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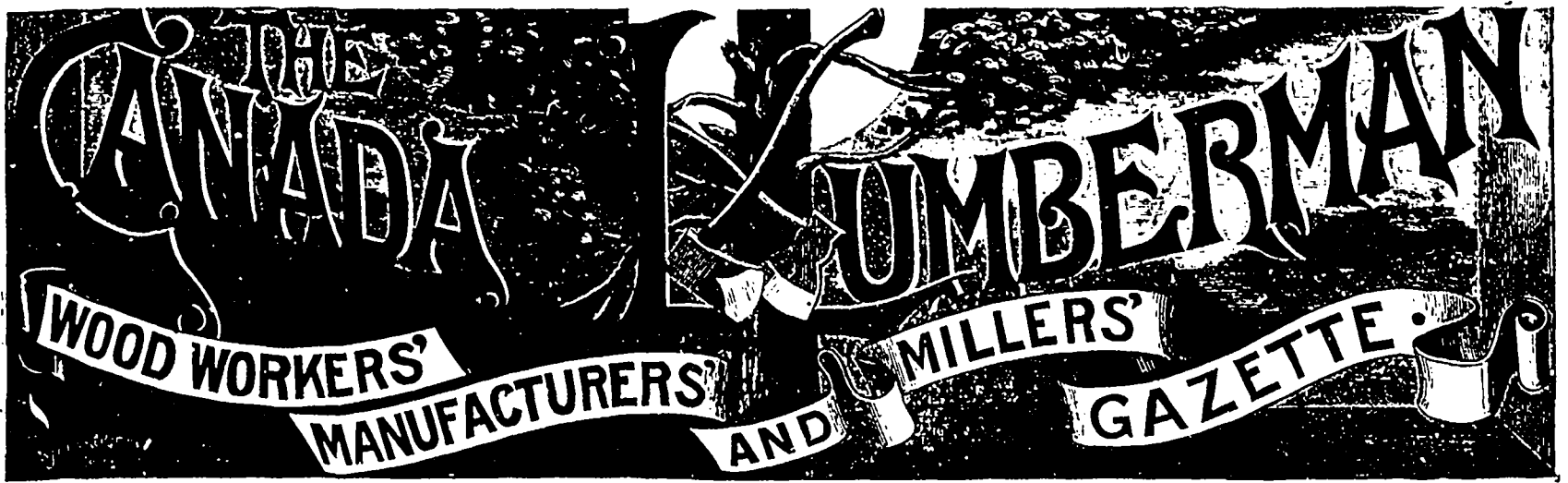
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VOLUME XIV. }
NUMBER 1.

TORONTO, ONT., JANUARY, 1893

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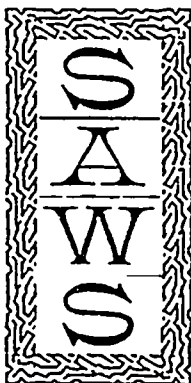
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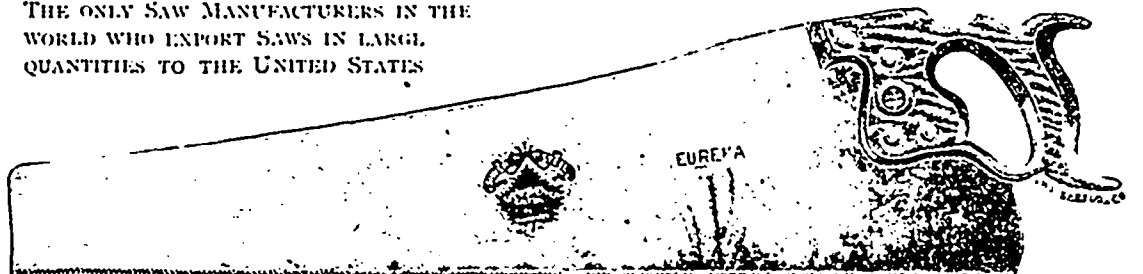
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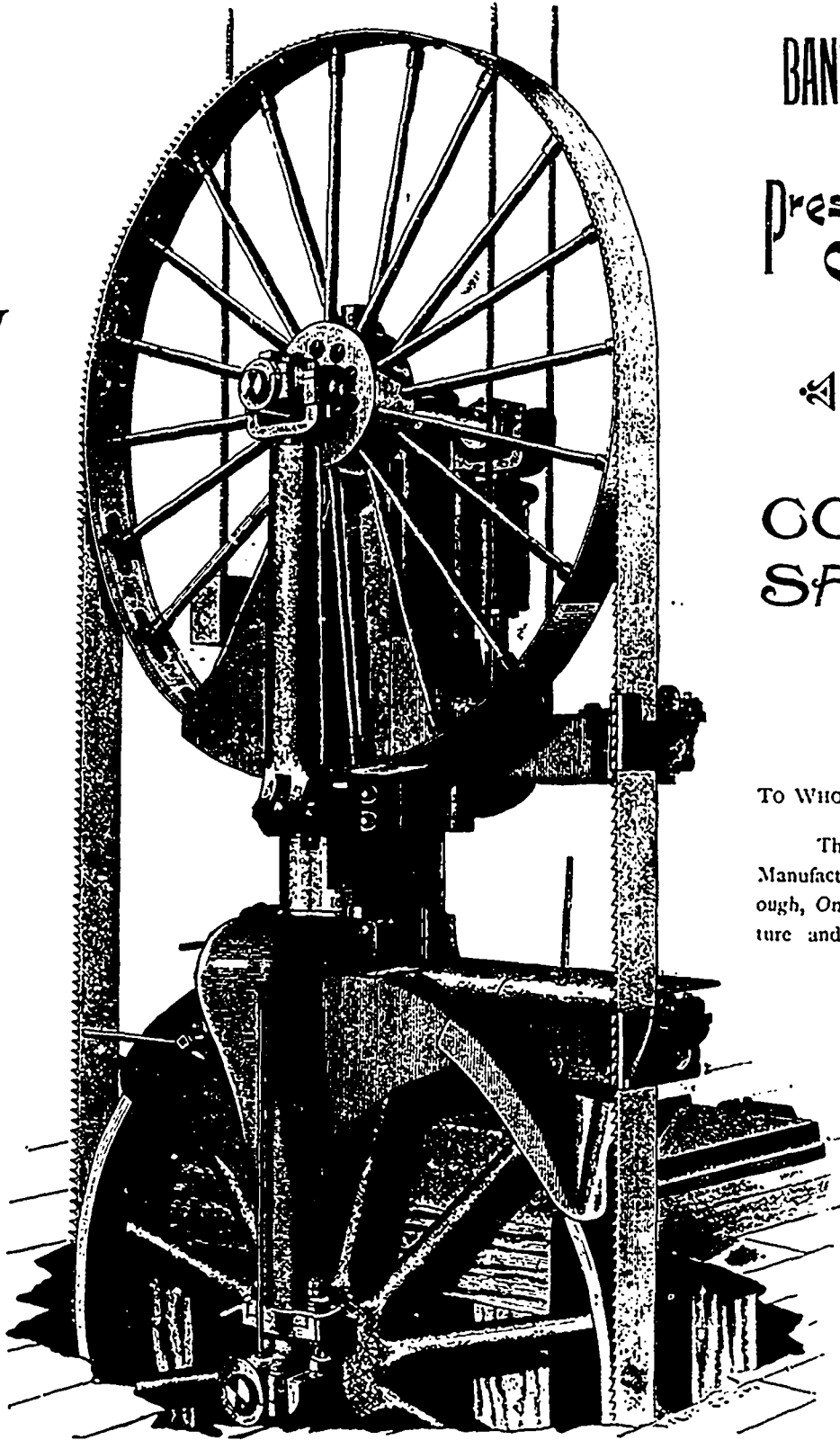
July 5th, 1892.

Dear Sirs:

It may interest you to know that on June 30th last, in eleven hours, the Band Mill—driven entirely by water—which we got from you, sawed

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5,726	"	3 "
85,038	"	
<hr/>		
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(Signed)

D. CLINT PRESCOTT,
[copy] Patentee.

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THE CANADA LUMBERMAN

VOLUME XIV.
NUMBER 1.

TORONTO, ONT., JANUARY, 1893

TERMS, \$1.00 PER YEAR
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A NEW STEEL BAND MILL.

INTEREST in the band mill grows with lumbermen. The engraving on this page of their "New No. 2 steel Band Mill," manufactured by the Waterous Engine Works Co., of Brantford, Ont., illustrates a mill modelled on radically different lines to the ordinary band saw mill; one certainly foreign from the previously conceived ideas of what a band saw mill ought to be.

Many of the standard mills have but one post supporting the upper wheel, others have two and an outer arm passing between the wheel and reaching to the upper shaft, making a third bearing under the shaft. In the Waterous mill the necessary rigidity is obtained by the six steel columns connecting the very heavy lower and upper cast plates. These make a much more rigid frame and give a much greater bearing to stand the strain than the single or double post mills.

In addition to this, doing away with the outer arm, they can bring the wheels fully eighteen inches nearer together. This permits the sawing to be done much closer to the upper wheel. This is a most important point. Any one knows from experience that a belt running from one pulley to another can be shoved on or off the receiving pulley while in motion quite readily, while at the driving pulley hardly any pressure that can be put upon it will disturb it. The effect is the same in the band saw, and the aim of all band saw builders is to have the cutting done as near the upper wheel as possible.

Another important point is the triangular frame supporting the upper shaft and wheel. This upper wheel has to be moved up and down as the tension is applied to the saw; with narrow bearings it is apt to bind with the strain that the saw puts upon the outer end of the shaft, and in this way rises up unevenly, or when the tension is being taken up by the weight the binding may prevent a proper operation of the weight. With the triangular frame they have what is equal to a four foot bearing on the front centre post, making it impossible for any binding to take place, in adjusting the tension of the saw either by screw or weight.

The two boxes of the upper shaft are connected by a very heavy casting, making it impossible to get them out of line, and this casting is hinged to the triangular frame, and so arranged that the effect of the tension weight is applied directly to it and adjusts the tension without having to affect the triangular frame. This is a great improvement on the usual method of applying the tension. As will be seen from the illustration, the guide is very stiff and has very convenient adjustments. Its weight is counter-balanced and it is raised and lowered by friction, readily applied by the Sawyer. The bearings for the shafts are eighteen inches long, and of ample diameter; the lower bearings are adjustable and the upper bearings are also adjustable by wheel and screw.

The effect secured by the outer arm and third bearing in ordinary mills is secured in this mill by running the bearing to the centre of the wheel, coring out the hub so as to overlap the bearing, thus bringing the centre strain of the saw on the bearing instead of on the unsupported shaft. The lower wheel is of ample weight and the

upper wheel is of very strong and light design. Another important advantage is gained by this mode of supporting the wheels. With an outer bearing, these eight and nine foot wheels have to be fitted to the shaft so that they will slip on and are then keyed. The slightest variation caused by the key is magnified many hundred times at the rim, making the saws run badly. The wheels in the Waterous mill are fitted to a slight taper and ground to a perfect fit and further held to place by a nut; no key is used; hence their wheels run true. Since the present illustration was made the style of upper wheel has been changed to relieve the run of casting strain of hub, making arms adjustable, the proportion being arranged to a nicety to prevent any possibility

saw and the lower wheel. The wheels of this (the No. 2 mill) are eight feet in diameter, and are made to take ten and twelve inch blades, the saws being much shorter than usual for that sized wheel, namely, forty-three feet.

