as to create too much heat, nor so slow as to cause unnecessary loss of time. We often see stones so "out of round" and so "wabbly" that the operator cuts from the heel of the bevel toward the edge of the tool, and has the stone to rotate from instead of toward him. If the stone is true it should run toward the tool that is being ground that is, of course, supposing the tool is held about one-third the distance from the top of the stone, with the cutting edge uppermost. The angle of the bevel of a wood-cutting tool has a great deal to do with its efficiency and differs very greatly from that which is proper for an iron-cutting tool.

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J. S. ROBERTSON, - - - Editor.

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 of great importance individually they contribute to a fund of information from which general results are obtained.

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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.

ST. JOHN'S, THE DISTRESSED.

SYMPATHETIC interest centers in Newfoundland, whose chief city, St. John's, was devastated by fire on July 8, last. Without entering into details, for the story of the fire has been told with all minuteness in the daily and weekly press, the fact that 14,000 people are homeless, dependent upon the beneficence of sister countries for their existence, will carry some idea, yet most inadequate, of the suffering that is being endured. A happy feature, though the term may appear incongruous, of this distressing calamity—and we want to remember that the blackest cloud has its silver lining—is the ready and generous response of the people of the Dominion to the call for help from the ancient colony. How true it is that one touch of nature makes the whole world kin.

Newfoundland has a lumber history that is not without interest to Canadian lumbermen. The latest official report to the colonial office states that there are more than 2,000 square miles of valuable timber lands, principally pine, within the colony. Mr. Howley, F.G.S., of the Geological Department, reports that there are 850 square miles of pine timber land in the Gander and Gambo river country, and 700 square miles on the borders of Exploits River and Red Indian Lake. To this must be added the but partially surveyed timber limits of Deer Lake, Grand Pond and Humber River country. It is safe, he thinks, to assume, therefore, that the lumber industry will, in the near future show considerable expansion. Canadians are to some extent interested in the lumber resources of the island. Ex-Ald. J. W. Phillips, of this city, has a large lumber interest in Newfoundland and had about \$10,000 worth of lumber destroyed in the fire, but which, we are glad to say, was fully insured. Mr. Phillips has taken an active interest in raising funds to assist the sufferers, and promptly sent forward himself a cargo of lumber for their benefit. Other lumbermen, in their position as members of the Board of Trade, and as private citizens, have contributed

liberally. The publisher of the CANADA LUMBERMAN, who is also publisher of the Canadian Miller, was successful, in response to an appeal to the millers of the country for contributions in kind, in securing, all told, about 400 barrels of flour for the St. John's people.

St. John's is, or rather was, one of the most beautiful cities in the world. The entrance through the narrow straits leading to the city possessed a peculiar charm, while the city itself, in its form of construction and the surroundings associated with its almost measureless fishing interests, was, we have been told, singularly unique and attractive. Though not unnaturally deeply depressed just now, and despondent of again recovering their former position, we will hope that in a little while, as the mists gradually clear away, that our sister colonists will be fired with fresh activity and enthusiasm and rise stronger than ever from the fires of the present. We can hardly expect anything else from a people known to be markedly hardy and robust in their composition.

LUMBER PRODUCTION IN CANADA.

OUR Ottawa correspondent informs us, through his letter in another page, that the lumber industry of the Ottawa valley is experiencing an undoubted revival. Business has not been nearly so brisk for many years. The mills are running with a full complement of hands, and the product of manufactured lumber that will be produced this season is already, largely, sold.

No one is rejoicing more over the situation than the people of Ottawa. It means prosperous times for them. The monthly wage bill of the many large mills of the district, combined with the turn-over, at good prices, of their output, cannot be resultant in anything else. Moved by a not unnatural human impulse the citizens of Ottawa think, under the favorable conditions now existing, that matters might be further strengthened, and are asking: "Now that the lumber market is improving and what lumber will be produced is practically disposed of, why will not the mill-owners increase their output and for the season run the mills night and day?" From the local point of view the question is pertinent and forceful. If the wage bills of the millmen could be doubled by having a night staff, as well as a day staff at work, it would mean big things for Ottawa. But the millmen have distinct recollections of the experience of past years and do not look favorably on the suggestion.

Because there is a good demand in apparently a rising market for what lumber Canadian mills are now producing it does not follow, if the capacity were doubled, that the same conditions would apply. The step might have, in part at least, an opposite effect and if not, kill the goose that had laid the golden egg, cause the egg to be considerably added.

For several years past, as LUMBERMAN readers are aware, the lumber industry of the country has been depressed; and in the opinion of shrewd lumbermen, and leading bankers of the country have spoken strong words on the question, this was a result of over-production a few years ago, particularly in 1887-88, when, as Mr. Hague has said, lumbermen "plunged into enormous operations far beyond their means to carry through."

The most healthful times commercially are not always when the manufactures of a country are multiplying rapidly and running at their fullest capacity. One may not unfairly refer to a period in the near past in this country when trade in this direction was experiencing a wonderful boom and at the same time manufactures in many important lines, instance the cotton mills, could not well have been in a more congested condition.

Production in any line is secured at a cost for labor and a cost of capital. The commodity produced must be able to withstand the call from both sources, otherwise it will represent a loss to the manufacturer, who has drawn on these two sources. It is a mistake to say that the cost in both instances will come out of the article manufactured. We expect this; but expenditure on a given article does not necessarily give that article value. The demand for the commodity manufactured fixes the value. One may expend labor and capital in production and yet the commodity produced, for various reasons, fail to realize even the cost of production. The history of commerce tells of scores, yea hundreds, of cases of the kind.

Concerning the lumber trade, whilst mill owners in running their mills over-time, might cover their cost of labor, they might come short of covering the cost of capital consumed in the additional work. Running the mills at an increased capacity would require an increase in capital, and capital, like labor, cannot be had without cost. Further, the extra lumber produced might make a demand on capital to which capital could not easily respond, and the history of 1887-88 would repeat itself. The placing of this additional product on the market would not unlikely have an influence in lowering prices on the new product, but, also tend to affect prices of lumber generally, in the hands of both millmen and middlemen. These are some of the considerations, no doubt, that have determined the Ottawa lumbermen to go it slow in the work of production, for at least this season.

AMERICAN LUMBERMEN IN CANADA.

A FEW months ago we chronicled in these columns the sale of 500,000 feet of pine and a mill of 12,000,000 capacity, besides a large quantity of logs afloat, of the Dodge estate on the Georgian Bay, to Merrill, King & Co. of Saginaw, Mich. It was not certain at that time whether the purchasers would operate the Canadian mill, or remove their timber to Michigan to be manufactured there. We learn now that the new concern will operate the mill here and that during the coming winter they will build another mill near the old one and use it for the manufacture of the newly-acquired timber. A yard will be established at Toledo, where it is expected that about 20,000,000 feet of manufactured stock will be handled annually. This resolve on the part of these American lumbermen is a disappointment to the people of their own State, as it had been hoped that Saginaw would have reaped the benefit from manufacturing so large a quantity of lumber, but it is stated that "the discrimination against Saginaw in the matter of rail rates induced the firm to decide to manufacture all in Canada, and ship the major portion in the rough to Toledo." This is a case where Canada has been a gainer by the addition of at least another mill in placing the control of important timber interests in the hands of United States lumber concerns. Their decision, doubtless made after careful calculation, may prove a deciding point in the plans of other American lumbermen operating in Canada. The firm of Merrill & Co. is described as "one of the largest and most enterprising lumber concerns in the northwest." They also operate a large mill at Duluth.

LUMBER AND THE INTERCOLONIAL.

IT is difficult, without further explanation, to understand the recent action of the Intercolonial railway in resolving to charge \$1 a car demurrage on all cars at St. John, N.B., not relieved of their lumber within forty-eight hours after arrival. Shippers claim that it is not possible to discharge their cargoes in this time. Their case is stated in these words: "Before a large vessel can be induced to go to the wharf to load there must be fifty or seventy carloads of lumber there waiting to begin with, which means only two or three day's work. Then they have to run their chances in getting their cargo along in time. It not unfrequently happens that when a vessel is lying waiting for the balance of her cargo, the lumber is delayed somewhere along the road and the shipper has to pay the vessel demurrage for the time she is kept waiting. Again, lumber delayed in this way sometimes arrives after the vessel it was intended for has sailed, and if the shipper was charged demurrage for keeping the car waiting for a few days till he got another chance to ship the lumber, he would naturally feel that he had been unjustly dealt with." There is every reason for the Intercolonial treating with the lumbermen on a common-sense and generous basis. The lumber traffic on the road is no inconsiderable item. Since April 1, for example, the firm of F. Tufts & Co. alone have paid this road \$8,000 freight on lumber shipped from St. John. We would not argue because a Government road that any unwise concessions should be made by the Intercolonial to particular shippers, but where a large share of the freight receipts come from an industry like lumber it is manifestly unfair to unnecessarily hamper and harass the shipper.



"THE capacity of my mill," said Mr. George Williscroft, of Georgetown, B.C., "is 25,000 feet; spruce and cedar is my principal cut; ten hours counts a day's work. The equipment of the mill consists of double circular saws, each fifty-two inches in diameter, one twenty-four-inch edger, one Wilkin's balance gang with forty saws to cut half-inch lumber for boxes which is my principal business. I also have three planers and one stenciling machine for stamping box ends. The mill is situated in Big Bay, seven miles south of Port Simpson and 350 miles north of Victoria on the north-west coast of British Columbia. I have a steamer that I use for delivering lumber and towing logs. She carries 90,000 at each load."

* * * *

A prominent Quebec lumberman says that large quantities of southern yellow pine are being shipped to England and the continent for shoring up in the coal mines, for which purpose there had hitherto been a good demand for the inferior grades of Canadian white pine timber. The gentleman in question says that the yellow pine now going forward from the southern ports is sold at rates that can hardly pay freight and insurance. In recent numbers of the LUMBERMAN I have reported interviews with various Canadian lumbermen pointing out the extent to which southern pine is coming into competition with Canadian pine. The form of competition cited above is doubtless new to our readers generally. The cut prices at which the lumber is being sold bears out what has been previously stated in this page by Mr. T. Charlton and Mr. H. H. Cook.

* * * *

Who does not know Secretary Hill, of the Toronto Industrial Exhibition? In a peculiar manner he possesses that combination of intense activity and executive skill necessary to the important position he holds. I think of him at this time up to his eyes in work, bringing to completion the various plans that the management of the Industrial have made for the forthcoming fair, which is on the boards for September 5 to 17. We always expect big things of this exhibition, but in an especial manner, I am told, have arrangements been completed this year for a programme enlarged in many important particulars over those of previous years. To the manufacturers of the country this exhibition possesses special significance and I believe that they are prepared generally to recognize the place it occupies in helping to publish abroad in substantial and practical manner the resources and possible manufacturing and commercial strength of this Canada of ours. We have just completed the celebration of our twenty-fifth anniversary as a united Dominion. Without indulging in any nonsensical loyalty twaddle: Is not the time opportune to demonstrate by actual deeds the progress the country has made in this quarter of a century so lately closed? The Industrial is a strong helper to this end and for this reason we may all hope that the year 1892 will score the biggest success yet in its history. I have an idea that as Canadians we can afford to be more Canadian than is our every-day custom.