So much importance is to be attached to the character of the machinery used in manufacturing that we are of the opinion that the manufacturer is always ready to welcome any suggestion pointing towards improvement and greater efficiency in his particular line of work. Lumbermen, by their enterprise in the past, have shown that they are quite alive to this view of the matter; and as the season is approaching when they will find it necessary to place their mill properties in shape for practical operation, it is hardly likely that the Waterous band mill will escape thoughtful consideration at their hands. All the difference in a season's profits may be in the character of the machinery in use.

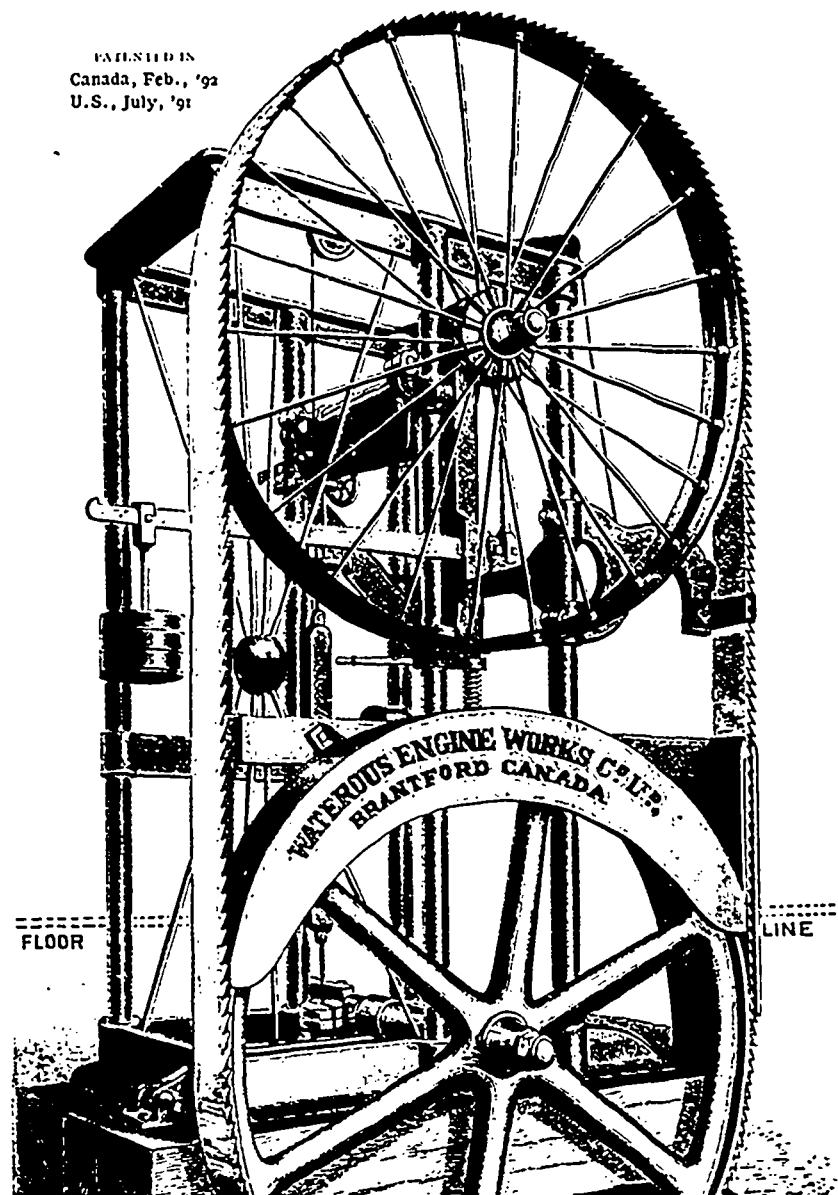
The Company report large sales of their No. 2 mill during December for next season's cut. Anticipating this, they enlarged their works, and put in some heavy special machinery to still further improve in the manufacture of their band mills, and to enable them to meet the increased demand.

We are illustrating in this issue a very important patent decision relating to band mills, which the owners of the patent say will affect nearly every manufacturer of band mills in the States and Canada, viz., all mills using an outer bearing. The Waterous Co., by not using an outer bearing, are not affected by this decision, and claim to have a much better arrangement as described above. Lumbermen buying their mill are in no danger of a claim for infringement of patent being presented.

QUEBEC TIMBER SALE.

CONTRASTED with the recent sale of Ontario timber limits, the Quebec Government sale last month can hardly be pronounced a success. The Crown Lands Department had, it is said, expected that it would receive over \$500,000, whereas the whole amount realized was only \$85,000. Such a thing as spirited bidding, which made the proceedings in the old Parliament buildings here, under the guardianship of auctioneer Ryan, of lively interest to both purchasers and on-lookers, was unknown at the sale in the sister province. One report says that after a short time the upset price and other limitations set by the government were dropped, and the different limits were sold at anything they would bring.

An idea of how prices ran will be gleaned from the fact that lots on the River Batisan, in the St. Maurice agency, were sold to Mr. Power at \$16 per mile; to Messrs. Tremblay, B. A. Scott and Price Bros. & Co., in the Lake St. John agency, at \$22, \$26 and \$7.50 per mile respectively. Other lots were sold at \$4, \$4.50 and \$5 per mile. The highest figure obtained was \$60 per square mile for twelve square miles in the Bonaventure agency. The spruce limits that were disposed of brought rather better prices than the pine. Mr. M. Boyd, of Bobcaygeon, bought nearly one thousand square miles in the Rimouski, Bonaventure and Saguenay agencies at prices running from \$4 to \$7 per square mile.



THE WATEROUS STEEL BAND MILL.

of the carrying over of the upper wheel. The shaft and bearings of the lower wheel are above the sole plate in plain sight and of easy access, unlike the majority of mills where the shaft is hung under the sole plate and difficult of access.

In addition to the six steel columns the mill is further strongly braced as shown in illustration. The lower wheel is protected with a cast iron covering, with a shute for discharging any accumulated dust or bark, while the saw runs through a cast iron lower guide, extending down past the carriage line, protected thoroughly with rawhide guides, which steady the saw and prevent the saw-dust passing down and thus getting between the

GOOD AND BAD BELT FASTENINGS.

A MAN had occasion, says a writer in the Tradesman, to pass under a twelve-inch rubber belt which drove a certain part of the mill. This belt was fastened by means of small links, similar to those used in an endless chain. The links were put through holes cut one inch from the ends of the belt, and in putting the belt together the ends are placed together so that the holes are opposite to each other. Then the links are forced through and a piece of iron wire put through the holes in the links so as to bear on the outside surface of the belt. This device forms a joint which stands straight up from the pulley about $1\frac{1}{4}$ to $1\frac{1}{2}$ inches when the belt is running. The man who was hurt was just passing under the belt when the joint came along and struck him on the top of the head. It took off a piece of the scalp about as big as a dollar, cutting it clean in three sides and leaving it hanging by the fourth. It knocked him senseless and it was several days before he was again fit for duty.

Such belt fastenings as these are an abomination that are as dangerous as a powder mill. All belts should be boxed up, but a belt with one of these things travelling around it should be cut in pieces and thrown into the boiler furnace. The link fastening is cheap, is quickly put into a belt and as quickly taken out when necessary to take a piece out of the belt. Boxing up will protect the operatives from the belting, but it will not protect the millwright or the repair man whose business it is to monkey around belts and shafting when it is running.

The instance mentioned above was a bit of personal experience of the writer, the man who was hurt being one of his workmen at the time of the accident. The owner was entreated to provide different fastenings, and after a great deal of grumbling some brass belt studs were provided, also a ring for making cement joints, which is the best possible way of splicing a belt. The belt studs are little brass concerns having a T-shaped head on either end, being made about $\frac{1}{2}$ inch wide and of a length sufficient to pass through two thicknesses of the belt to be fastened. Brass belt studs can be procured in the market of various lengths from $\frac{3}{4}$ to nearly two inches long. They can be quickly put into a belt and just as quickly taken out, and when properly put in and adjusted will hold equal to the best sewed lacing that can be put in. The heads of these belt studs do the work done by the wires when the iron links are used as described above, but the studs do not cause the belts to stand up and make a scalping machine which is liable to maim or kill. To give an example of how well this stud does its work, it may be mentioned that a belt can be put together with these studs, and, after running a few days, and perhaps even hours, the stud holes may be cut completely out through the ends of the belt, but the studs will still hold perfectly, owing to the grip obtained by their heads on the outside surface of the belt.

After these studs were procured, they were put into all the belts around the mill, which were liable to need frequent taking up, i. e., one joint was made with the studs and all the rest of the belt (for there were several pieces forming some, were permanently cemented together, making practically an endless belt. The cementing outfit consisted of an ordinary glue pot with water jacket and lamp underneath. This could be used when necessary, but it was usual to place the glue pot on a steam pipe a few minutes before desired for use. In the glue pot was placed two parts of best common glue to be obtained and one part of fish glue. This forms a mixture which will hold leather so well that when torn in two after having dried thoroughly, it will split in a new place even more frequently than it will in the splice. A piece of smooth pine board, two feet square, a smoothing plane and a chisel, a hammer, a few tacks, together with a strong knife and a square, completed the cementing outfit. There must, however, be added to this list a pegging awl and a supply of pegs of different lengths.

The operation of cementing a belt is very simple. First, the belt is squared and cut perfectly true upon the end; then a mark is made back from the square end a distance equal to the width of the belt, then the belt is tacked upon the board so that the end comes just even with the edge of the board. By means of the plane the belt may be easily chamfered down from full thickness

to anything wanted. Both ends of the belt are served in this manner, taking care to carve each end on the right side, also making sure that there is no twist in the belt when it is brought together ready for cementing. Secure one end of the belt to the board by means of a couple of tacks a distance above the butt end of the splice, then warm the leather by some means, either by holding over a lamp or by means of a hot iron. When as warm as will bear the hand comfortably, proceed to spread on a coat of the glue, which should be moderately thick, a little thicker than is used for gluing wood. Give both surfaces a coat as soon as possible, then put them together and hammer lightly with a broad-faced hammer. When spreading the glue, it must be made sure that the entire surface of the leather is coated, and coated evenly at that. Any little corner left without glue will be a defect in the work and a source of continuous trouble.

Having made sure that the surfaces are thoroughly covered with glue, place together as above described and hammer lightly until all parts of the surfaces have been pounded together. With the pegging awl, mark a row of holes about three-quarters of an inch apart all around the splice. Drive pegs into these holes as fast as they are made, and use a length of peg which will just go through the leather and leave the pointed part projecting. Allow to dry a few minutes, then trim off the pegs with a sharp knife and the belt is ready for use. It would be better to allow it to stand over night if possible, but many times it is not and the belt is doing good work within half an hour after completing the splice.

ON RUNNING A CIRCULAR SAW.

A CORRESPONDENT, of the Saw Mill Gazette, who has, apparently, a practical grasp of the subject, gives the following points on running a circular saw.

The number of teeth should be proportioned to the power, minus that spent in extra speed. A thin saw will not bear as many teeth as a thick one, therefore, the more power the thicker the saw should be, yet not in proportion to the power, for a good part of the power can well be expended in making greater speed.

A tooth of an eight-inch saw ought to cut one-tenth of an inch in common pine sawing, while the eleven-gauge tooth cuts one-sixteenth of an inch.

The sizes of saws between forty and sixty inches do not necessitate any change in the number of teeth. An eight-gauge saw should have about thirty teeth, and an eleven-gauge should have about twenty teeth.

The speed of a saw does not necessitate any change in the number of teeth or amount of feed, but the speed should be proportioned to the power.