* * * *

At no time in the distinguished career of Mr. Gladstone has greater interest centered on the G.O.M. than during the month just closed. Where can history point to another statesman at the advanced age of eighty-three taking the foremost position in one of the greatest political battles that has ever been waged in Great Britain or any other country? And coming out on top too. But I stop here. This page eschews politics, or else, I may run my head, or some other tough substance, against a snag with more points to it than I might enjoy. Lumbermen, however, have a special interest in Mr. Gladstone as a feller of trees whose skill is not to be disputed by the cleverest Canadian woodman. What is the philosophy of tree felling with Mr. Gladstone? Mr. W. T.

Stead, of Review of Reviews fame, gives us a reason. "Think about something he must," says Mr. Stead, "for a mind so active will never doze off into lethargy excepting when he is asleep; and it was this necessity for finding some means of gaining complete mental rest which led him to cultivate the felling of timber. In all other modes of exercise there is room for thinking; cricket, football, riding, driving in almost all of these there are spells during which the mind can forget the immediate object and revert to the subject from which it is necessary to have a complete change. In chopping down a tree, you have not time to think of anything excepting where your next stroke will fall. The whole attention is centered upon the blows of the axe; and as the chips fly this way and that Mr. Gladstone is as profoundly absorbed in laying the axe at the proper angle at the right cleft of the trunk as ever he was in replying to the leader of the Opposition in the course of a critical debate."

* * * *

The following talk in regard to American lumber interests in Canada came under my notice in conning a United States lumber journal the other day. I do not suppose that our friends over the way always get hold of the right end of a story. Sometimes I know they do not. But as a piece of lumber gossip which is passing current among American lumbermen I give the following as I find it, without note or comment, just now at any rate: "Michigan men are invading the Georgian Bay and other Canadian points for logs, but log owners over there have caught on, and are asking prices that tagger the mill men on this side. One of them told me that anything in the shape of a pine log is held at \$9 to \$9.50. "They just seem to have fixed that price on everything," said he, "although some lots are worth \$3 and \$4 a thousand more than others." The Arthur Hill Company, of Saginaw, bought 8,000,000 feet of fine logs at Garden River at \$9.50, and they are now being rafted across and manufactured at Cheboygan. A number of log owners who put in stock last winter for the market, have concluded to manufacture them in Canada, and Michigan men generally are willing to let them, considering the prices asked, holding that there is no money in logs at \$9.50. It costs about \$2 to raft them across the lake, and when the saw bill comes out and other expenses, there is nothing left, as the greater portion of the stock will not bring over \$13.50 to \$13.75 log run. A Saginaw river mill man, who is sawing Canada logs cut from limits owned by his firm, says it does not cut out like Michigan stock, and it brings tears to his eyes as compared with Cass, Tittabawassee and Tobacco river logs that have furnished his mill with timber in seasons past."

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Whether the middleman is a desirable quantity in the lumber trade of the country is a question that has been discussed at some length in these columns during the past two months. And whether ye editor in handling this subject has reached a final conclusion himself I am not so sure. It's a many sided question, and a good deal can be said pro and con. Ottawa lumbermen are facing it just now in practical fashion inasmuch that the millowners have disposed of the products of their several mills altogether to the middleman and when a buyer visits the capital he can deal with no one else. One Ottawa buyer interviewed on the question said: "For several years past the lumbermen have been selling very largely to the middlemen each year more and more of the total cut, but this season literally everything in the better grades has gone into their hands, and every year from this out such will likely continue to be the case. In selling to the middlemen the lumbermen are sure of ready cash, and save themselves the bother of selling in small quantities with all the bookkeeping that goes along with it. Of course it is to their advantage to do business that way, but it necessarily follows that the consumers have to pay higher rates, as they have to stand the middlemen's expenses and profits. The increase in price is due to scarcity. White pine, especially dry stuff, is very scarce both in the States and Canada and as a consequence the price has gone up with those who hold it. The South American market is this year better than for years back, and what with the demand from there and the scarcity, prices are more likely to increase than go down. In my opinion the present prices will

never fall again, even though the demand becomes less, for the reason that white pine is year by year growing less plentiful in the woods." A prominent middleman claims while consumers might in some cases pay more than if dealing at the mills, the "middle" business as now conducted is better for the lumber trade in every way. For instance fully \$50,000 is spent yearly in Ottawa by the middlemen in office and other salaries, while no less money is circulated by the millmen as a result of the "middling." In some cases the cost of lumber to consumers in the States is lessened, as they can buy from the middlemen there at the same comparative rates as they could from the lumbermen here, and at the same time save their railway fare and other expenses to and from Ottawa.

* * * *

It does not appear that the agitation for free lumber with United States lumbermen is likely to reach, in the near future, any further than the arena of public and personal debate, inside and outside of legislative halls, and of the various lumber organizations of the neighboring republic. This, however, is a preliminary condition of every great reform; and when the question is intelligently threshed out in this manner there is reason to expect that it may take a formative shape in legislation. The opposition to a free lumber measure, that prevails in some lumber sections of the States, more strongly than others; has been indicated at different times in these columns. I give here an interview with Representative Stout, of Michigan, who does not entertain the fears expressed by others that free lumber would mean the ruination of the United States lumber industry. Said he: "Our forests are fast disappearing. If we can save them by admitting Canadian lumber free, it would seem wise to do so. The individual holdings in my State are numerous. Ten persons own so much of Michigan hard timber and pine that if it were placed on either side of the 4,000 miles of Michigan railways it would so bound the line of vision, that a stranger would think that he was traveling through an impenetrable forest. One person holds enough timber to make a line two miles wide, the longest diameter of the state. So far as these holdings are pine they have added the first cost every year to the value, and many of them double their first cost each year for thirty years." Mr. Stout said that the pine holdings of Michigan are worth more than the improved farms. "Yet, every year," said he, "protests are offered here against taking off the tax on lumber. When, in 1871, a committee of Chicago builders and sufferers from the most disastrous fire on record came to ask for free material to erect their city, another committee, in Pullman sleepers and buffet cars, followed to ask that lumber should not be free, and it succeeded. I have always thought that whatever entered into the construction of the home should be free. Were I to suggest the best means of conserving the safety of the state I would find its strongest bulwarks in the home. No man who sleeps under his own roof can fail to have a previous interest in the good order and safety of the state. And what shall we say when the government, for any purpose whatever, proposes offering the paltry protective tax of \$1 on lumber? The committee which the lumber convention appointed to seek a hearing before the Ways and Means Committee of the House, protesting against taking the tax of \$1 per thousand from lumber, was composed of men who draw bank cheques every month running into the tens of thousands of dollars. They declare that the lumber interests will suffer if the tax on Canadian lumber is removed. Suffer what? It's large profits may be slightly reduced. If it is now \$5 per thousand feet, it may be only \$4, if Canadian lumber is made free. What a pity if a class which has made the most colossal fortunes of the century should have these profits slightly reduced!" He said that there is scarcely an acre of uncut pine in Michigan or Wisconsin which cost \$1.25 an acre in 1885, which has not increased in value 100 per cent. per annum on that first cost for thirty seven years up to now, "and much of it," said he, "double that amount." "And yet the poor pine land holder must be protected against Canadian lumber. What effrontery!"

Advertising in CANADA LUMBERMAN pays.

MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE opinion given currency to, more than once, in these letters that Michigan pine is rapidly diminishing, finds fresh corroborative testimony constantly in the expressions of prominent lumbermen throughout the State. Opinions will differ regarding the time when the demolition of the last pine tree will have taken place, but all are agreed that at the longest this period is not far distant. Were it not for the supplies that are coming across from your side of the border to-day not a few large mills would find themselves without logs to keep running. A case in point is that of William Peters, of Bay City. His new bandmill will not commence running this year until about July 1, waiting the arrival of logs from Canada. It is claimed by one journal that Mr. Peters "owns enough Canadian timber to run his mill for the next fifteen or twenty years, and the mill was built for this purpose. An effort will be made not only to keep the mill busy the balance of the season, but to tow enough logs from Canada to afford sufficient stock for an early opening next year."

OUR HARDWOOD WEALTH.

A prominent authority on lumber matters believes that the future lumber interest of Michigan is in its hardwoods. He is reported to have said the other day: "The reign of King Pine in Michigan is on the wane, but the man does not breathe now who will see the time when the lumber industry will not be a great and prosperous business in Michigan, for when the pine is gone then the other woods will go to market, and they will enrich the people far more than pine has done, though their utilization will not create so many millionaires. In fact, the hardwood lands of Michigan are to-day the bonanzas of the future to the investor, large or small, as well as the settler and the poor man seeking a home, to whom these hardwood acres are what a father is to a child whom he supports and lets him have all he makes, for while he is carving out a home the land will give him a good living, and, if he is wise, when he gets the farm cleared he is comparatively rich, over and above his farm, the finest land the Almighty ever left out of doors, in a climate that is nature's own sanitarium, and his hardwood, which he has been able to sell at a good profit, has made him so." A local correspondent commenting on this opinion has sagely remarked: "It is a great pity that this idea had not obtained before thousands of acres of the finest hardwood timber in the country was ruthlessly sacrificed to the flames."

BITS OF LUMBER.

Very little is doing in shingles in the Valley, most of the mills being closed down for lack of logs until a week or two ago.

S. M. McLean & Co., of Bay City, have commenced running twenty-four hours, their work being principally on Canadian logs. They average 18,000,000 feet a season.

The rumour is revived that the Grand Trunk is to extend its line from West Bay City to connect with the Alger road. One statement is that the road will be built this summer, but this is unlikely.

Mr. Loveland, of the Saginaw Lumber and Salt Company, and the Emery Lumber Company, says they have three rafts on the way over. They have not lost a log this season. One or two rafts were blown ashore on the Bay shore, but no logs escaped. Those running logs from Canada are much gratified at the success attending log rafting across the lake.

Two local lumbermen, J. T. Hurst and O. E. Elsemore, are just now in the Georgian Bay district of your country looking over a tract of pine, containing about 250,000,000 feet, which they are likely to buy. If the deal is closed Mr. Hurst, it is said, will cut 75,000,000 feet of logs the coming fall and winter and raft them to the Saginaw River next season to be manufactured. PICA.

SAGINAW, Mich., July 21, 1892.

OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

WITH little, if any, reservation I can write that lumbering operations in the Ottawa Valley partake of a decidedly improved character. Contrasted with the lethargy that has been the main constituent element of this important industry, for many moons, the transformation is very acceptable to the people here. And now that Parliament is adjourned and they are no longer called upon to divide their interests between matters political and the affairs of business, the interest in the lumber boom is all the greater.