The saw should not tremble in cutting. Trembling is caused by uneven teeth, or the heating of the saw in the guides, or in the centre, and sometimes a frozen log, if it touches the centre of the saw, will, by suddenly cooling it, cause it to act as if it were hot at the guides.

A thin saw requires the same projection of set as a thick one, and one difficulty in running a very thin one is that there is not enough thickness to swage out a good set, without moving the steel so much as to weaken it, and so causing the corners to crumble off from the teeth.

A saw that always runs best when the arbor is warm, is not hammered right. It is too tight in the centre, and too loose in the rim.

The sun should not shine on the saw when it is in motion, unless you can make the sun shine in the right place.

A saw not going quite right may often be made to do better by changing the lead, and also the guides.

The track and carriage must be straight and level, and the saw arbor must be level.

The saw must run true, and a saw that is fairly straight may be made to go true by pieces and rings of paper properly placed at the centre, on either one side or the other.

Other things being right, the saw need not lead or line into the log more than one-eighth of an inch in twenty feet.

One gauge thicker in the centre is about right for a common saw.

Every tooth of the saw should cut, and no one tooth should do more than its proper share. In the case of a broken tooth, shorten the next behind it as much as one

tooth cuts, and shorten two or three behind that slightly. In this way a saw with several broken teeth may be made to do good work. The points of the teeth should be kept a little thinner than the swage, and the more hooking they are, the less power it takes to drive the saw. But do not let the backs of the teeth be higher than the points.

Generally speaking, more than 200 horse-power should not be used for an eleven-gauge saw, unless it is hammered to run quite swiftly.

Swage just enough to avoid the binding or heating of the saw in the cut. The cutting edges of the teeth should be straight and square with the plate, and the swage should be held square and straight. When struck it should not jump or move, and will not if held and struck right.

The saw is inclined to run to the side on which is the highest or longest corner of a tooth.

In sawing an extremely bad log, put on less feed and less power, so that the saw may not be heated.

When the bark of white pine pulls in and bothers, incline the saw into the log, and have the tail sawyer pull upon line board as it is sawed.

In a clear sawing, if twenty teeth go easily at one and one-half inch feed, by increasing the power one-eighth the twenty teeth will just as easily go at two and one-half inches feed.

A SONG OF THE SAW.

BY A. B. GOULD.

OF all the men of a saw mill crew,
But one with a female each day has to do.
This "she" the circular saw is by name,
And the saw and the girl are in temper the same.

The filer's supposed to be an expert,
But he often has found her a terrible flirt.
He calls her his darling and source of his joys,
But she, woman-like, flirts with all the mill boys.

The sawyer may try to keep her all straight,
But she's likely to lead him to a terrible fate;
But she'll hum and sing the summer day long,
To an experienced ear a beautiful song.

Her song brings to mind twenty years of my life,
And with her, I own, I've had many a strife,
But now she is conquered, I think so, at last,
Though all the boys claim she is awfully fast.

I have dosed her with emery and also the file,
And with hammer and anvil I've freed her from bile;
For, as I said before, twenty years of my life
Have with her been spent in continual strife.

First she will halt and then dance and prance,
Like a colt that is balky and loth to advance.
No coaxing will move her, no cursing will serve;
The hammer and anvil alone give her nerve.

But in spite of her antics she always will be
The queen of all saws you ever will see.
Her cut is on record, and day after day
In hundreds of thousands 'tis measured, they say.

'Tis a capable female, this circular saw,
It takes thousands of logs to fill her great maw.
Though for mill dogs and bolts she has a dislike,
She's my darling when, well, I know she's all right.

They say that she's old, that the band is the belle,
But for what she has done her praises I'll tell;
And if in the future I see her lie still,
Respect I'll still have for her work in the mill.

Now, the band saw, I own, is a different kind,
It takes clear stuff and uppers to cut to her mind,
Her temper is ticklish, she's full of her tricks,
And it's hard to persuade her to put in her besticks.

For five years I had her and trained her down fine,
Till she cut like a beauty in the big, soft, cork pine.
She, too, is a darling, when rigged out in trim,
And a saving in timber with saw kerf so thin.

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.

VIEWS AND INTERVIEWS.

Hits Both Ways.

"It will be interesting to see what course the lumber journals, which a few short months ago would not join the manufacturers in an effort to head off free lumber, because there was 'a republican president and republican majority in the senate,' will have to say about it now," says the Chicago Northwestern Lumberman. To which the Minneapolis Lumberman adds: "It will be a good deal more interesting to see what the lumber papers which, in double-leaded leaders, said the lumber business would go to the demnation bow-wows if lumber should be put on the free list, will say when it is accomplished by a democratic president and a democratic majority in the senate. It depends altogether on how far a man drops how much he is hurt."

Sawdust Blocks for Building.

Only as late as last month we gave an account in these columns of experiments being made in manufacturing bricks out of sawdust. The Mechanical News tells of a promising utilization of sawdust in Germany, where blocks for building are made of that material. The accounts given of their quality are extremely favorable as regards their strength, lightness, hardness of exterior and capability of resisting fire. It is, in fact, claimed for them that they are practically noncombustible, but nothing short of the most complete demonstration can justify the use of that term in its full literal significance. The sawdust is mixed with an acid before the blocks are moulded. Their cost as now made is moderate compared with other materials of equal utility, and it is thought that the process may be still further economized.

Business and Morals.

The science of homiletics is not alone the work of the moralist. Morals have their place in all walks of life. Business and morals—separate them as some will endeavor to do—have a close affinity for one another. The business that is immoral should certainly have no place in the business of a country, and one may well look askance at the business man who declines the application of moral principles to his methods of transacting business. The old saw, "honesty is the best policy," is an acknowledgment of the place that morals occupy in business. The tenets of this adage are perhaps not the highest, but the exercise of its teachings in business gives force to the conclusion that even in business the right way is the best and only safe way. The business man needs not be constantly assuming the role of the preacher. It is hardly business-like for him to do so, at least in an ostentatious manner. Yet the more closely his methods are shaped on these lines, the more healthful, even from a financial point of view, will be the outcome of his business operations. And the business of a community or a country being simply an aggregation of business units, the better will it be for that community or country when the business units, as one man, exercise in private and public transactions the healthful points of the saying, "honesty is the best policy."

Do it To-Day.

"Do it to-day," says a writer in the Merchant Sentinel. "Meet the day's demands with promptness regardless of their seeming insignificance, for there is no better way to place your name between the lips of undesirable business gossip than by showing this lack of promptness in small matters. This does not alone apply to the strictly financial part of your work. There are thousands of opportunities which present themselves where it is possible for the business man to take advantage of the "stitch in time saves nine" axiom. The "stitch" is but an insignificant factor in the make-up of the long, binding seam, but the neglect of the one broken thread, and procrastination's prevention of its prompt repair, is the ruination of the entire garment. So we find men in their business transactions constantly "putting off" that which should be done to-day until an accumulation of the little neglected details form an aggregation with a crushing weight, when the time comes that circumstances give the mandatory command. It must be done! How often do we hear the merchant who is his own book-keeper lamenting an unpardonable negligence in

himself—in the matter of keeping his accounts entered up to date and his books in a condition of intelligent management. A negligence which he would not tolerate in any one in his employ. So easy is it to thoughtlessly "put off" that which does not make a peremptory demand upon our time, that we are liable to fall into the habit of being behind the details. Better, by far, be ahead of time than constantly lagging. Do everything as it presents itself, for just as sure as you "put off" until to-morrow, your time will be fully filled by the duty of the day and you have lost the only opportunity of life open to the neglected work."

Ups and Downs of Ship-Building.

The ship-building industry has undergone many changes. There was a time when the United States were to the fore in wooden ship-building and it was a goodly day for the lumberman. But England came to the front with her stores of iron and cheap coal; iron superseded wood, and American ship-building declined and our neighbor, with all her enterprise, has never been able to surmount the difficulties of that day. Even in what ship-building is now carried on in the States, in so far as lumber is used, it has been discovered that the woods of Canada are preferred to those of their own country and the United States navy is sending to British Columbia for supplies of Douglas Fir in place of using Oregon pine. Now it is Scotland's turn to suffer reverses in ship-building. A census of the yards between Glasgow and Greenock, which has been taken by the Glasgow Mail, shows that in twenty-seven, with 148 berths, there are only forty-nine vessels in course of construction; and there is no immediate prospect of fresh orders being booked to cope with the stagnation which has set in. Freights are so low and unremunerative that at every port large numbers of vessels are being laid up by their owners. It is estimated that at the present moment there are about 500 steamers and sailing vessels tied up in the harbors of the United Kingdom. The causes of this ebb-tide in our commercial prosperity are manifold and complex. The economist may be able to give a satisfactory account of their origin and to estimate the period of their duration. But whilst he is collating his figures and adjusting his conclusions, the community, and the districts within the ship building area, are face to face with a depression that will work havoc in many homes. The ship-building industry on the Clyde employs, when trade is good, between 50,000 and 60,000 men, and as only about one-third of the building berths are occupied, it follows that fully one-half that number must at present be unemployed. A fair proportion of these have doubtless found work elsewhere, but when a full allowance is made for migration, there must be over 15,000 workmen idle at this moment. Unless provision has been made for a "rainy day," pinching poverty will invade many a household before the winter has well begun.

Utilizing the Waste.

A recent article in the North American Review, under the heading of "Waste Products Made Useful," is full of interest as indicating the utilitarian spirit of the age, which aims to find a useful place for all its products, good, bad and indifferent. The writer is the Right Hon. Lord Playfair, and he has gathered together a mass of information on the lines suggested by the title of his paper. He shows from what material ammonia is produced, and to what a variety of uses old rags are turned. Some of the choicest perfumes come from the ill-smelling fusil oil; and coal gas is made into beautiful dyes. A lumber contemporary, commenting on Mr. Playfair's contribution, asks, "May not a way be devised to turn to use the material about the modern saw mill now going to waste? True, we are adopting methods which limit the amount of material which goes into sawdust and cut down the amount of stuff for the slab pile and the furnaces, but which are still fed so generously that it is apparently more a question of getting rid of the fuel afforded in the present natural processes of manufacture than to merely supply them with food. But even this does not suffice. The burner attached to most mills is kept busy, and in large cities the fuel dealers pay a beggarly sum and cart away fuel in almost unlimited quantities, while all sorts of ingenious methods are

adopted to make ground with what is unmarketable. Half the ground which is made, too, be it said, is not of value, but the worse for having been made a dumping-place. In the salt region the saw-mill men use their refuse to operate salt blocks, and then sell their salt for little or nothing. Despite all of these expedients the problem of getting rid of the refuse of the saw mills is still a considerable one." Some more recent attempts have been made in economizing mill refuse in pulp and paper making, and in other ingenious ways. The Rathbun Company, of Deseronto, Ont., have made, perhaps, as perfect application of this utilitarian doctrine as any concern in the country. Almost nothing in their large wood-working establishment is allowed, it is said, to go to waste; a block of wood the size of a visiting card is turned to account. Sawdust is distilled, producing alcohol for industrial purposes, or combined with clay and converted into terra cotta building material. Even the smoke from the furnaces is subjected to "creative" processes, and valuable commercial products are the result. Yet there is much progress to be made in utilizing the waste of the saw mill, and the men who are giving thought to this question are doing a good work for the lumber industry.

MECHANICAL HINTS.