Prices are firm; in fact, they are on the advance, and this is one condition that is favorable to a prosperous situation. Then sales are brisk. I may put the case a little stronger; pretty much all the lumber that the mills are capable of turning out this year is already sold. Of course it has not all reached the consumer; the middlemen are holding part of it. But those whose endeavour it is to make contracts with the mill-

owners direct, receive the one answer that stocks are sold out. Within the past six weeks it is computed that not less than 26,000,000 feet of lumber have been shipped to the United States and England. I am told that trade with the neighboring republic is very satisfactory. Mill-owners may be expected, after their long wait, to feel in good form over these improved conditions, and yet they are moving cautiously in all their transactions. As one millman has said: "We do not care just now for various reasons to rush things as we used to. We are satisfied if we do a quiet steady business."

LUMBER IN CANADIAN BOTTOMS.

A change has taken place in the ways of shipping lumber that from a Canadian standpoint has peculiar interest. This spring an organization known as the Ottawa Transportation Co., and including all the Ottawa forwarders, was formed. This concern made contracts with the mill-owners and middlemen, and have been doing about the whole of the carrying business this season. As a consequence a fleet of American bottoms, over twenty in number, that had heretofore controlled the larger part of the lumber trade, are lying here idle. Shipping by barges has been further curtailed from the fact that here, as elsewhere, more lumber is now-a-days shipped by cars. This plan is a convenience to small dealers, as a shipment of say 10,000 feet, at a cost of \$150 can be made by car, where a barge load would represent about \$3,000.

SITE FOR A PULP MILL.

Messrs. Mavey & Lansing, of Watertown, N.Y., have been here inspecting the surroundings with the thought of establishing a pulp mill in this district. It is important to the success of such a mill that there should be abundance of water power, and of course there is no lack of this element here. Mr. Lansing when spoken to about the matter intimated that at their mills, three miles from Watertown, they were experiencing a difficulty because of lack of water power. If a pulp mill is established, and the probabilities point strongly in that direction, the turn-out of pulp would run about thirty tons per day. Questioned on the tariff Mr. Lansing said: "We are prepared to pay \$2.50 per ton at the outset for shipping the pulp to Watertown, with the probable ultimate result of building a large establishment in this city."

CASSELLMAN ESTATE.

The estate of the Casselman Lumber Co., insolvents, has been disposed of under the hammer of Auctioneer A. B. McDonald. The principal purchasers are as follows:—

Stock and store amounting to \$74.41, sold at 32½ cents to H. Allan, of Ottawa; 12,000 ties to Rathbun & Co., at 13 cents. 24,000 sawlogs to Rathbun & Co. at \$3.27 per 1,000 feet board measure; 12,577 logs, to Alexander McLennan, of Montreal, at \$3.30 per 1,000 feet board measure. 6,153 logs, at \$5.50 per 1,000 feet board measure; 9,000 logs to Alex. McLennan, Montreal, at \$5; the stock in the lumber yards amounting to \$1,437 was purchased by Beach & Co., of Winchester, for \$27½ cents on the dollar; 300 cords shingle butts, to Rathbun & Co., for \$1 per cord; 101 cords hemlock bark, Rathbun & Co., \$3.10 per cord; 2,000 cedar poles, valued at \$973, for 22 cents on the dollar, to Rathbun & Co.; shanty plant to Rathbun & Co. for 17½ cents on the dollar, valued at \$64. The manager's household effects and seventeen horses were sold to various purchasers with reserve.

AMONG THE LUMBER PILES.

Thackeray's new mill is nearly ready for operation.

Rochester Bros., whose head office is in this city, have taken out 60,000 logs in the Lake Huron district this season.

A large raft of timber, containing 109 cribs, the property of W. M. Mackey & Co., is on the way to Quebec, and there will likely be sold to English shippers.

A gang of about 100 shantymen who arrived down from the upper Ottawa a few days ago, report the drives coming along nicely. The first logs for the Chaudiere mills have reached the Des Jouchin rapids.

Perley and Pattee have been doing some big work with a Prescott band mill driven by water. It recently sawed in eleven hours: 4,047 feet, 1 inch; 85 ft., 1¼ inch; 11,723 feet, 1½ inch; 5,726 feet, 2 inch; 85,038 feet, 3 inch; a total of 106,619 feet.

A large-sized lumber deal was consummated here this month when the old Grier timber limits, more familiarly known latterly as the Pierce limits, were sold at the instance of the Bank of Montreal, to Shepard & Morse, of Boston. The extent of the limits is about 100 square miles; the purchase includes a large quantity of logs on the drive and in the boom. The amount of the transaction is from \$200,000 to \$215,000. The logs will likely be manufactured in Ottawa.

We have witnessed at the Cascades the largest jam that has occurred on the Gatineau for some years. The jam contains hundreds of thousands of feet of lumber, some hundreds of railway ties, two rafts of flat deals and a couple of cedars. The locality is a short distance below the Cascades station on

the Gatineau Valley railway. A gang of men have been hard at work endeavoring to make a clearing. They have a heavy contract on hand, but they are stout-hearted as well as stout-bodied fellows, accustomed to hard tasks, and will no doubt get there in this case.

OTTAWA, Ont., July 23, 1892.

BRITISH COLUMBIA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

ALD. J. B. KENNEDY, president of the Brunette sawmills, has returned from his trip to Manitoba and the Northwest. "I've been on the move," said he, "for eight weeks and have travelled over about all the railway, main and branch lines, between here and Rat Portage. I stopped off at a great many places, visited all the principal places in Manitoba right down to the boundary line, went north as far as Edmonton in the Northwest, and took in the Spallumcheen Valley and other parts of the interior of British Columbia on my way home." He says that the way in which settlers are pouring into the Northwest is surprising, but the vast country swallowed them up so fast that where a train load of immigrants and their effects were unloaded one day, the next day all would have disappeared—gone to homesteads several miles from the line. Winnipeg, Brandon and all the towns were building fast, and large quantities of new ground are being broken. The crops are looking splendid. As far as lumber is concerned, the outlook for British Columbia lumber is about the same as last year, the freight rates to points in Manitoba being against us in comparison with Rat Portage and the big mills east of Winnipeg, while a number of small mills on the mountains enter into the competition in the Northwest. This is for the poorer class of lumber, but, as for the best quality, they can't approach this province.

A CANADIAN INVENTOR.

An improvement in hand saws recently perfected by Mr. J. N. Kendall, late of Ottawa, and builder of the MacLaren-Ross mill here, will be of interest to LUMBERMAN readers. The improvement consists in the saw being so shaped as to admit of inserted teeth. The saw with which the experiments were made is a 17-gauge, and has 129 teeth, which can be changed in fifteen minutes. It has been running about two months and doing well. Not a tooth has loosened nor any trouble whatever been experienced. The testing of the saw on rough and knotty timber and logs with many barnacles on them has shown no weakness in the saw. The inventor is on the look-out for a capitalist or capable manufacturer who will join him in placing the invention on the market.

COAST CHIPS.

Morton Bros., Nicomeke, contemplate selling out to Mr. Melvin.

The Royal City Planing Mills have recently added to their plant three shingle machines of new design made by a local manufacturer and containing several alterations and improvements that make them better suited to British Columbia timber.

Grant and Kerr, of Ladner's Landing, and W. Fortier and Son, of Mission City, are putting in new and more powerful boilers, engines and wood-working machinery. The latter have signed a contract for the delivery of 500 cedar doors to be delivered in six months from June 1.

Boat builders of New Zealand are delighted with a supply of oars sent from this province by Cassidy and Co. They have about come to the conclusion that there is nothing like the spruce of British Columbia for oars. New Zealand and Australia have no wood suitable for oars, and these are all imported from England in the finished state. A fair trade in this article is likely to be worked up here.

NEW WESTMINSTER, B.C., July 18, 1892.

THE SECRET OF IT.

THE superintendent of a company which sunk \$60,000 in learning how to successfully dry maple flooring, says: "The trouble ordinarily with kiln drying hardwood is that it is not kept damp enough. Kiln makers tell us that sufficient moisture is introduced by the fan. That's wrong. Now, every day we stop the fan and, for an hour, turn steam into the kiln. Lumber should dry from the center out, and by keeping the outside sufficiently damp while it is so drying, so it will not split, is what gives us this perfect lumber."

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.

THE NEWS.

ONTARIO.

—Henry Helmska, sawmill, etc., Springfield, has sold out.

—The Rathbun company are making an addition to their sash and door factory at Deseronto.

—Vigar Bros., sawmill, Port Arthur, are claiming exemption from taxation from the court of revision.

—Toronto failures of the month are: W. H. Drayton, Josiah Hall, and G. G. Kerr. All are small.

—Shaw and Douglas, of Kemptville, whose mill was lately destroyed by fire, will push ahead with rebuilding.

—Business is so brisk at John Milne & Son's planing mill, Huntsville, that the factory will be kept running night and day.

—An unusual quantity of lumber, the property of Bronson & Weston, of Ottawa, is on their new piling grounds at Rockland.

The lumber factory of J. B. Miller, of *1. into*, suffered damages to the extent of \$3,000 by fire a fortnight ago. Fully insured.

—W. B. Bennett, of Harley, is removing his mill to the fifth concession of Burford, where he has lots of custom logs waiting cutting.

—At McLaren's mills, in New Edinburgh, booms of logs were broken by a hurricane and piles of lumber scattered in every direction.

—Logs that had been hung up for the season on the Trent, Moira and other rivers of Central Ontario are fast reaching their destination.

—It is stated that a number of agents of American firms are in the Georgian Bay district bargaining for large quantities of spruce for the American mills.

—Several thousand logs are at present running the Government slide at the Chaudiere, being the property of the Hawkesbury Lumber Co., of Grenville.

—Klock's lumber is all over the slides and is now anchored at the Queen's wharf. It makes one of the largest rafts to go down the Ottawa river this season.

—Geo. Cormack, of Whitby, is importing British Columbia fir to this province. Boards are thirty-two feet long and three and a-half feet wide, free from knots.

—Mickle, Dymont & Sons are constructing a switch to their proposed mill site at Severn Bridge. They also purpose building a shingle mill for immediate operation.

—The largest load of timber ever carried on the inland lakes was delivered at Garden Island last week by the schooner Ceylon. It consisted of 67,397 feet of pine from Spanish River.

—The tug Summer recently passed through Sarnia with the largest raft of long timber that ever passed through the St. Clair River—about 3,000,000 feet. There were over 325 cribs, containing over 6,000 logs.

—It is estimated that 3,000,000 feet of logs will be brought down the Ottawa district streams this season, of which 2,000,000 are coming down the Ottawa proper. The value of the total shipment will be over \$5,600,000. Much of this timber is what was left in the woods last season.