WE often see engineers when they are about to pack a valve or piston rod, and their packing is a little large, hammer the packing flat, so that it will go into the gland. This is a bad practice, for it breaks the strands of the packing, cuts them in fact, and does not improve it in any way. Instead of this, just take it to the vise and press or squeeze it out as flat as you wish. It will be more even, will pack better and will not have ruined the properties of the packing. Try it once and see how much better it is than hammering. If the jaws of the vice are too short for your work, you can easily arrange some false jaws for this work, either of hard wood or soft metal.

Don't go working around a shafting with anything that can possibly catch in the belts, pulleys or couplings. If you wear an apron, take it off when at this business, as it is a trap, for if the material does not give way you are liable to go sailing around the shaft, not a very pleasant journey to contemplate. Don't wear a jacket or shirt with ragged sleeves, or, in fact, any projections that could tempt the revolving set screws or key way. Of course, no such things should be around a shaft, the day for that is past, but do not be careless even if there are no such traps around the shop. In these days of wooden split pulleys that require no set screws to hold them on the shaft, there is little excuse for key-ways or set-screws that lie in wait for victims. When it is necessary to use set-screws, as in collars, etc., let them be countersunk, so as to present no projecting heads, let key-ways be filled with wooden strips outside of the pulley, and, in fact, take every reasonable precaution for the safety of the men whose duty calls them around the machinery, and on whom depends the successful running of the plant.

There is much unnecessary carelessness in a good many establishments, and much more danger than is necessary to the running of the plant. In one place that the writer knows of they have left the covers off the shaft couplings, leaving the bare bolt heads and nuts exposed to catch any one who comes near. The cover came with the coupling, but was left off from pure neglect; probably because they did not need it for a driving pulley. It must not be thought that all the blame lies with the foreman or proprietor, for such is not the case, and we often find the men leaving, from pure neglect, things undone, which leave a danger for their companions.

For instance, the scaffold may not be put up strongly because the man who put it up thinks it doesn't need any more nails, or his nail box may be empty and he forgets to go up there again and put in more; then somebody falls and the verdict is, "Unavoidable accident; but there is some one to blame nearly every time. Don't let it be you."

T. W. Kerr, Ladner's Landing, B.C. "Enclosed find one dollar, another year's subscription to your valuable paper. I am always pleased to meet it."



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BY
ARTHUR G. MORTIMER

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J. S. ROBERTSON, EDITOR.

CHAT WITH SUBSCRIBERS.

PURSUING the policy that regulates every well-conducted business, we enclose in this month's CANADA LUMBERMAN accounts against the individual subscribers who, in the festivities of a holiday season or the excitement of a municipal election contest, have overlooked the fact that they have not yet remitted the year's subscription to their own trade journal, for the CANADA LUMBERMAN is essentially the lumberman's journal. Our subscription books should show a clean sheet on first of February, and all that is needed to make this a fact is for each individual concerned to attend to this little affair now. The successful business man attends to-day to the affairs of to-day.

FIRST MONTH THOUGHTS.

A CORDIAL and hearty New Year's greeting is extended by the CANADA LUMBERMAN to its many subscribers in all parts of the world.

There's a new foot on the floor, my friend,
And a new face at the door, my friend,
A new face at the door.

writes Tennyson, and in the company of this new friend may all our friends spend many pleasant and prosperous days.

* * * *

This number of the CANADA LUMBERMAN marks the commencement of the fourteenth year of publication, a record that reflects not uncreditably on the industries for which the LUMBERMAN essays to speak, and we may be permitted to add, nor on the journal itself. Horace Greeley once declared: "The success of a newspaper depends largely, very largely, upon the friendliness and co-operation of its constituency." And the LUMBERMAN has reason to believe that its success during these thirteen years, and more particularly, the enlarged success that has come to it, within more recent years, has been due to the cordial and friendly relations that have always existed between the paper and its readers. We shall continue, during the new year, to make the LUMBERMAN of increased value to the lumber trade in the broad field it now occupies, and thus continue to merit, by actual doing, the many kind words that are constantly spoken of it.

The February LUMBERMAN will be the annual statistical number, giving a review of the lumber trade of the past year, and we will appreciate any information that readers can send us concerning this matter from their individual localities.

DANGERS OF LUMBERING.

ONE of the sad aspects of lumbering is the number and distressing nature of the accidents constantly happening to the workmen employed in the manufacture of forest products. Considering the matter from this point of view we have sometimes experienced a feeling of relief when the period had arrived for the closing down of the sawmills of the country. But it is a question whether the mishaps occurring to those engaged at work in the woods are not as many, and just as terrible, as those that happen within the walls of the sawmills. In the winter woodmen are exposed to risks of work and weather that are only met, often, at the cost of bruised bodies, frozen limbs, and too often death itself. One of

the saddest experiences of this winter's work in Canadian woods, comes from the shanties in the eastern lumber regions, and is embodied in a recent newspaper despatch from Ottawa. John Burns was engaged in one of Mr. J. R. Booth's lumber camps on the Black River, some 110 miles from Mackey's station on the C.P.R., and left the camp on December 23rd with the intention of coming home to Ottawa to spend his Christmas holidays. He was met on the road coming down by John Dasser, jogging along. Four days afterwards the unfortunate man was found standing up with his arm around a tree some six miles away from the camp he had left on the 23rd. Mr. Dasser was returning when he espied the unfortunate man, and thinking he was dead, exclaimed, "Why, that's John Burns, and he is dead." "Not dead," replied the unfortunate man, "but nearly dead." He was carefully taken into the conveyance and brought to Mackey's station. On examination it was found that his legs and arms were frozen solid. He had been four days and four nights exposed to the intense frost without any nourishment. He was treated in the Pembroke hospital for a few days, and on Saturday was brought to Ottawa. It is feared the unfortunate man cannot recover.

TWO PICTURES OF THE SAW MILL.

"THE saw mill," it has been remarked, "is a potent agent in civilization. To most localities it has brought everything—people, post office, schools, churches, water, electric light and all the luxuries." This may seem, to the average man, a fanciful picture of anything so material and thoroughly wooden as a saw mill, and yet one needs only to study with some care the early history of most newly-settled countries to learn how nearly the picture approaches the reality.

Little progress is made in any locality until the forest is cleared, in part, at least, of its native product. The agriculturist, who certainly has a right to rank as a pioneer in the opening up of new settlements, is handicapped in his work until the woodman has felled the trees, that the virgin soil may be made to bring forth of its fruits.

This work of clearing the forest is with difficulty performed without the aid of the saw mill, and the saw mill man gravitates to these newer territories as naturally as water courses down a hill. His saw mill may be crude in its construction and methods compared with the more modern mill that will succeed it, but the saw mill is there, bringing with it the good and desirable, and sometimes not a few of the worse and undesirable, things that follow in the train of every agent of civilization.

* * * *

This is one picture. The saw mill, however, effective as it has proven as an agent of progress, would seem to be, in the present day, often too rapacious in its demands and unnecessarily energetic in its methods. The pendulum has swung to the other side, and we are feeling some of the hurtful effects that follow when extremes are reached.

What is meant by this remark has been pointed out in these columns on more than one occasion. In a brief sentence it was expressed in an article in the November LUMBERMAN, when, in speaking of the pine resources of this province, we said that the lumbermen had pierced so nearly through our pine forests with their operations that daylight, so to speak, can be plainly seen through from the other side. A few years ago this statement would have been followed in the minds of lumbermen with a big interrogation mark, but to-day it causes no surprise. Not only is it known that these are the conditions, in a large measure, in our own country, but similar conditions exist in Michigan, and will, apparently, prove the history of other provinces at no far distant date, as they have of other countries in past days.

What is the remedy? Students of forestry have given us more than one panacea for these various ills, and, impracticable as they may be considered sometimes in their conclusions and propositions, lumbermen, nevertheless, owe these men a considerable debt for the thoughtful study they have given the question.

Germany has made forestry almost a science in the exactness of the methods employed in their schools of forestry and in their breadth and comprehensiveness of

treatment. A history of the work in France, India and Great Britain is replete with interest, and in this newer land, where the development has been of slower growth, the labors of Prof. B. E. Fernow, chief of the forestry department of the United States Department of Agriculture, and our own forestry clerk, Mr. R. W. Phipps, of the Ontario Government, are worthy of favorable mention.

The importance of a study of forestry by lumbermen and agriculturists has lately been emphasized by the publication in a leading German agricultural journal of an article showing most conclusively that the famine that has caused so much distress in Russia recently is due to the indiscriminate cutting down of the forests of that country during the past thirty years, drying up the waters in rivers and lakes and impoverishing the land so that it has become unfit for cultivation. The intelligent lumberman will always experience an intelligent interest in the study of forestry.

There are remedies outside of forestry preservation that may be employed to secure to the country the full benefit of its forest wealth. Knowing pretty accurately the remnant of forest that remains, government and lumbermen need to go slowly in the disposition of this wealth in the future. Even in the utilization of the waste products of forest and mill, to which some reference is made in another column, greater frugality has become essential. In the marketing of lumber there is no longer occasion to value the products too cheaply. It is one of the fundamentals of political economy that as supplies run short demand increases and prices advance. This is the lumber situation in Canada just now.

Mr. Little and those who view the situation from his standpoint would not remain satisfied with only an intelligent application of forestry methods, nor with placing a favorable consideration on the timber of the country. They argue with much force that whatever gain is to come from this valuable resource should come entirely to our own people. The timber we cut should be manufactured into lumber in Canadian mills and by Canadian workmen.

EDITORIAL NOTES.

UNITED STATES capitalists continue to acquire important lumber interests in Canada. An American syndicate, has, within the month, completed a deal with Richard Nagle, of Ottawa, Ont., by purchasing 144 miles of timber limits in the Nipissing district for \$150,000.

THE opinion is entertained by some that the entrance of Hon. Mr. Ives, of Quebec, into the Dominion Cabinet means an early reimposition of the log duty. What is altogether more likely is that the relief to Canadian lumber interests, which is sought for in some circles, will come through lumber being placed on the free list by a Cleveland administration. The McKinley bill must go, and so far as lumber is concerned the trend of public opinion in the States is strongly in the direction of free lumber. Leading lumbermen from the Georgian Bay district, who have recently been across the border, are reported to have expressed the opinion that this is the view of those who are believed to know something of coming Democratic legislation.

WHEN in the office of Messrs. Donogh & Oliver a few days ago the LUMBERMAN was shown samples of British Columbia kiln-dried cedar shingles for roofing, the product of two Vancouver mills. The trade in Ontario who have had an opportunity of inspecting these shingles are, we are informed by Mr. Donogh, favorably impressed with their appearance. They are a clear, bright looking shingle, and it is claimed by the makers that they can be laid with 5½ inches exposure instead of 4½. This, if correct, is undoubted economy and materially offsets the extra cost, which is say \$2.80 as against \$2.50 for Ontario shingles. They are wider and thinner than this province's products, and for this reason less likely to warp or split. Red cedar shingles are making their way into Ontario. A week ago a shipment of lumber was received by a local dealer in London, containing 60,000 red cedar shingles, and samples of Douglas Fir dressed into flooring.



M GARLAND, the manufacturer, at Bay City, of saw mill specialties, is reported in a recent interview to have said: "Saginaw Bay is not a thing of the past by any means. We are good for years and years yet. Millions of feet of pine is being rafted from Canada and the Lake Superior region and is being sawed at Saginaw and Bay City. You would be surprised to know how cheaply the logs can be rafted down. The cost will not exceed fifty cents a thousand, except occasionally when the rafts are broken in a gale. This very seldom happens, as the logs are locked in the rafts for keeps. Logs can be rafted cheaper from the north than they can be put in on sleighs or by rail."