—The Ontario Government give notice through the LUMBERMAN advertising columns that a large number of timber limits in the Nipissing, Algoma, Thunder Bay and Rainy River districts will be sold at public auction October 13, at the department of Crown Lands, Toronto.

—The Peterboro Examiner of a week ago says that "a drive of logs consisting of 230,000 pieces, the property of the Rathbun Co., of Deseronto, and the Gilmour Co., of Trenton, is passing down the Trent River now. Over 100 men are employed on the drive, which is one of the largest that ever passed through these waters."

—The applicants to the Dominion Government for a charter for the Toronto and British Columbia Lumber Co., are: John White, of Roslin; Robert Thomson, of Hamilton; John Davidson, of Barrie; Thos. John Hamill and John Stinson Hatton, of Toronto; John Alexander Strathy, of Barrie; William Bell, of Guelph; Jonathan Henderson, of Barrie; Henry Hatton Strathy, of Barrie, and Earnest V. Bodwell, of Victoria. The capital stock of the company is \$1,000,000. The chief place of business is to be at Toronto.

—Lumbering operations at Port Arthur are being conducted on a much larger scale than at any previous time in the history of the district. Large contracts have been let by the Canadian Pacific Railway Company for ties, which are being taken out between here and Rat Portage. The trade in cedar, for paving blocks, fence posts, telegraph poles, ties, piles, and as square

timber for bridge and culvert work, is largely increasing. Three firms have camps on the line of the Port Arthur, Duluth & Western Railway, which are expected to cut 8,000,000 feet of pine, which will be sawed in the district for the trade of Manitoba and the Territories.

QUEBEC.

—The brigantine Alaska, of Quebec, owned by Maguire and Co., has sailed for Las Palmas, Canary Islands, laden with lumber. This is the first export of lumber for the Canaries from Quebec.

—The Quebec & Lake St. John Railway Co. has purchased a large tract of the most valuable timber land on the continent, situated in the northwestern part of Quebec province. The railway will be extended to the tract, which is 500 miles inland.

—The old E. B. Eddy lumber yards in Hull, which have for years been stripped of lumber are rapidly assuming their former appearance. Since the ground was taken over by Messrs. Buell, Orr & Hurdman a vast quantity of all kinds of lumber has been piled there.

NEW BRUNSWICK AND NOVA SCOTIA.

—Gideon D. Reid, lumber, Hopewell, N.B., has assigned.

—Lumbermen hope, as a result of recent heavy rains, to relieve some 12,000,000 feet of logs in a jam near Aroostook Falls, N.B.

—Lewis and Starret's steam sawmill at Pleasant Hill, Economy, N.S., destroyed by fire with a considerable quantity of lumber.

—The Keswick Lumber Company intends erecting a new sawmill at Upper Keswick, N.B., the coming fall. About 1,500 cords of hemlock will be peeled by this concern this year. The bark will be shipped to the United States.

—An important patent suit which will interest mill owners and lumbermen is pending in the equity court of New Brunswick. The suit is brought by H. A. Connell, Woodstock, against John Fraser, Woodstock, for the infringement of the patent of the Kearney shingle jointer, patented in 1886. The Kearney jointers are now used in nearly all the shingle mills in Canada. Connell Bros. obtained assignment of the patent, and allege that the Union Foundry Company is engaged in the manufacture of the jointers. This suit will test the validity of the patent.

BRITISH COLUMBIA.

—The capital stock of the Columbia River Lumber Company (Limited) is increased from \$30,000 to \$250,000.

—Frank McLeod has purchased a sawmill plant and intends to erect a mill on his property at Chemainus. He has some fine timber limits. The mill will be running this fall.

—Timber piracy to a greater or lesser extent is being carried on in different parts of this province. A case came before the New Westminster courts a few weeks ago where four men were charged with cutting cedar timber for shingle bolts, with intent to steal the same. The men had been arrested the previous day by Sheriff's Officer Patterson in the act of cutting the timber, but they disclaimed having cut any more than what was actually found piled up on the ground at the time, although there were abundant indications all around of extensive cutting having been done there. The land is the property of J. W. Home, M.P.P., and is considered worth \$50 an acre, the timber being very valuable. It is said that the business with many has come to be looked upon as perfectly legitimate, or at least one which usage has sanctioned. The authorities, however, assert their determination of putting an end to it.

—Ship-owners are holding for higher freight rates for Australian ports, but shippers do not seem willing to accede to their demands. Among recent arrivals are the Hindostan, 1,543 tons, at Moodyville to load for Valparaiso on owner's account. The Palawan sailed for Iquiqui and the Leonor for Valparaiso on July 8. The Colorado, now on the way from San Francisco, will probably load a cargo for South America. The Zebina Gowdy, 1,087 tons, has been chartered to load at Vancouver. There are three vessels, aggregating 2,088 tons, loading at British Columbia ports, all for Valparaiso. Quotations are as follows for cargo lots for foreign shipment being the prices of the Pacific Pine Lumber Association: "Rough merchantable, ordinary sizes, in lengths to 40 feet, inclusive, \$9 per 1,000 feet; rough deck plank, average length 35 feet, \$19; dressed flooring, \$17; pickets, \$9; laths, 4 feet, \$2.

MANITOBA AND THE NORTHWEST.

—John Irwin, builder, etc., Minnedosa, has sold out to G. F. Burgess.

—Dennis Coghlan was drowned while rafting near Moore and McDowell's mills, Edmonton, overbalancing himself on the logs.

—Brine & McDonald, bankers, lumber dealers, etc., Fort Qu'Appelle, Assa., have dissolved. The business will be continued by D. H. MacDonald and Co.



FIRES.

Shaw and Dougall's sawmill and planing factory, at Hallville, Ont., destroyed by fire.

Captain Robinson's sawmill at Fisher's River, on Lake Winnipeg, has been destroyed by fire with all the winter cut of logs.

The Rathbun Co. have suffered a loss of several thousand dollars by fire in their lumber yards at Kingston, Ont. Insured.

G. F. Allen's barrel factory, and Kenney, Haley & Co.'s sash and blind factory, including much valuable machinery, at Yarmouth, N.S., were destroyed by fire. Loss \$50,000; insurance \$20,000.

CASUALTIES.

George Turner slipped from a boom at Trenton, Ont., and was drowned.

Leon Lachapelle, a chopper, fell dead while cutting a tree at North Vancouver, B.C.

John Neil had his right arm cut off in McCaugan's sawmill, St. Joe's Island, Algoma, Ont.

At Centreville, N.B., a young man named Simonson, who runs a sawmill, was drowned while booming logs.

A. G. Scott, a workman in McCaffrey's planing mill, Huntsville, Ont., has had three fingers terribly lacerated.

A shantyman named Laroche, working on the Gatineau, is suffering from a broken leg. He slipped on a lot of logs.

Moses Burt, who worked at Brewer's mill, near Fredericton, N.B., had his arm so badly injured that it had to be cut off.

Arthur L. roix, a mill hand at Gagnon's sawmill, Templeton, Que., loses two fingers by coming in contact with a circular saw.

Norman Pubble received a compound fracture of the right arm through being caught by a belt in a Campbellford, Ont., mill.

While running an edger in Perchbecher's sawmill, Williamsford, Ont., Fred Evers had the three first fingers and thumb of his right hand cut off.

Doman Gogang, working at David Jackson's mills, near Tidnish, N.S., has had one hand amputated because of injuries received with a circular saw.

Joseph Valiquette, a shantyman who lives near Montebello, Que., had his legs severely crushed while engaged in driving logs. One leg may need to be amputated.

Henry McDowell Hodgins, aged twenty-one, eldest son of Mr. Edward Hodgins, of Yarm., was drowned at the sawmill of Hodgins Bros., of North Clarendon, Ont.

An employee of Murray Bros.' mill, North Bay, Ont., had his left leg almost severed and the right foot and thigh severely cut and bruised while working around a saw.

Solomon Peters, colored, of Kingsclear, N.B., was rafting logs some distance above Fredericton. He went on one log into the middle of the river, rolled off and never reappeared.

A lad of thirteen years, Patrick McNeil, was killed at Burton Bros.' mill, Byng Inlet, Ont., while endeavoring to cant a log to the large circular. His body was severed in two in an instant.

A lad named Charles Leduc was severely injured in McCray's mill, on the Ottawa, while engaged working around a hand saw. He loses one finger and may have to have two others amputated.

A man named Charles Scott, forty years of age, in the employ of the Hastings mill, at Vancouver, B.C., had his right foot caught between the line rollers of the lumber carriage and suffered terrible injuries.

While Donald Caverly, of Madoc, Ont., was unloading shingles at a house one of the bunches fell on him. The second day after the accident he was taken with hemorrhage of the lungs, resulting in death.

David Boggs, a partner in Boggs Bros.' woodyard, Toronto, lost his life by becoming entangled with a circular saw. He was literally sawn in pieces before the workmen noticed the accident. He was a widower with six children.

Nellie, the six-year-old child of Mr. Thomas Conlon, lumber merchant, Thorold, was burned so badly that she lived only about four hours after the accident. The child was playing with fire when her clothing caught and was burned off her body before assistance could reach her.

TRADE REVIEW.

Office of CANADA LUMBERMAN, July 30, 1892.

THE GENERAL SURVEY.

THE lumber situation in Canada, taken as a whole, shows signs of improvement. Encouraging conditions of the Ottawa district are very fully related in our Ottawa letter on another page. It is estimated that 3,000,000 logs will come down the Ottawa district this summer. Three million logs, at an estimated average yield of 125 feet, board measure, per log, will give a total board measure of 375,000,000 feet for all the mills of the Ottawa district. This quantity of sawn lumber, at an average price of \$15 per 1,000 feet, will mean a turnover of capital large enough to prove of substantial benefit in levelling up the depression of former years. Of the 3,000,000 logs coming down a fair percentage belongs to those left over last season.

In the Georgian Bay districts lumber operations are active, and while it is true that large quantities of the logs cut will be manufactured outside of our own country it is to be remembered that up to the point of manufacturing our people reap the advantage of all the labor that is placed on the logs and this is considerable. At the same time the mills are as busy this season as they have been for some years past, and probably an increased business is being done. Prices have stiffened and at the increased figures good sales are being made. Ottawa dealers report enquiries brisk from Brazil and South America where very little lumber has been sold for nearly two years.

The local situation in Quebec and British Columbia is noted further on. In New Brunswick the improvement is less marked than in some other places. A good local trade is being done in Manitoba accentuated by the large influx of emigrants.

So far as Ontario is concerned business is quiet. Representatives of the leading lumber firms report sales slow and small. The favorable outlook of the growing crops, however, has given good hope of a satisfactory fall trade. Narrowing down the local situation to Toronto the chronic condition of many months back continues. Building permits of the past six months amount to only \$1,310,000, which is but little more than half those of the same period in 1891, for then they were \$2,516,000.

QUEBEC.

The figures which we give below showing the quantity in cubic feet of square timber measured at the port of Quebec during the past six months as compared with the corresponding period of last year indicate an encouraging increase in lumber operations:—

Table with 3 columns: Timber type (Waney white pine, White pine, Red pine, Oak, Elm, Ash, Birch and maple), 1891 quantity, 1892 quantity.

Timber freights continue to rule disastrously low, the latest quotations being Quebec to Cardiff: Timber, 17s., deals, 40s. Quebec to Ireland: Deals, 42s. 6d. A vessel was taken to load deals at St. Thomas, for an Irish port, on private terms, said to be 42s 6d. Lumber from Quebec to Burlington, Whitehall and Plattsburg, \$1.50 a thousand; lumber to New York, \$2.50 a thousand, from Batscan to Burlington, Plattsburg and Whitehall \$1.40 a thousand.

BRITISH COLUMBIA.

The general outlook on the Coast is quiet, the mills running about three-quarter's time. A number of shipments to South American ports are recorded in our news columns, and the expectation is that later in the year trade in this direction will have increased. Local trade is on the whole satisfactory and prices remain unchanged.

UNITED STATES.

Trade reports from the principal lumber centres do not tell of any large distribution of lumber. The labor troubles in New York continue and are having a depressing influence on business, which is being felt at points outside of the metropolis. The heavy rains of June have changed any calculations based on a short crop of logs. Not only has the cut of the past winter

been pretty generally secured all over the country, but large quantities of logs that were supposed to be hopelessly hung up have also come forward. Spruce logs in Maine have met with equally generous favor, and where a month ago it did not look as though the drives could bring down more than fifty per cent. of the logs they are all now safe in hands. The theory in some circles is that this circumstance will have the effect of rendering prices more easy than for a few months past; but this is to be remembered: good lumber is lamentably scarce everywhere, and in Michigan and Wisconsin, as in our own country, the season's mill cut has been extensively sold ahead of production.

FOREIGN.

If the words "slight improvement" are used to designate the conditions of the British lumber market it is the most that can be said. Denny, Mott & Dickson, of London, Eng., have this to say in their last wood market report: "The past six month's business has been of a very depressing character in most departments of the timber trade, owing to consumption generally having been very unsatisfactory. The consequent strain on large holders has been severe, as heavy stocks have hung on hand and charges and interest accumulated; whilst small holders, who look for a quick turnover, must have been sorely tried. Low freights, and the decline in the general business of the country, do not promise a very brisk timber market for the remainder of the year. On the other hand, the removal of disturbing features in the labor market, and the diminution of reckless competition, through the quiet but steady squeezing-out of unsound traders, combine to encourage a reasonable hope of better markets for the closing months of the year." Of Canadian timber this firm write: "Although demand has been very moderate during the half-year, all landed stocks of good Waney have been exhausted, and a moderate importation of the new season's timber will be welcome. The tendency of long waney to displace square pine is growing, being greatly favored by the ship-building consumers." Indications grow pointing to an improvement in business in South America at an early day.

TORONTO, ONT.

Table of lumber prices in Toronto, Ontario, July 30, 1892. Includes categories like CAR OR CARGO LOTS, YARD QUOTATIONS, and various timber types and sizes.

MONTREAL, QUE.

Table of lumber prices in Montreal, Quebec, July 30, 1892. Lists various timber types and their prices.

OTTAWA, ONT.

Table of lumber prices in Ottawa, Ontario, July 30, 1892. Lists various timber types and their prices.

ST. JOHN, N.B.

Table of lumber prices in St. John, New Brunswick, July 30, 1892. Includes categories like DEALS, BOARDS, SCANTLINGS, SHINGLES, CLAPBOARD, and FLOORING.

QUEBEC, QUE.

Table of lumber prices in Quebec, Quebec, July 30, 1892. Includes categories like WHITE PINE-IN THE RAFT, RED PINE-IN THE RAFT, OAK-MICHIGAN AND OHIO, and STAVES.

BOSTON, MASS.

BOSTON, Mass., July 30.—The apprehended log famine hinted a month ago has no longer an existence, the heavy rains of June bringing the logs along with a rush. A particular interest all the same hovers around spruce. A few weeks ago an attempt was made to form a combination to keep up the prices that had become very firm because of the anticipated scarcity of logs, but it would not work. Now have come rumors of an attempt at Bangor to create a corner in spruce logs. But with the stock of logs that have come down the streams this does not seem likely. Prices have changed some, as will be observed by an examination of the list below.

Table of lumber prices in Boston, Massachusetts, July 30, 1892. Includes categories like EASTERN PINE-CARGO OR CAR LOAD, WESTERN PINE-BY CAR LOAD, and SPRUCE-BY CARGO.

OSWEGO, N.Y.

OSWEGO, N.Y., July 30. The market has evidenced no particular change during the month. Prices are unaltered.

Table of lumber prices in Oswego, New York, July 30, 1892. Lists various timber types and their prices.

Table of lumber prices for Buffalo and Tonawanda, N.Y., including siding, mill run, and various grades of pine and cedar.

BUFFALO AND TONAWANDA, N.Y.

TONAWANDA, N.Y., July 30.—Only a fair business is doing. A threatened strike among the lumber shovers is declared to have been only talk.

Table of lumber prices for Buffalo and Tonawanda, N.Y., including white pine, shingles, and lath.

ALBANY, N.Y.

ALBANY, N.Y., July 30.—The volume of lumber business doing is not large. Stocks are wanting in assortment and this is causing a difficulty in filling orders.

Table of lumber prices for Albany, N.Y., including pine, shingles, and lath.

SAGINAW, MICH.

SAGINAW, Mich., July 30.—No large amount of lumber is offering, which is having the effect of making trade quiet. Prices, however, remain firm, and the expectation is that a good fall trade will be done.

Table of lumber prices for Saginaw, Mich., including finishing lumber and rough lumber.

Table of lumber prices for New York City, including siding, timber, joint and scantling, and shingles.

NEW YORK CITY.

NEW YORK, July 30.—The market is lacking in strength and healthful vigor. The weather of the month, some parts of which have been excessively hot, has proven one depreciating element.

Table of lumber prices for New York City, including white pine, western grades, and coffin boards.

THE WATEROUS COMPANY.

A REPORTER noticed the Waterous team going to the station last night with two very large pulleys, with two men on the wagon painting them.

AN important auction sale of the timber limits, saw mill and lumbering plant of Mossom Boyd & Co., of Bobcaygeon, is announced in our advertising columns.

PERSONAL.

C. H. Dovee, planing mill, Campbellford, Ont., is dead. Mr. Tousey, of Bay City, Mich., is a visitor in the Georgian Bay district, buying timber.

The Secretary-Treasurer of the Northwestern Ontario and Manitoba Lumber Association has donated a cheque of \$600 to the Winnipeg general hospital.

Mr. Benjamin Young, one of the lumber kings of Nova Scotia and New Brunswick, who latterly resided in Nebraska, is dead. He was very wealthy.

Prominent among the lumber buyers in Ottawa during the past month were: Harcourt Smith and A. Gravel, of Quebec; Edson Fitch, of Montreal; T. N. Kenyon, of Brooklyn, N.Y.; and Fred. C. Eaton, of New York.

Mr. A. Miscampbell, M.P.P., of Midland, will be one of an advisory committee to assist the commissioner for Ontario in connection with the World's Fair at Chicago.

Richard Estey, Senr., died at Fredericton, N.B., a fortnight ago, aged eighty-two. Deceased was born at Douglas, York Co., in 1810.

ONE METHOD OF FINANCING.

ALMOST every country has, at some period of its history, used the lottery as a means of acquiring monies for special purposes. France for a time in her early history raised 14,000,000 francs annually.

INDIFFERENT LENGTHS.

Mr. McLennan, of Lancaster, who bought the logs of the Casselman Lumber Co., of Casselman, Ont., is erecting a mill on the site of the old Casselman mill.

The saw and shingle mill owned by S. L. Purdy and leased by D. Ellis, at Castleton, Ont., was struck by lightning on 16th ult., and damaged to the extent of \$2,000.

James H. Bromley, of Pembroke, has purchased the Thompson timber limit on the Coulonge river containing twenty-seven square miles. There is on the limits over 200,000 cords of poplar pulp wood, besides basswood, spruce, white and red pine timber.

A sample shipment of British Columbia square timber went forward to England a week ago that old country dealers may see for themselves the immense timbers produced in the Pacific province.

THE LUMBER TRADE ABROAD.

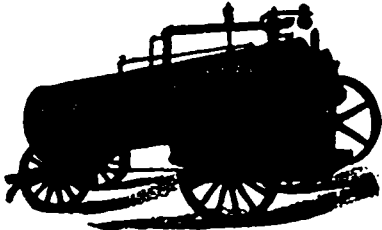
A Port Huron (Mich.) factory is said to be making underclothes from wood fibre, which are equal in all respects to those made of wool.

Half of the best part of the town of Christian-sand, Nor., has been burned and 356 of the principal houses and numerous public buildings, including large sawmill and extensive stock of timber.

The largest hand sawing machine in the world has recently been completed in England and sent to Tasmania. The machine can saw through a maximum depth of seventy-five inches, and the carriage will accommodate logs fifty feet long and weighing about fifty tons

The millionaire lumber firm of Wright, Davis and Co., of Duluth, Minn., have signed papers disposing of one of the largest tracts of pine land ever closed out in the west. The firm owned 4,000,000,000 feet of standing timber on the Swan river, a tributary of the Mississippi. This has all been sold to the Pine Tree Lumber Company, a Weyerhansen concern, for a sum approximating \$1,300,000.

The MONARCH BOILER (Patented) and HERCULES ENGINE



Portable from 6 to 70 horse power. Surpass portable steam power heretofore produced for strength, durability, compactness and the ease with which they can be moved.

The 70 horse power can be taken over the roughest roads, or into the forest, and set up as easily and quickly as an ordinary 20 horse power portable engine, and as firm as a brick-set stationary engine. Engines and boilers of every size and description. Rotary Saw Mills, Shingle and Lath Machines, Saw Grinders, Planers, etc. Mill machinery and supplies of every description. Every boiler insured against explosion by the Boiler Insurance & Inspection Co. of Canada.

Write for circulars. ROBB ENGINEERING CO., LTD. Successors to A. ROBB & SONS, Amherst Foundry and Machine Works, Amherst, N.S. ESTABLISHED OVER 40 YEARS.

Auction Notice

Important Sale of Timber Limits

THE RECEIVERS OF THE ESTATE OF the late David Moore will offer for sale, at public auction, on

Thursday, 11th day of August, 1892

At the Russell House, City of Ottawa, at the hour of three o'clock in the afternoon, the following valuable Timber Limits, known as limits belonging to the estate of the late David Moore, situate on the Kippewa River, and designated as follows:

Table with 3 columns: Kippewa Berth No., No., and Area in square miles each.

Area to square miles each. For terms and conditions of sale apply to any of the Receivers, Ottawa.