* * * *

It is seldom that wood, which was grown more than four thousand years before the Christian era, is used in the construction of a present-day residence, and yet this happened recently in Edinburgh, where a mantel-piece was fashioned from wood said to be six thousand years old, says an English journal. An oak tree was found in a sand pit at Musselburgh, 13 feet below the surface. Professor Geikie, of the geology chair of the University of Edinburgh, after personally examining the strata in which this oak was found, said the tree, which was five feet nine inches in diameter, must be at least six thousand years old, and describes it as a relic of neolithic man. It was in a fine state of preservation, due to the sand, and was easily workable.

* * * *

Mr. J. R. Booth, who has known Ottawa for sixty years, and has a thorough acquaintance with its lumber conditions, has said: "The square lumber trade is fast diminishing. There used to be seven large mills paying out nearly three millions, but the trade has now got down until there are only two concerns. Many will live to see the lumber business as it is now, completely done, and now is the time to take advantage of the opportunity to secure something in its place. There is no reason why this city should not be the foremost city in the Dominion, and the great advantages being derived from electricity allow of manufacturing establishments being built all over the city, their power derived from the great water power. The Edison Electric Company declined to locate at Almonte because there was only one line of railroad, and Peterborough, from its better facilities, secured the industry, and the concern now employs nearly nine hundred hands." Mr. Booth's hope for Ottawa is in the extension of its railway facilities. It is a strong statement to make that Ottawa's days as a lumber centre are numbered, and, coming from Mr. Booth, with his vast lumber interests on the Chaudiere, it is significant.

* * * *

A visitor at the LUMBERMAN office within the past week was Mr. T. Charlton, of the firm of J. & T. Charlton, Tonawanda, N. Y., and Little Current, Ont. Mr. John Charlton, M.P., is the resident partner in Canada. "We have not been handling very much Canadian lumber lately," said Mr. Charlton. "Southern lumber is coming rapidly to the front in the eastern States and in direct competition with Canadian lumber. In some respects I think it is better than Canadian lumber. Do you know there is a difference of about \$2.50 a thousand in lumber sold in Michigan and the same class of lumber in Canada? The higher price is obtained in the States. Of course the one dollar duty makes so much advance, but the extra price comes from the existence of a better market creating a competition among buyers. In fact there is no lumber market in Canada, that would tend to bring buyers together. Prices generally are advancing. I do not anticipate any change in the United States lumber tariff before December, 1893. The new Congress does not meet until then, unless a special session is called for in the spring of the

year and this is not likely. Besides the Democrats are still three short of a majority in the Senate, and the sanction of the Upper House must be obtained to tariff legislation."

* * * *

Mr. R. H. Alexander, manager of the Hastings mill, Vancouver, B.C., is of the opinion that the increase in the lumber tariff of Australia was chiefly for revenue purposes, as Victoria was in a very impoverished condition at the present time, and the Government had decided to put the tariff on lumber, as that had to be imported. It had been said, that it was a retaliatory measure to the McKinley Bill, which put a tax on Australian wool entering the United States. That, he thought, might perhaps have something to do with it, but, in his mind, that point had been brought up by the Government to appeal to the popular sentiment, and to assist in passing the measure. The Melbourne lumber men were also reported to have brought up the proposed changes in order that they might dispose of their large stocks at improved rates, but this, Mr. Alexander thought, was not the cause. If the changes, as now proposed, are passed it will mean a large increase in the price of lumber, and the market will be closed until the present stocks are disposed of. They will then, however, have to purchase from here again, and if a preferential tariff could be secured for Canada it would be of great advantage to the lumbermen of this Province.

* * * *

In last month's LUMBERMAN there were given the opinions of so experienced a lumberman as W. J. Hendry, late manager for Mr. Peter McLaren, touching some important trade matters. Let me tell you what he has to say on other phases of lumber affairs. "The disposal of dry pine, that is the pine killed by forest fires," said Mr. Hendry, "is becoming a live question. With band saws and automatic canters, the logs can be sawed much after the fashion of apple or potato paring. By judicious assortment this kind of product can be profitably marketed, the principal defect being worm-holes, but the bark being loosened by the action of the fire, will reduce this risk from worm-holes considerably, as the worms feed on the stringy pulp attached to the inside lining of the bark, and are there protected from their feathered enemies. The La Platte market in South America would take immense quantities of this lumber, its lightness in weight being particularly adapted to the pack-horse transportation of the Argentine confederation. For this timber the government could fairly throw off the crown dues, as the clearing of much arable land would give ampler returns for this concession." "Have you had any experience with fir timber?" Mr. Hendry was asked. "Yes, there is the Douglas fir of the western slope of the Rockies, sometimes called Kauri pine, which must hereafter attract greater attention in the markets. It attains a great girth; is non-resinous and non-fibrous, in fact it is of bulbous growth. It is free from all the defects of eastern pine and spruce, but lacks their strength. In the sixties a firm in Vancouver presented a flag pole to her Majesty the Queen, 147 feet long, 14 inches calliper at the butt and 10 inches at the top, of Kauri pine, but when it was being placed in position at Kew Gardens it broke. The chief market for this kind of lumber would be the islands of the Pacific, China, Japan, the Phillipine islands, Australia, New Zealand, the western peninsula of India, Mauritius, Ceylon and the Cape." "What could such lumber be used for?" "It is bound to replace sandal wood for tea boxes, and being capable of taking a nice polish, should become fashionable for cottage furniture. Oak is about done, and this Douglas fir will become the leading stave wood for barrel manufacture. It is easy and economical to work and does not contain tannates, like oak, which render packed meats, butter, lard, etc., rancid. In fact pork or beef kept in oak barrels for a lengthened period actually becomes tanned through the action of the tannates contained in the oak staves. The probabilities of the stave trade are simply immense and British Columbia has a mint of wealth in her Kauri pine forests."

The Latour limits, situated on the Upper Ottawa county and Lake Temiscamingue, the property of the Merchant's Bank, have been sold to James Russell, of Renfrew, for \$16,200.

A NEW SAW.

A NEW saw, says a writer in *Hardwood*, requires different treatment from that given an old one. Many new saws are ruined in a short time through ignorance of this fact. If the sawmakers' instructions are carried out, generally, there will be but little trouble. Often only such items as guard against changing pin holes, teeth, etc., are observed, while the others are neglected or overlooked.

First, it is necessary to know that if the old saw is running fairly well, it does not by any means indicate that the mandrel and lead are in the right condition for a new saw. It is thought because a saw is new it will overcome much evil by being nicely fitted, with the maker's guarantee on it. Let me say to mill men that no new saw should be subjected to any abuse, or any chances taken.

If the old saw is properly kept up, and the mandrel in line, the new one, if right, will run without any re adjustment. But how few mills can be found in this condition. Several things are likely to happen to a new saw. Old ones are generally run with too little lead. This may be necessary from their condition, as previously stated. Now, the new saw will not admit this, and will soon be permanently dished, or otherwise injured, with a lot of blue spots on it.

The old saw, lacking this heat to compensate for its lost tension, would not blister, and being partly dished, no immediate change is brought out. The new saw is moved into the log by the guide, and the next filing it is filed into the log. The guide then has to be moved partly back, which is liable to leave the centre nearer the log than the rim. This will cause the saw to heat at the centre, though it runs into the cut at the top. I saw four new saws ruined in two days just this way.

Saw collars do not always keep in the right shape, and should be watched closely. The loose one is not so much affected, while the fast one often has its outer edge more or less cramped over by saws becoming hot and dishing. This may be hardly perceptible, but it has a tendency to allow the saw to incline out of the log.

The eye of all saws should be reamed a trifle on each side, also the lug pin holes. It requires very close observation to detect any fullness around the stem or pin, but it may often be there, nevertheless. There are few new saws properly filed when sent out from the factory, the log saws especially should be filed right, and instructions given not to change the filing. Then, if the saw does not run right, look for the trouble elsewhere.

Be certain that your mandrel is level, with just a trifle lead, with but little end motion, and no side motion in the journals. Also notice that your saw is perfectly flat when tightened on the mandrel. It is not safe to trust to the eye, but use a straightedge.

It does not always happen that a new saw is properly adjusted to speed, which is found out best by actual test. Should the saw be too open for the speed, it is best to have the saw lean a little to the log, that is, slightly concaved; it will not be so liable to dish, but will incline a little into the log, which is all right.

An ounce of prevention making a pound of cure can be no better applied than to a new saw, and this subject is one that should engross the most earnest attention of the owner, superintendent or foreman every time one is brought into the mill, and saw salesmen should be better posted in the matter and be instructed to always call attention to it whenever they are not positively sure the saw is going into the hands of properly educated parties. The observance of these few simple hints may result in avoiding much loss and annoyance.

ANOTHER PROFITABLE DEAL.

THE McArthur Bros., of Toronto, who have been among the most successful lumbermen in Canada, are now operating in Wisconsin. It will be remembered that recently they sold a body of Canadian timber for \$550,000 to Hurst & Fisher, of Michigan, a property that cost them, fifteen years previous, \$75,000. Report tells of a profitable sale they have just made of the Ophir gold mine, near Belleville. Two years ago they paid \$7,500 for it, and they have now sold it to the International Development Co. for \$100,000. Sound common sense and shrewd business for aught, we opine, have played successfully with this prosperous concern.

MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE lumber year in Michigan will come to a close with operators, large and small, carrying a contented countenance. A good year's business is the record of almost everyone; and it is a long day since the lumbermen went into winter quarters with so little stock on the docks to carry over the winter. All are planning for another season's work, which it is anticipated will be of a profitable character. We will be obliged to depend on other sources for our supply of logs and it is expected that Canada will furnish the mills here with a heavy contingent.

DECLINE IN SHIPPING.

A comparative statement of the movement of forest products by water in this district shows the shipments of lumber and shingles for 1892 to have been the lowest in a quarter of a century. These are the figures as compiled by a local authority:

	Lumber.	Shingles.
1868	430,128,000	74,141,105
1869	474,912,425	86,178,500
1870	487,489,268	130,448,490
1871	516,629,474	142,661,500
1872	492,834,900	87,204,500
1873	452,768,562	38,521,500
1874	448,707,652	82,164,500
1875	445,149,155	117,832,500
1876	455,227,252	105,743,000
1877	539,886,074	162,594,250
1878	525,282,098	87,699,380
1879	678,298,866	222,602,731
1880	769,573,000	168,145,400
1881	833,059,939	149,816,000
1882	858,344,000	176,376,500
1883	778,702,067	164,032,000
1884	734,938,460	153,333,000
1885	659,565,000	129,549,005
1886	591,013,100	117,494,000
1887	486,285,000	85,698,000
1888	451,391,000	75,892,000
1889	432,130,000	98,997,000
1890	409,972,000	89,249,000
1891	404,577,000	80,487,000
1892	347,866,091	60,547,000

HITS OF LUMBER.

Hon. R. A. Loveland, of the Saginaw Salt and Lumber Co., will winter in California.

Report has it that G. T. Hurst, of Wyandotte, is negotiating for a large body of Georgian Bay timber.

Alpena has manufactured about 177,000,000 feet of lumber this season; somewhat less than during 1891.

A new lake log towing company is likely to be started here, in which Sibley & Bearinger will hold an important interest.

The Saginaw Lumber Company has been incorporated with \$150,000 capital, to do business in Chicago, by C. J. Beecham, Dwight K. Tripp and Warren S. Morgan.

The owners of the Michigan Lumber Co., whose mills at Vancouver, B. C., were destroyed by fire, are H. R. Morse, Harry Morse and Diana Richardson, of Alpena, Mich.

L. P. Mason, who has carried on extensive operations in this district for many years, has bought and shipped about 50,000 feet the past season. He has a large interest in Oregon.

The mills are pretty well closed down for the season. The Saginaw Lumber and Salt Co. have cut 25,000,000 feet, with 10,000,000 feet cut by other mills. C. Merrill & Co. cut 20,000,000 feet.

The Collin & Parker Lumber Co., of Muskegon, Mich., of which W. W. Collin is president and C. H. Parker, secretary and treasurer, have covered their property here with chattel mortgages aggregating \$158,000. The capital stock of the company, which has been doing an extensive yard business, is \$300,000. President Collin refused to discuss the situation of the company, and it is impossible to learn their standing assets and liabilities. The trouble is said to be a sequence to that of lumberman Crosby of Greenville, who was once interested in the business here.

It is stated that the Sage Mill has closed its career. There has been some talk of its being leased and run another season but it is an old style mill and as extensive repairs and improvements would be necessary it is hardly likely that anything will come out of it. The mill has made Mr. Sage a good pot of money. He began lumbering on Lake Simcoe, Ont., in 1857, building a mill of 10,000,000 capacity and owning a large body of timber. During the war he had some large government contracts and for lumber that cost \$14 from the tree laid down in New York he obtained \$60 and \$75 a thousand. His motto was to buy at the lowest and sell at the highest price. The lumber used in the pontoon bridges by which the army of the Potomac crossed the Rappahannock was cut by Mr. Sage. Owing to his advanced age it is understood that he will retire from the lumber manufacturing business.

SAGINAW, Mich., Dec. 27, 1892.

OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

INTEREST in lumber affairs, just at this season of the year, is of a two-fold character. It is a season of quietude, if for no other reason, because the hum of the saw mill machinery is not to be heard. Mills are closed down. But the activity of the saw is only transferred to that of the woodman's axe, which, if muffled to most ears by virtue of distance, is none the less active. Large work is being done in the woods this winter. It is a season of expectancy, for lumbermen are now, to use a political expression, counting noses; books are being balanced, and the year's accounting of business is being made. A month later I hope to give you some figures regarding the season's work, but it is not anticipating too much to say that it will prove the most satisfactory for some years.

EDWARDS' NEW MILL.

Most of the mills will undergo repairs during the shut-down term, that they may be fully equal to the work that will await them in the spring. Work on Edwards' new mill, on the site for so many years occupied by the McLaren mill, is being pushed forward rapidly. Every part of the structure is to be of the most substantial character. The main building will project somewhat further into the river than did the old building, and for that purpose a large quantity of the cliff is now being removed. The outside dimensions of the main building are 130 x 80 feet. It will be fully equipped throughout with the very latest appliances and improvements in the way of machinery, which will comprise two large band saws, one gang, edgers, hashers and butting saws. There will also be circulars operated at the east side of the main building for cutting dimension timber although it is not expected that the circulars will be in position this winter, and the band saws will handle that class of work in the early part of next season. On the west side will be placed lath and shingle saws. The sawing floor will be slightly raised above the present platform to facilitate the handling of lumber from the saws and in order to reduce the vibration consequent upon the heavy overhead work, the roof will be as light and plain as is consistent with the necessary strength. A large number of hands will be employed, and the capacity is expected to be upwards of 200,000 per day.

THE PARRY SOUND RAILWAY.

Our people are showing an appreciative interest in the building of the Parry Sound Colonization Railway owned by Mr. J. R. Booth, Ottawa's big lumberman. A great meeting was held here on 21st inst., in which the feeling of the citizens was strongly in favor of giving Mr. Booth a bonus. The advantages to the city would be many and in the opinion of our shrewdest business men it would be the means of making Ottawa, in a comparatively short time, a large commercial centre. This railway is the terminal end of the Ottawa, Arnprior & Parry Sound railway. Some twenty-five miles of the road have been completed west of Elmsdale, where the road crosses the North Bar branch of the Grand Trunk, and is now in running order. A large number of men are in the woods getting out next season's supply of logs for the mills in the vicinity of Georgian Bay—one firm alone having 400 men in camp. The lumber manufactured from these logs is now principally barged to the United States market via Georgian Bay, Lake Erie and Tonawanda, but on the completion of the Parry Sound road will seek the all rail route via Ottawa and Albany. Four or five small villages have sprung up along the line and several small saw mills are being built. Large quantities of bark, ties, pulpwood, cordwood and hardwood logs are being hauled in for shipment, there being good sleighing in the locality.

INDIFFERENT LENGTHS.

Mrs. Wood, of the Chaudiere, has signed an agreement to supply ten thousand loads of dry millwood to a number of leading firms in the city.

Mr. Levi Booth, foreman for J. R. Booth, has stated that whilst there would be more men going to the woods this winter than last from the fact that the lumbermen had a good season, still there will not be so many men in the shanties as when square timber was largely got out and there were more mills running.

The Deschenes mills at Aylmer are undergoing vast improvements at present, and ere spring they will be classed among the best on the Ottawa. Messrs. Conroy have sixty men at work on them. A new dam is being built in order to obtain more water power, and the flumes into the mill are being deepened. Among the improvements will be a new band saw. Next season the machinery will run a great deal faster than ever, and the cut is expected to be double that of former years. The firm has more men in the shanties this winter and will get out more logs than usual.

OTTAWA, Can., Dec. 27, 1892.

BRITISH COLUMBIA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

NO inconsiderable amount of lumber has been exported from this province during the month. We are not securing the volume of foreign trade we should like, and which, out of our great resources, we are well able to supply. New developments, however, may be taken as mile posts marking the progress that is surely being made. The charter of a ship for the unusual destination of Cochín, China, augurs hopefully for the extent of the market for Pacific Coast lumber. Increased attention has been given to the United Kingdom trade this year, and as a result more vessels have loaded for this point than in former years. A vessel now loading at Vancouver will make the first trip to Montreal from this port. The British bark Mark Curry, 1,256 tons, is loading lumber for Cork, Ireland. The George Thompson sailed from New Westminster on the 8th inst. for Sydney, N. S. W., with a cargo consisting of 729,792 feet of rough, 26,942 feet of dressed lumber, and 301,000 laths, the value being \$7,844. Other shipments might be recorded, but these will indicate not an inactive month's trade.

Business with Australia is unsatisfactory in more ways than one. Depression still hangs over this part of the world limiting the lumber trade to be done. Unrest and uncertainty exists in regard to proposed changes in the lumber tariff. It is feared that the change will mean doubling the duty, and British Columbia, as was first anticipated, will not be exempt. If the change is as proposed it is thought that Melbourne will be closed for lumber until present stocks are worked off, which will likely be two years.

COAST CHIPS.

Troup Bros.' saw mill, Tranquille, is advertised for sale under a mortgage.

W. J. Snodgrass, of Le Grand, Oregon, contemplates erecting a saw mill at Okanagan Falls, B. C., with a capacity of 25,000 per day.

A logger named Max. Selback, employed at McKim's camp, near Port Neville, who was struck by the limbs of a falling tree about two weeks ago and injured internally, has since died.

The lumber village of Moodyville was pleasantly excited a week ago on the occasion of the marriage of Mr. Jas. White, sawyer in the mill, to Miss Randall, daughter of Mr. S. J. Randall, chief engineer.

A considerable loss is sustained in the destruction by fire of the mills of the Michigan Lumber Company at Vancouver. On Sept. 8th the planing mill and sash factory of this company were burned, and have not been rebuilt since. The fire that occurred this month completely destroyed the saw mill, which was a separate building. The origin of the fire is somewhat mysterious, as the mills have not been operated for seven weeks. The fire broke out about midnight shortly after the watchman had finished a circuit of the works and had gone into the office to eat his lunch. The loss is estimated at \$75,000, which is covered by insurance to the extent of \$32,000. The daily capacity of the mill was 125,000 feet.

NEW WESTMINSTER, B. C., Dec. 22, 1892.

THE TALLEST TREES.

THE Kew Bulletin tells us that "the tallest gum trees and the tallest trees in the world are found in the gullies of Victoria, several trees having been measured that were more than 400 feet high, and the highest was 471 feet." Visitors to the Indo-Colonial Exhibition will remember the size and beauty of other Australian woods, especially of the specimens exhibited in the Queensland court. The finest tree in the world is said to be the Agassiz, one of the Sequoia gigantea, 31 feet in diameter, nearly 300 feet in height, and of remarkable symmetry. At the Paris Exhibition of 1878 there were shown no fewer than 2,530 specimens of wood from India, belonging to 906 species and 432 genera. And a more recent exhibition, that held in Edinburgh in 1884, made us acquainted with the glories of the Japanese woods, and those of the Adaman and Nicobar Islands.

Go to the East India docks and you will see the huge logs of padowk (Pterocarpus Indicus), a tree rivalling mahogany in the depth of the colour of its wood and the density of its texture. Here, too, the stinkwood, the Oreodaphne bullata of South Africa, vies, in spite of its ill-chosen name with the teak (Tectona grandis) of Burmah and Malabar. Or, if you prefer to see growing timber, cross over to Germany and note the massive beach trees of Hesse Nassau, whose branchless stems contain no less than 19,525 cubic feet per hectare, or nearly 8,000 cubic feet of timber per acre.

THE NEWS.

ONTARIO.

—An iron furnace is to be made an addition to the mills of Gillies Bros., Braside.

—The Pembroke Lumber Company's mills are being thoroughly repaired for spring operations.

—The steam barge Seguin, the property of the Parry Sound Lumber Co., is reported to have sunk in Lake Huron.

—Jno. Milne & Sons, Huntsville, write: "Business has been good with us this year, and we will run full blast all winter."

—Cameron & Curry have sold to Edward Smith eight hundred acres of bush land in Rochester township, Essex county, for \$28,000.

—David Miller, Washago, is getting out shingle timber on the Head River, where he has purchased the timber on four hundred acres.

—Geo. Buck & Co., saw and shingle mill, Collingwood, have sold their mill to D. G. Cooper. The Messrs. Buck are at present out of business.

—A three-masted vessel laden with lumber drifted on a rock near Michael's Bay, a few weeks ago, and sunk. All the crew were saved except the female cook.

—Gropp & Ganshaw, formerly with the Beck Mfg. Co., Penetanguishene, have erected and will operate, on their own account, a shingle mill on the Vint Line, Tiny.

—Part of the McClymont mill at New Edinburgh is being fitted up by McLaren's with shingle machinery. It is the intention to manufacture shingles there all winter.

—A local contemporary says that the cut of logs this winter in the Parry Sound district will be exceptionally heavy. Shipping during the season just closed is reported to have been brisk.

—A few weeks ago Michael Manigan, of the Deseronto works, Deseronto, with his gang of men, unloaded from cars, placed on rail and stowed on the steamer Reliance 74,174 feet of lumber in one hour and eight minutes.

—Rumor has it that the old established firm of McLaren & Company, Ottawa, lumber manufacturers, is on the eve of transferring its saw mills, timber limits and interests on the Du Lievre and its many tributaries to an American syndicate.

—The MacCormack estate of Lemieux, near Casselman, was sold last week by private sale to F. McCaffery, of Nicolet, Que., for 35 cents on the dollar. W. N. Barry, of Chesterville, is putting machinery in the mill, and preparing to operate it next spring.