The purchaser will be bound to take the supplies on each limit according to schedule and valuation.

The above limits will be positively sold without reserve.

Intending purchasers making explorations can rely upon this sale taking place as advertised.

A. B. MACDONALD, Queen's Auctioneer, etc., Ottawa.

THOS. H. KIRBY, C. H. CARRIÈRE, P. LAKMONTH, Receivers.

C. A. LARKIN DOORS & GLAZED WINDOWS

WANTED AND FOR SALE

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. This notice shows the width of the line and is set in Nonpareil type. Advertisements must be received not later than the 12th of each month to insure insertion in the following issue.

WE WANT ALL KINDS OF HARDWOODS. Will pay cash. ROBERT THOMSON & CO., 101 Bay Street, Toronto.

FOR HEMLOCK, DIMENSION LUMBER, hardwood flooring, cedar shingles, piles, sawdust, etc., write J. E. MURPHY, lumberman, Hepworth station, Ont.

HARDWOOD LUMBER BOUGHT, SOLD OR received on consignment. TUCKER DAVID, lumber commission merchant, 202 Eleventh Ave., N.Y.

FOR SALE AT KINGSTON FOUNDRY & MACHINERY Co. (Limited), two Sawmill Engines, cylinders 13 x 21, fly-wheel 9 ft. 6 in. diam, driving pulley 7 ft. x 18 in. face - new - at a bargain.

WHITE BIRCH AND SOFT ELM WANTED.

LUMBERMEN HAVING 1-IN. RED BIRCH and 1-in. dry Soft Elm, firsts and seconds, for sale, please communicate with W. W. BROWN, 202 Main Street, Buffalo, N.Y.

STEEL RAILS, ETC. SEVERAL THOUSAND FEET "T" RAILS, 10 and 20 lbs. to the yard. A large quantity of flat strap rail for tramways. 20 pair wheels and axles, all in good second-hand condition, very cheap JOHN J. GARTSHORE, 49 Front Street West, Toronto.

ENGINE AND PLANER FOR SALE A 20 TO 25-H.P. LEONARD ENGINE AS GOOD as new, is at present running sawmill, cutting 5,000 to 8,000 per day of ten hours. Also a 24 inch planer and matcher in good order. Would exchange planer for a large engine.

ROBT. BELL, JR., Box 35, Hensall, Ont.

WANTED FOR CASH Ash and Soft Elm MOSTLY ONE-INCH, SOME ONE-AND-A-QUARTER and one-and-a-half inch, strictly firsts and seconds, must be of uniform color; also commons. Furthermore, Ash and Oak squares from one-and-a-half to four inches thick. Can also use Soft Elm Logs 20 in. and over in diameter for export; Red Birch Lumber, 1, and 1 1/2, all thickness; also Red Birch Squares 5 x 5 and 6 x 6, ten feet and over long, 2000 squares.

Address all particulars as to dryness, quality, quantity on hand and price, to P. O. Box 2144, New York, N.Y.

TIMBER BERTH FOR SALE

BERTH NO. 12, CONTAINING 36 SQUARE miles, situated on French River, within about twelve miles of Georgian Bay. There is a large creek and other smaller streams crossing the same, which empty into the French, and containing large quantities of Pine Timber. Has never been lumbered on.

Apply to EXECUTORS OF JOHN BROWN (deceased) Room No. 8, Drake Building, Easton, Pa.

Timber Limits

THOSE WISHING TO BUY OR SELL Canadian Pine or Spruce Timber Limits will please send particulars to

LEONARD G. LITTLE, Room 11, Temple Building, Montreal.

NEW & 2ND EDITION MACHINERY ILLUSTRATED CATALOGUE FREE H.W. PETRIE TORONTO CANADA

WILLIAM FOSTER Lumber and Commission Merchant

RECEIVER AND FORWARDER OF LUMBER, LATH AND SHINGLES ... CORRESPONDENCE SOLICITED ... OWEN SOUND, ONT.

J. D. SHIER MANUFACTURER OF Lumber, Lath & Shingles BRACEBRIDGE, ONT.

SHINGLE MILL FOR SALE

SITUATION: The Tretheway Falls Shingle Mill is new, built 1891, on the South Branch of the Muskoka River, 5 miles from Bracebridge, near South Falls switch N. & N.W. R.R. With the mill are 5 acres of land, large boarding house, team horses, wagon, sleighs, etc., etc., in fact complete equipment for mill and lumber camp.

MACHINERY: Consists of Little Giant Lefsel Wheel (60 horse power), Ross Shingle Machine, Jointer, Splitter, Drag, fluting and Knot Saws; Endless Chain Burner, Bull Wheel, etc., etc. Building is 30 x 40 heavy frame, with room and shafting placed for second shingle machine. Belting complete and everything in good running order. Circular saw could be added with small expense.

TIMBER: Is abundant for 50 miles above the mill on the waters of the South Branch—many townships being yet owned by the government—besides thousands of acres of decayed pine, four or five thousand acres of which can be bought immediately. There is also about 400,000 feet of timber at mill which can be purchased with it, so that buyer can commence cutting at once.

The estate must be wound up, and will bear the closest examination. For further information, address

THE CANADA LUMBERMAN, Toronto, Ont.

J. J. TURNER .. Sail, Tent and Awning Maker ..

251 George St. and 154 King St. PETERBOROUGH

Canoe, Yacht and Boat Sails made to order. Perfect Fits Guaranteed. Every description of Lumbermen's Supplies and Waterproof Clothing.

NORTH SHORE NAVIGATION CO. ROYAL MAIL LINE

To Sault Ste. Marie and Georgian Bay Ports

STRS. CITY OF MIDLAND, CITY OF LONDON, FAVORITE AND MANITOU

Running in connection with the G.T.R. and C.P.R., will call as follows:—

The CITY OF MIDLAND and CITY OF LONDON will leave Collingwood every Tuesday and Friday on arrival of G.T.R. morning trains from Toronto and Hamilton, calling at Meaford. Leave Owen Sound same days at 10.30 p.m. after arrival of C.P.R. train from Toronto, connecting at Warton with night train from the south, and calling at intermediate ports to Sault Ste. Marie.

Steamer FAVORITE will leave Collingwood Mondays and Thursdays after arrival of morning transfer PARRY SOUND' byng Inlet, French River and Killarney, connecting there with above line of steamers for the "Soo". Returning will make close connection at Midland on Wednesdays and Saturdays with trains for the south and steamer MANITOU for PARRY SOUND.

Steamer MANITOU will make regular trips from Penetanguishene, connecting with trains from the south, only at Midland on Monday, Wednesday, Thursday and Saturday for PARRY SOUND, connecting there with Steamer FAVORITE for byng Inlet, French River and Killarney, where connection is made with above "Soo" line of steamers.

For tickets and further information apply to any agents G.T.R. or C.P.R., or to C. E. STEPHENS, Sec.-Treas., Collingwood | W. J. SHEPPARD, Manager, Waulaushene

Rochester Bros. : : COMMISSION AGENTS

Limits bought and sold on commission. Limits travelled and carefully prepared. Estimates given.

Some first-class berths on the North Shore of Lake Huron and on the Upper Ottawa now in our hands for sale.

Communications confidential. References given.

36 Rochester St. Ottawa

E. STEWART, D.L.S. DEALER IN Timber Limits

IN ONTARIO, MANITOBA AND BRITISH COLUMBIA CORRESPONDENCE SOLICITED OFFICE, 24 MANNING ARCADE KING ST. WEST TORONTO, ONT.

... THE ... FLINT & PERE MARQUETTE RAILROAD

FROM Port Huron and Detroit

In the Short Line to SAGINAW AND BAY CITY

(Centres of the vast lumber interests of Michigan) MT. PLEASANT, CLARE, REED CITY

BALDWIN, LUDINGTON, MANISTEE AND MILWAUKEE AND MANITOWOC, WIS.

The last two named are reached by the Company's line of Steamships across Lake Michigan.

The line thus formed is a short and direct route from NEW YORK BUFFALO MONTREAL TORONTO to ST. PAUL, DULUTH and Pacific Coast points.

Write either of the undersigned for Folders, which contain Maps, Train Schedules and a great deal of information of value to those contemplating a trip to any of the above-mentioned points.

W. H. BALDWIN, JR., General Manager. W. F. POTTER, Gen'l. Sup't. A. PATRIARCHE, Traffic Manager. GENERAL OFFICES: SAGINAW, MICH.



AUCTION SALE

OF Timber Berths

DEPARTMENT OF CROWN LANDS

(WOODS AND FORESTS BRANCH) TORONTO, 27th June, 1892.

NOTICE IS HEREBY GIVEN THAT, UNDER Order in Council, Timber Berths as hereunder in the Nipissing, Algoma, Thunder Bay and Rainy River districts, viz.: in Higgan, Butt, Pindayon, Hunter, McCraney, McLaughlin, Paxton, Peck, and the northerly portion of Berth Forty-nine, lying South and West of the Wapumtuc Lake, all in the Nipissing district; the townships of Lumsden and Morgan, and a small portion of territory lying North and West of Pogomasing Lake, in the Algoma district; Berths One and Seven, Thunder Bay district; and Eleven, Twenty-seven, Thirty-six, Thirty-seven, Sixty-four, Sixty-five, Sixty-six, Sixty-seven, Sixty-eight and Sixty-nine, Rainy River district. Will be sold at Public Auction on Thursday, the Thirteenth day of October next, at One o'Clock p.m., at the Department of Crown Lands, Toronto.

NOTE.—Particulars as to locality and description of limits, area, etc., and terms and conditions of sale, will be furnished on application personally or by letter to the Department of Crown Lands.

NO UNAUTHORIZED ADVERTISEMENT OF THE ABOVE WILL BE PAID FOR.

ARTHUR S. HARDY, Commissioner.

WHEN YOU BUY SCRIBNER'S LUMBER AND LOG BOOK

You get the best, most complete and useful table book for the measurement of Lumber and Logs

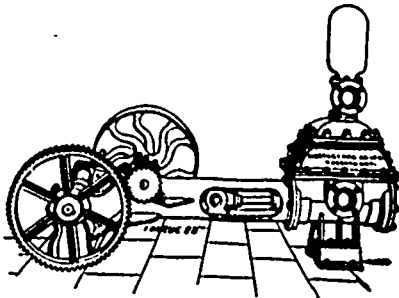
Ever Published. Over One Million Sold

Calculations are given showing the number of feet board measure contained in various sizes of logs by DOYLE'S RULE, besides many other tables useful for lumbermen and others.

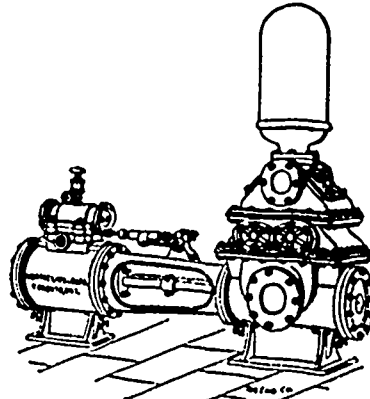
Mailed to any address on receipt of 35 CENTS.