Information has been received from Cleveland, Ohio, that Mr. John Lumsden, son of Mr. Alex. Lumsden, lumber merchant, of New Edinburgh, has been successful in his venture regarding the formation of a company to manufacture the patented machine drill which he invented some time ago, and that there is every prospect of a large and increasing demand.

—An evidence of the good-will existing between the Pembroke Lumber Company and its employees was illustrated in the social gathering held a fortnight ago, at the close of the work of the past season. Employees to the number of about sixty sat down to an oyster supper provided for them by the directors of the company. The chair was occupied by the president of the company, Thos. Deacon, Q.C., and there were also present Hon. P. White, Messrs. C. Chapman, John Beatty and the manager, Mr. John Bromley. Ample justice was done to the bivalves and accessories, followed by speeches and toasts from employers and employees. The latter were represented by Messrs. R. L. West and Joe White.

—A factory for making excelsior, or wood fibre, is being started in Chatham by the Ontario Excelsior Mfg. Co., prominent members of which are Mr. John Pratt, Messrs. McKough & Trotter, and Mr. George Marris, of Tilbury; Messrs. Pratt and Marris, managers. The company will make coopers' stock, such as headings, hoops, etc., and wood fibre—the latter a staple article used by all large furniture firms and also for packing. Already over \$3,000 has been expended. The two-storey structure erected fronts seventy feet on Colborne street. The main building is of frame and adjoining is a large brick engine house. Mr. Pratt has patented a new knife for slicing the wood. It has forty knives making fifty revolutions per minute, and great things are expected of it.

NEW BRUNSWICK AND NOVA SCOTIA.

—A steam saw mill is being operated at Clarendon, N.B., by John Armstrong.

MANITOBA AND THE NORTH-WEST.

—Leo Gaetz, of Red Deer, N.W.T., has sold his saw and planing mill to Mr. McMurray, from Manitoba, who will place a number of men in the bush to cut logs.

BRITISH COLUMBIA.

Murdock A. Morrison, carpenter and builder, Victoria, has assigned.

The Royal City Planing Mills, at New Westminster, are making frequent shipments of car sill timber to the Crossen car works at Cobourg, Ont.

—Word has been received from the Parker lumber mill at Belfast, that two loggers, Dave Frasier and Hank Downie, had been attacked by Indians with long knives. Downie had his bowels cut out and died. Frasier received dangerous but not fatal wounds on the face and neck.

—A. J. Smith, planing-mill man, Victoria, is in difficulties and has assigned. In 1886 he bought out his partner, Clark, paying him \$6,000 for his interest in the business, and since that time Mr. Smith has appeared lax in looking after his affairs. At any rate, he has made an assignment.

UNITED STATES.

A steamship line is to be put on between Seattle and Honolulu, Sandwich islands, beginning the run on Feb. 1.

—W. H. Greenleaf, the Litchfield lumberman, is credited with the intention of building a shingle mill in the Puget Sound country.

—In a shingle mill at Gray's Harbor, Wash., recently, the entire works were kept running all day on a single cedar stick, which made 188,500 shingles.

—Figuring is being done to change W. & A. McArthur's water mill at Cheboygan, Mich., into a pulp mill; also for building a mill on the lake shore.

—A newspaper report from Rolla, N.D., states that prominent citizens are involved in the prosecutions for fraudulent timber land entries now in progress.

—Not less than 50,000,000 feet of lumber has been shipped out of Duluth Superior this season, far in excess of any previous record, and next year this season's shipments will be doubled.

—Logs to the amount of 18,000,000 feet have been frozen in above the sorting gap of the boom at Marinette, Wis. These will be in readiness to come through for the start of the mills in the spring.

—Francis E. Loud, of Weymouth, Mass., died Dec. 13. He was 77 years old, and for nearly fifty years was engaged in the lumber business with Edwin Pratt, under the firm name of Loud & Pratt.

—M. H. Wheeler, one of the pioneer lumbermen of Neenah, Wis., is to retire from business. He has been in the lumber business in Wisconsin since 1858. He has sold his camp outfit to other parties.

—A saw and grist mill has just been completed on Bartholomew creek, Idaho, the saw mill having a daily capacity of 15,000 feet. It was built by the government for the benefit of the Coeur d'Alene Indians.

—It is estimated that the cut of spruce logs in New England and New York state last year amounted to 1,200,000,000 feet. Of this, one-third, or about 400,000,000 feet, was utilized in the manufacture of wood pulp.

—This beats the big tree stories. L. B. Courtway, near Goldenale, Wash., raised one potato which made a dinner for six persons, and enough of the tuber remained for the supper of eight persons. All ate heartily.

—Abundance of snow is reported in the camps in the Menominee districts of Michigan. Considerable trouble, however, is experienced by there being no frost in the ground or swamps, and the roads have to be broken out and allowed to freeze before it is possible to do very good logging.

—Michigan lumbermen are reported to be buying largely of timber in Northern Wisconsin. Some tracts can be picked up at a low price, considering the demand for lumber and the decreasing supply within a short distance from the mill points. There is a great deal of logging railroad being built in Wisconsin this season in order to reach the outlying timber.

—The figures compiled by the Puget Sound Lumberman on the extent and amount of standing timber in the State of Washington, show the remarkable total of 300,000,000,000 feet, or to be more comprehensible—if it be possible in dealing with such big figures three hundred thousand million feet. In nine of the southern states of this country, in which yellow pine, pitch pine and cypress are grown, the total amount of standing timber is 200,000,000,000 feet. Michigan has only 24,000,000,000 feet of standing timber, according to the report of 1890.

—Nicolai Bros' mill, Westport, near Astoria, Ore., is peculiarly situated. It stands 1,700 feet above the Columbia river, a greater altitude than any other mill on that stream. It is surrounded by larch timber, estimated at 75,000,000 feet. The trees will average four feet in diameter at the base, and 75 feet to the lowest limb. The timber is clear on the outside

and knotty at the heart. The lumber is used for sash, doors, blinds and interior finish. It is straight grained and susceptible of a high polish. The clear stuff sells from \$30 to \$50 a thousand. The lumber is hauled five miles over a road that cost the Nicolai Bros. \$1,000 a mile to build it.

FIRES AND CASUALTIES.

FIRES.

—Robinson & Steen's mill at Revelstoke, B.C., burned. Loss \$10,000; uninsured. A new mill will be built.

—Kennedy Bros' saw mill, near Sundridge, Ont., was destroyed by fire a fortnight ago. Loss, \$3,000; insurance, \$2,000.

—The shingle mill of T. B. Tait, at Burk's Falls, Ont., has been burned. The loss is considerable, the insurance being for a limited amount only. Mr. Tait's camps were fired only a week previous.

The main portion of the planing mill of J. M. Green, St. Thomas, Ont., was destroyed by fire on the 23rd ult. The loss is estimated at \$6,000 on machinery and \$4,000 on stock and building; insured for \$5,000.

—McAdair's camp, of John McQuire's shanty, at Eddy Lake, on Rathbun's limits, 11 miles beyond Mattawa, Ont., was destroyed by fire a fortnight ago. The personal belongings of some thirty-five men, besides sixty pairs of blankets and other supplies belonging to McQuire, went up in smoke.

—Mickle, Dymont & Son's large sawmill, at Barrie, Ont., was totally destroyed by fire on the morning of Dec. 9th. The season's cut of lumber was saved. The general opinion is that incendiarism was the cause of the fire; loss about \$25,000; insured for \$6,300, divided between Royal and Northern.

CASUALTIES.

—A shantyman named Lamoreux was crushed to death while piling logs on the Bonnechere river, Ont.

—Mack Yoe, while running a saw in Dowling & Leighton's factory, Hamilton, Ont., lost part of the thumb and third finger.

—Jarvis Esterbrook, aged 22, was mangled to death in Holaday's saw mill, near Merlin, Ont. He was caught by a belt and carried into a pulley.

—Jas. Gillies, aged 20, employed in Kennedy & Saunders' planing mill, Pt. Arthur, Ont., is reported to have been drowned in the harbor while skating.

—John Brooks, while on a load of lumber taking it to his home, near Huntsville, Ont., was thrown down an embankment ten feet deep, and almost instantly killed.

—Thomas McCreary, teamster at McLaren's mill, Ottawa, Ont., may possibly be compelled to have his foot amputated through a team with a heavy load of lumber passing over it.

—A man named D. Jackes, from near Orillia, while skidding logs at Armstrong's camp, about twelve miles from Sundridge, Ont., had one of his legs crushed and broken by a log.

—Thos. Salmon, of Portage Du Fort, Que., an employee of Bronson & Weston's depot at Big Lake, who was taken sick at camp, died at the Pembroke hospital, to which he had been removed.

—Thomas McCaul, a lumberman employed in Carpenter's camp, near Murillo, Ont., received a terrible gash from a broad-axe in the hands of a fellow workman, in front of whom he was scoring, the whole calf of his leg being laid open by the blow.

—Mr. David McLaren, lumberman, New Edinburgh, Ont., has met with a painful accident. While standing on an arm chair to turn on the electric light, the chair over-balanced and threw him headlong, breaking one of the small bones of the wrist and inflicting severe bruises on the ribs.

—Wm. Gehl, an employee in Vaughan's saw mill, at Pt. Arthur, Ont., fell into a tub of water in the local brewery, where he had gone to return a borrowed chain. After several hours of terrible suffering he died. Deceased was at one time a prominent saw mill owner in Bruce county, but had met with reverses, and accepted the position of sawyer and edger in Pt. Arthur.

—A sad accident occurred at Sheppard & Morse's lumber yard, Ottawa, Ont., Dec. 30, by which Mr. Thomas Hurdman, a young man aged 21, son of M. George Hurdman, was instantly killed, and William Ascher, aged 16, was severely injured. The two young men were checking lumber in a box car for shipment to the United States when the shunting engine, through some mistake, struck the train of loaded box cars heavily, throwing the piled lumber on the young men, by which young Hurdman was instantly killed. The box cars are filled with lumber at each end and the space at the doorway in the middle of the cars is left with enough room for a man to load and unload the lumber. It was in this space the victims were standing when the lumber pitched forward. Both were badly mangled.

TRADE REVIEW.

Office of CANADA LUMBERMAN, December 31, 1892.

THE GENERAL SURVEY.

AS the closing month of the year, December has not been an over active month for present business.

Touching our own province trade has not been very brisk. In western Ontario the volume of business is lighter than in a corresponding period last year.

Local trade within the limits of Toronto continues as slow as ever. Nor is there yet any reason to expect a large revival in the near future.

Of Quebec and New Brunswick trade there is nothing special to note. That the season's shipping is an improvement over the year 1891 is the most encouraging item for comment.

Canadian trade with the United States grows apace and prices are advancing steadily. The revised price list in this issue under date of Toronto will be an indication to LUMBERMAN readers of the advance that has been made in Canadian forest products within a month.

BRITISH COLUMBIA.

Advices from the Pacific Coast indicate that lumber conditions are improving. The South American market, which had been an important export field for B. C. lumber, is recovering slowly from the troubles and internal difficulties that so terribly jeopardized business in that country some time ago.

UNITED STATES.

The one story comes from all the leading lumber markets of the United States of the exceptional smallness of stocks at the close of the year. No where can it be said that stocks of any volume are on hand and this circumstance the gulf existing between supply and demand—is having a favorable influence on prices.

ber and Washington shingles. These are products that are destined to occupy no minor place in the markets of the front in a comparatively short time.

FOREIGN.