Address THE CANADA LUMBERMAN, Toronto, Ont.

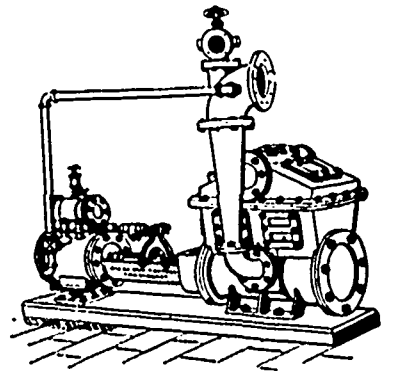
DUPLEX AND SINGLE STEAM AND POWER PUMPS



POWER PUMP



FIRE PUMP



INDEPENDENT CONDENSER

NORTHEY MFG. CO., Ltd., TORONTO, ONT.

Representative Lumber Manufacturers and Dealers

Towns	Railway, Express, or nearest Shipping Point	NAME	BUSINESS	Power, Style and Daily Capacity
Ottawa, Ont.	Ottawa	Booth, J. R.	Lumber, Wholesale and Retail.	Steam, Circular and Band Mill
Ottawa, Ont.	Ottawa	Bronson & Weston Lumber Co.	2 Sawmills, White and Red Pine, Wholesale	Water, Gang and Band, 450m
Ottawa, Ont.	Ottawa	OTTAWA LUMBER CO.	Lumber, Pine, Spruce, Hemlock, Wholesale	
Ottawa, Ont.	Ottawa	Perley & Pattee	Saw and Lath Mill, Pine, Wholesale	Wat., Gang and Band, Saw 400m, Lath 70m
Parry Sound, Ont.	Uttersen	Conger Lumber Co.	Lumber, Wholesale and Retail.	
Parry Sound, Ont.	Parry Sound	Parry Sound Lumber Co.	Saw, Shingle and Lath Mills, Pine, Wholesale	Water, Gang, Circular, Saw 90m, Shingles 20m, Lath 30m
Muskoka Mills, Ont.	Penetanguishene	Muskoka Mill and Lumber Co., Head Office, Arcade, 26 King st. w., Toronto	W. Pine Lumber, Lath and Bill Stuff, all lengths	2 Mills, Water, 1 Band, 2 Gangs and 3 Circulars.
Alexandria, Ont.	Alexandria	McPherson, Schell & Co.	Cheese Box Factory, Pine, Spruce, Cedar	Circular, 3m
Almonte, Ont.	Almonte	Caldwell, A. & Son	Sawmill, Pine, Spruce, Cedar, Hardwoods	Steam, Circular, 40m
Barrie, Ont.	Barrie	Dymont & Mickle	Saw, Shingle and Heading Mill, Pine, Cedar	
Barrow Bay, Ont.	Warton	Barrow Bay Lumber Co., Limited	Oak, Oak Railway Ties, Paving Blocks	Steam, Circular, 16m
Blind River, Ont.	Blind River	Blind River Lumber Co.	2 Saw, Sh. and Lath Mills, Pine, Hem., Bl. Birch	Stm., Band, Cir., S. 75m, Sh. 60m
Hoboyagon, Ont.	Fenelon Falls	Boyd, Mossom & Co.	Lumber, Wholesale and Retail.	
Bracebridge, Ont.	Bracebridge	DOLLAR, JAMES	Lumber, Shingles, Wholesale	
Barrie, Ont.	Barrie	Burton Bros.	Lumber, Wholesale and Retail.	
Hyng Inlet, Ont.	Uttersen	Georgian Bay Consold. Lumber Co.	Sawmill, Pine, Hemlock, Birch	Steam, Circular, 20m
Catalogie, Ont.	Catalogie	Carswell, Thistle & McKay	Lumber, Wholesale and Retail.	
Callander, Ont.	Callander, G.T.R.	John B. Smith & Sons	White and Red Pine Lumber, Bill Stuff, Lath and Shingles	Steam, 2 Circular, 80m
Collins Inlet, Ont.	Collins Inlet	Collins Inlet Lumber Co.	Lumber, Pine, Oak, Ash, Birch, Whol. and Ret.	Steam, Circular, 6m
Comber, Ont.	Comber	Atanile, J. S. & Bro.	Saw and Stave Mill, Pine, Hardwoods	Steam, Cir., Saw 14m, Sh. 20m
Glamis, Ont.	Pinkerton	McIntyre, N. & A.	Saw, Shingle and Lath Mill, Timber Lands, Hemlock, Pine, Lumber, Hardwoods	
Hamilton, Ont.	Hamilton	BRADLEY, MORRIS & REID CO.	Lum., Tim., Pine, Hem., Hwds., Whol. and Ret.	Steam, Circular, 25m
Huntsville, Ont.	Huntsville	Heath, Tait and Turnbull	Sawmill, Pine, Spruce, Hemlock, Hardwoods	Steam, Circular, 4m
Hamilton, Ont.	Huntsville and Katrine	Thomson, Robert & Co.	Sawmill, Pine, Spruce, Hardwoods	Steam, Circular
Keewatin, Ont.	Keewatin	Dick, Banning & Co.	Sawmill, Pine, Hardwoods, Wholesale	Water, Band and Circular, 100m
Keewatin, Ont.	Keewatin	Keewatin Lumber & Mfg. Co.	Saw, Lath, Sh. and Pl. Mill, Moving Posts, Pine	
Lakefield, Ont.	Lakefield	Lakefield Lumber Mfg. Co.	Lumber, Wholesale and Retail.	
Little Current, Ont.	Sudbury	Charlton, J. & T.	Sawmill, Pine, Ash, Birch, Oak, Wholesale	Steam, Circular, 25m
Little Current, Ont.	Sudbury	Conlin, T. & J.	Sawmill, Pine, Ash, Birch, Oak	Steam, Circular, 25m
Little Current, Ont.	Sudbury	Howry, J. W. & Sons	Lumber, Wholesale and Retail.	
London, Ont.	London	Gordon, James	Exp. and dir. in Am. Hwds. made to specification	
Longford Mills, Ont.	Longford	Longford Lumber Co.	Saw and Plan. Mill, Hemlock, Hardwds., Whol.	Steam, Band and Circular, 100m
Mount Forest, Ont.	Mount Forest	Greensides, W. S.	Cherry, White Ash, Hardwoods, Wholesale	
Norman, Ont.	Norman	Cameron & Kennedy	Saw and Plan. Mill, Tim. Lands and Logs, Pine	Steam, Circular, 4m
Norman, Ont.	Norman	Minnesota & Ontario Lumber Co.	Lumber, Wholesale and Retail.	
Louise, Ont.	Elmwood, G.T.R.	S. B. Wilson & Son	Hardwoods, Shingles, Lath, Handles	Steam, Circular, 20m
Toronto, Ont.	Toronto	Campbell, A. H. & Co.	Lumber, Wholesale	
Toronto, Ont.	Toronto	F. N. Tennant	Lumber, Wholesale	
Toronto, Ont.	Toronto	Donogh & Oliver	Lumber, Wholesale	
Toronto, Ont.	Toronto	Victoria Harbor Lumber Co.	3 Saw, Shingle and Lath Mills, White Pine, Whol.	Com. Sim., Cir., Gang and Band, 140m
Toronto, Ont.	Toronto	W. N. McEachren & Co.	Lumber, Wholesale	Com.
Toronto, Ont.	Toronto	James Tennant & Co.	Lumber, Lath, Shingles, etc., Wholesale	Com.
Warton, Ont.	Warton	Miller, B. E.	3 Sawmills, Lumber, Barrel Heads	Steam and Water, Circular, Portable and Stationary, 10m
Huckingham, Que.	Huckingham	Ross Bros.	2 Sawmills, Pine, Spruce, Hardwoods	Circular, Gang and Band, 150m
Chaudiere Mills, Que.	Chaudiere Stn.	Breakay, John	Sawmill, Pine, Spruce, Hardwoods, Wholesale	Water, Gang, 150m
Cookshire, Que.	Cookshire	Cookshire Mill Co.	Saw, Shingle, Planing, Stave and Heading Mill	Steam, Circular and Gang, 60m
Montreal, Que.	Montreal	Dufresse, O. Jr. & Frere	Sawmill, Pine, Spruce, Hemlock, Hdwds., Whol.	Steam, Circular and Band, 50m
Montreal, Que.	Montreal	Roberts, Joseph & Fils	Saw and Planing Mills, Sash, Doors and Blinds, Int. Fin. Spruce, Hardwoods, Wholesale	Steam, Circular, 200m
Montreal, Que.	Montreal	SHEARER & BROWN	4 Sawmills, Oak, Ash, Elm, Pine, Hem., Dim.	2 Stm., 2 Wat., Band, Cir., 40m
Moodyville, B.C.	New Westminster	MOODYVILLE SAWMILL CO.	Sawmills, P. Fir, Spruce, Cedar, Hardwoods	Steam, Circular, 20m
New Westminster, B.C.	New Westminster	Brusette Sawmill Co.	Saw and Planing Mills, Sash, Doors and Blinds, Fir, Cedar, Spruce, Hardwoods	Steam, Gang and Circular
Canterbury, N.B.	Canterbury Stn.	James Morrison & Son	Sawmill, Pine, Hardwoods	Steam, Circular, 38m
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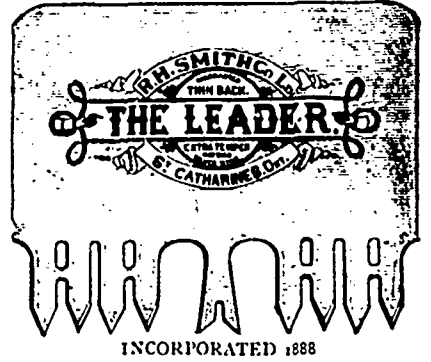


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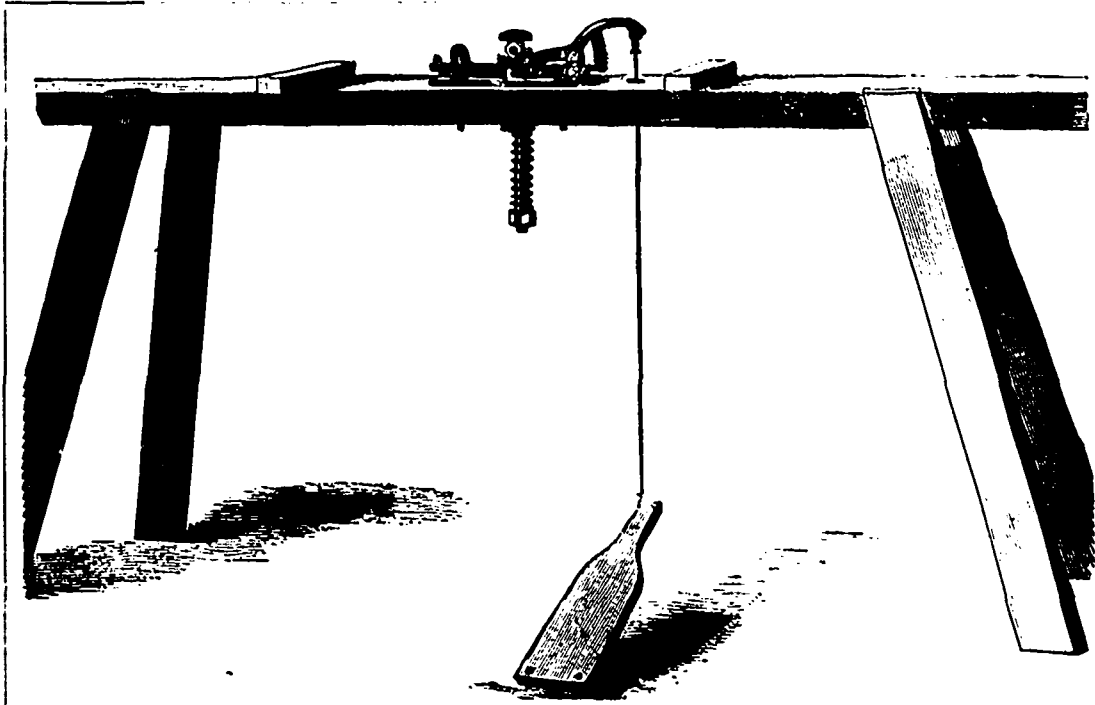
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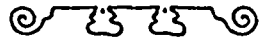


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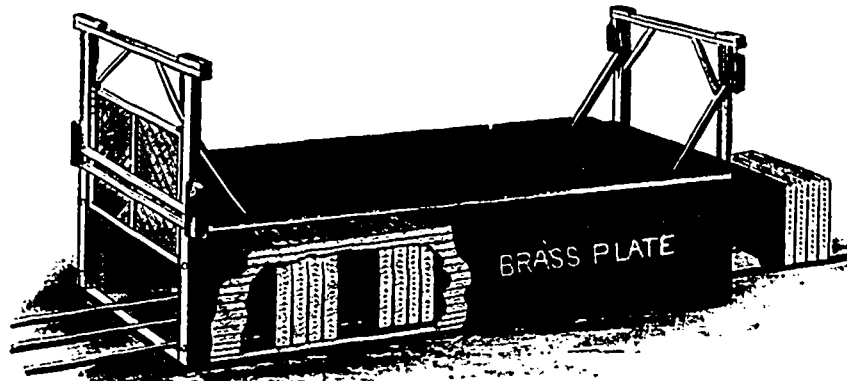
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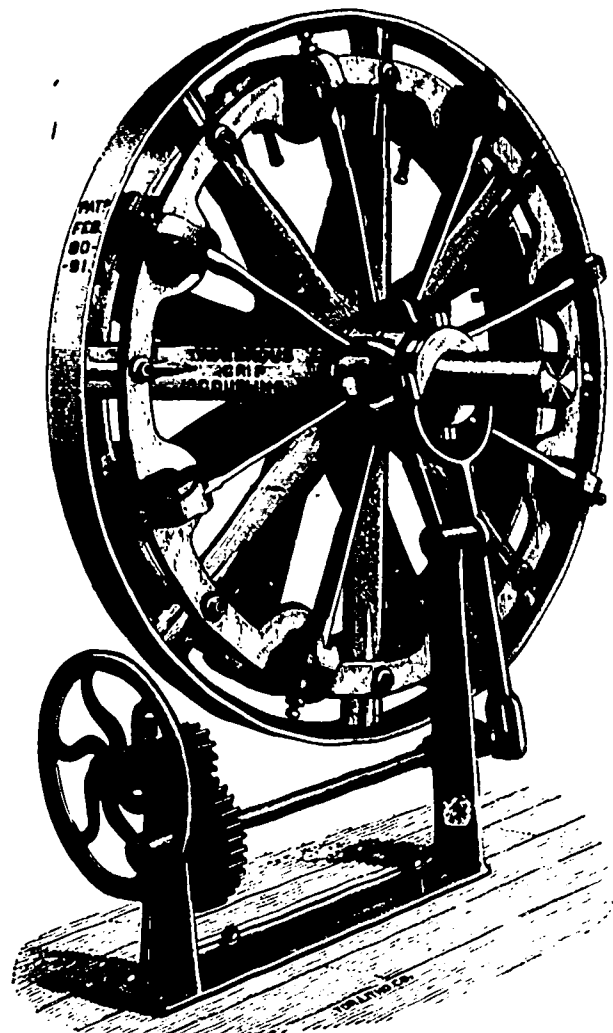
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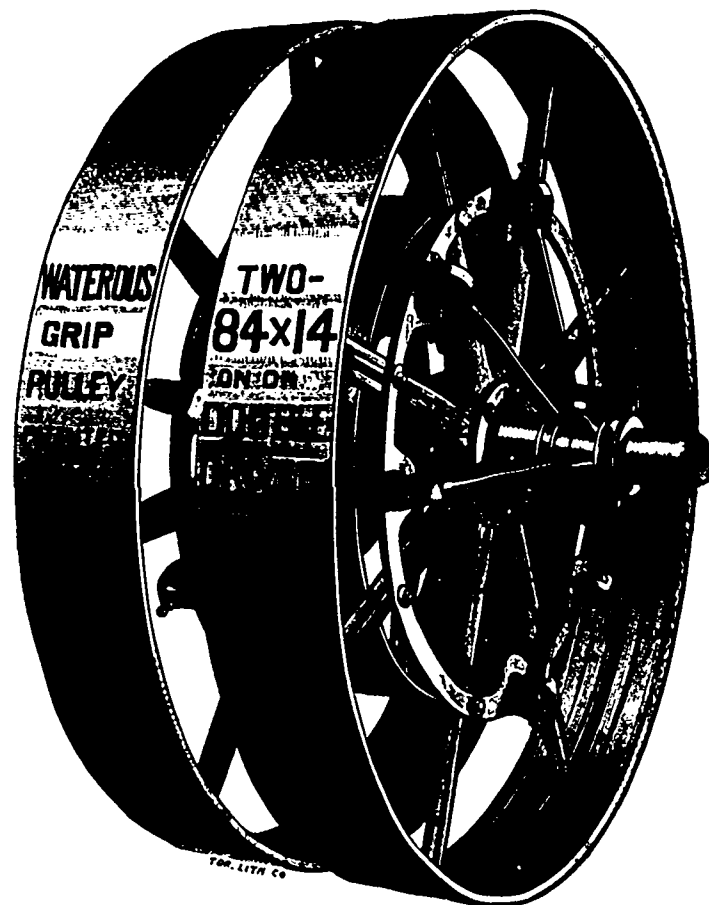
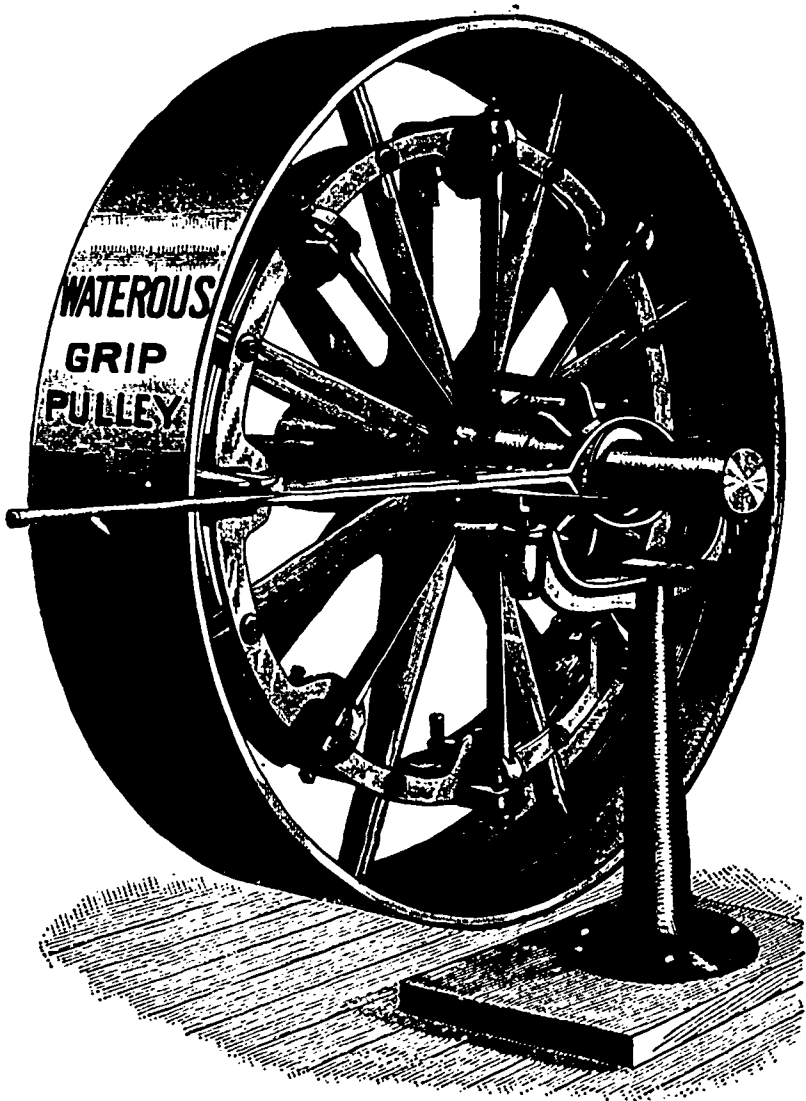
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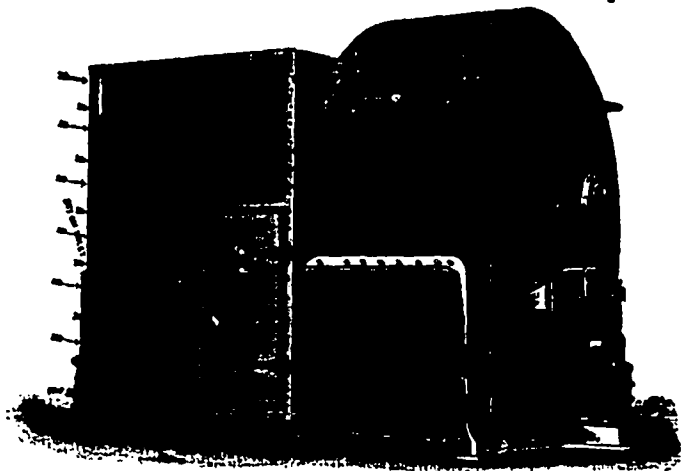
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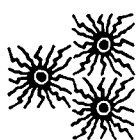
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