A recent review of trade considerations in the Timber Trades Journal, of London, Eng., does not present a very hopeful outlook for business for the new year. Conditions throughout 1892 seem to have been so very unsatisfactory and uncertain, that it is hard to meet anybody "who is sufficiently confident to predict an actual rise in spot goods, and even the most sanguine look only for a steady rate in 1893."

TORONTO, ONT.

Table listing lumber prices in Toronto, Ontario, for December 31, 1892. Includes categories like CAR OR CARGO LOTS, 1 1/4 in. cut up and better, 1 1/2 and 2 dressing and better, etc.

OTTAWA, ONT.

Table listing lumber prices in Ottawa, Ontario, for December 31, 1892. Includes categories like Pine, good sidings, per M feet, lum., Pine, good shingles, etc.

BOSTON, MASS.

BOSTON, Mass., Dec. 31.—Supplies of spruce are difficult to secure, but it is expected as soon as the winter mills start up this obstacle will be removed.

EASTERN PINE—CARGO OR CAR LOAD.

Table listing Eastern Pine prices for cargo or car load. Includes categories like Nos. 1 and 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20.

WESTERN PINE—BY CAR LOAD.

Table listing Western Pine prices by car load. Includes categories like Uppers, 1 in., 1 1/2 and 2 in., 3 and 4 in., etc.

OSWEGO, N.Y.

OSWEGO, N.Y., Dec. 31. For the time of the year trade for the month has been altogether satisfactory.

WHITE PINE.

Table listing White Pine prices. Includes categories like Three uppers, 1 1/2, 1 1/2 and 2 inch, Pickings, etc.

Table listing Siding prices. Includes categories like 1 in siding, cutting up, 1 1/2 in selected, 1 1/2 in dressing, etc.

Table listing 1X12 INCH. prices. Includes categories like 12 and 13 feet, mill run, mill cull-out, 12 and 16 feet, No. 1 and 2, barn boards, etc.

Table listing 1X10 INCH. prices. Includes categories like Mill run, mill cull-out, Dressing and better, Mill run, mill cull-out, etc.

Table listing SHINGLES prices. Includes categories like XXX, 18 in. pine, Clear butts, pine, 18 in., XXX, 16 in. pine, Stock cedars, 5 or 6 in., etc.

BUFFALO AND TONAWANDA, N.Y.

TONAWANDA, N.Y., Dec. 31.—The closing month of the year carries a good business record. Trade has been brisk, and of a character that would encourage the opinion that the year 1893 will be a satisfactory one for lumbermen.

Table listing WHITE PINE prices. Includes categories like Uppers, 1, 1 1/2, 1 1/2 and 2, Shelving, No. 1, 13 in, and up, 1 in., Dressing, 1 1/2 in., etc.

Table listing HOP prices. Includes categories like 1x10 and 12 in. (No 3 out), 1 1/2 and 8 in. (No. 3 out), 1 1/2 and wider, etc.

ALBANY, N.Y.

ALBANY, N.Y., Dec. 31.—Navigation is closed and business is now done by lumbermen from their up-town offices. Car trade is active, and though the cost of transportation by rail over water rates is from 50 to 75 cents, the winter promise of car trade would augur a brisk business for the incoming months of the new year.

Table listing PINE prices. Includes categories like 2 1/2 in. and up, good, 10-in. common, 12-in. dressing and better, etc.

SAGINAW, MICH.

SAGINAW, Mich., Dec. 31.—No complaint can be made of the conditions of trade. The difficulty to be met now is the shortage of stocks. Many firms are entirely sold out, and no one can boast of large stocks on hand.

quiet for the reason that there is little stuff to wholesale. Prices are firm and will likely advance.

FINISHING LUMBER—ROUGH.	
Uppers, 1, 1 1/2 and 1 3/4	45 00
2 in.	48 00
Selects, 1 in.	38 00
1 1/2 and 1 3/4	40 00
7 in.	40 00
SHINGLES.	
Clear, 1/2 in.	24 00
3/4 in.	24 00
Select, 1/2 in.	21 00
3/4 in.	21 00
TIMBER, JOIST AND SCANTLING.	
2x4 to 10x10, 12, 14 and 16 ft.	11 00
18 ft.	13 00
For each additional 2 ft. add \$1, 12 in. plank and timber \$1 extra, extra for sizes above 12 in.	
SHINGLES.	
XXX 18 in. Climax	3 60
XXX Saginaw	3 40
XX Climax	2 25
18 in. 4 in. c. b.	1 00
LATH.	
Lath, No 1, white pine	2 25
Lath, No. 2, W. pine, Norway	1 65

NEW YORK CITY.

NEW YORK, Dec. 31.—No immediate activity prevails in lumber circles. Good hopes, however, with reasonable ground for the hope, are entertained of trade in the new year. White pine is in increasing demand and good orders are being placed. Twelve inch boards are scarce and the price shows an advance over quotations earlier in the season. Some agents claim that \$3 of an advance may be expected in certain grades of pine within the next few months. No inconsiderable export trade is doing with West Indies and South America, and some parcels are going forward to Australia.

WHITE PINE—WESTERN GRADES.	
Uppers, 1 in.	\$44 00
1 1/2, 1 3/4 and 2 in.	46 00
3 and 4 in.	55 00
Selects, 1 in.	40 00
1 in., all wide.	41 00
1 1/2, 1 3/4 and 2 in.	43 00
3 and 4 in.	52 00
Fine common, 1 in.	36 00
1 1/2, 1 3/4 and 2 in.	38 00
3 and 4 in.	46 00
Cutting up, 1 in. No. 1	21 00
No. 2	21 00
Thick, No. 1	29 00
No. 2	24 00
Common, No. 1, 10	22 00
and 12 in.	23 00
No. 2	20 00
No. 3	17 00
Coffin boards	20 00
Boys, in.	\$13 50
Thicker	14 50
Collg. base, fig. No. 1	40 00
No. 2	35 00
No. 3	24 00
Shelving, No. 1	30 00
No. 2	25 00
Making, No. 1	36 00
No. 2	34 00
Level sidg, clear	22 50
No. 1	22 50
No. 2	20 00
No. 3	16 00
Norway, cl and No. 1	23 00
No. 2	20 00
Common	18 00

TRADE NOTES.

Mr. Alonza W. Spooner, known the country over for his copperine specialty, has been admitted a partner of the Queen City Oil Co., Toronto, and will be an active member of that firm. His copperine business at Port Hope runs along just the same, with Mr. Samuel Bennett as manager.

We learn that the order for the entire outfit of shingle machinery for the new mill now being erected by Parkin & Sons, of Lindsay, Ont., to replace the mill destroyed by fire recently, has been secured by F. J. Drake, of Belleville. There is little danger that the Messrs. Parkins will be disappointed in the work that Mr. Drake will do for them. It has been our privilege to examine with considerable care the mill machinery manufactured by Drake. His specialty is shingle machinery, and for years he has brought to bear on his work the strength of a master mechanic's mind, combined with an inventive turn in dealing with machinery, that is constantly adding improvements to the machines that bear his name.

COMING SALES.

At the Russel House, Ottawa, on 12th inst., an important sale of timber limits will be held. See ad.

On Tuesday, 10th inst., Suckling & Co., will offer for sale at their rooms, Toronto, several valuable timber berths situated on the Wahnapiite river. See ad.

An auction sale of a hand saw mill will take place on Thursday, 19th inst., at Perry Station, on the Canada Southern railway. The mill is a No. 2 Waterous. Particulars will be found in our advertising pages.

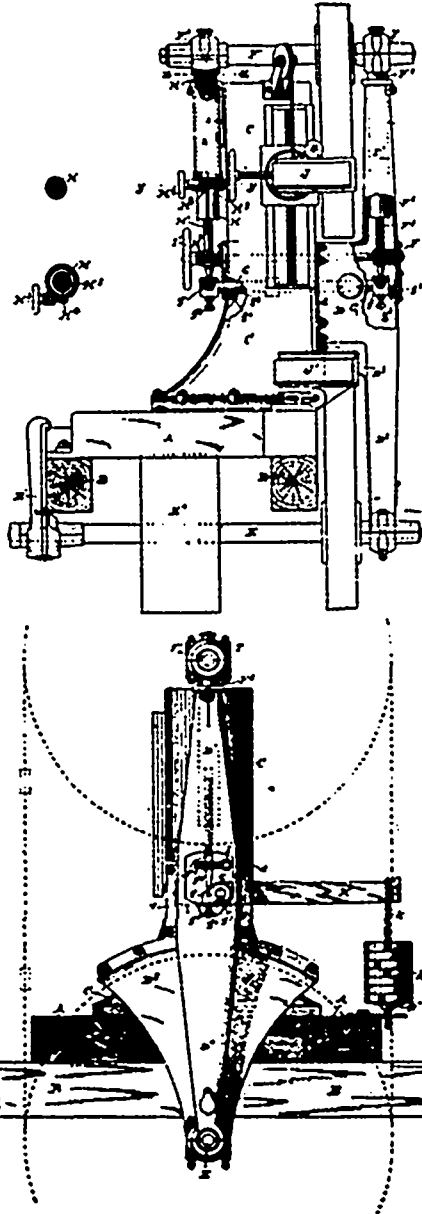
NEW PUBLICATIONS.

One of the most prized monthlies that comes to our table each month is the Arena, of Boston. This journal is noted for the courage and boldness of its monthly programmes, as well as its moral convictions, which has ever been one of the distinctive characters of this review. By publishing each month strong, short stories, biographical sketches, prose etchings and interesting pen pictures it has won its way into the hearts of tens of thousands of people who have been through these features attracted by its pages. The admirable portraits of leading thinkers and the introduction of fine illustrations when the text has called for them, have also contributed to its popularity, but doubtless the fact that it is in perfect touch with the most advanced, progressive and reformative thought of the age and employs the ablest living thinkers to write for its columns also gives it a prestige enjoyed by no other great review.

IMPORTANT DECISION CONCERNING BAND SAWS.

DECEMBER 5th Judge McKenna, of the United States circuit court of the northern district of California, handed down a decision that is of interest to manufacturers of band saw mills. Smith, Myers & Schneier, of Cincinnati, O., brought suit against the Vulcan Iron Works, of San Francisco, for infringement of a patent granted to Samuel B. Smith, December 16, 1890, with a result as stated below. The following is reproduced from the patent office Gazette, of December 19, 1890, and will enable machinists to clearly understand the case:

442,645. BAND SAW MILL. Samuel R. Smith, Cincinnati, Ohio. Filed Sept. 24, 1889. Serial No. 374,950. (No Model.)



CLAIM—1. In a hand saw mill, the combination, with the band wheels and main supporting frame or column, of an integral standard carrying the front bearings of the upper and lower hand wheel shafts, said standard being attached to the front side of said main frame or column between said band wheels, substantially as hereinbefore set forth.

2. The combination, substantially as specified, of the hollow supporting column C, and the hollow casting D D D', centrally secured to said column to furnish rigid supports for the front bearings of the upper and lower hand wheel shafts.

3. A support for the front bearings of the hand wheel shafts, having the flanged horizontal portion D, to be secured to the supporting frame, and the vertical arm D D', cast in one piece with said central portion, the said part D' being bored to receive the adjustable bearing of the upper hand wheel shaft.

4. The combination of the base plate A, cast in a single piece, the column C, having a flanged base to be secured to said base A, the front support for the hand wheel shafts, consisting of the casting D D D', and shield D', together forming a supporting frame for hand saw mills, substantially as hereinbefore set forth.

5. In a hand saw mill, the combination of the supporting frame, the vertically adjustable bearings for the upper hand wheel shaft, mounted in said frame, the transverse shaft G, mounted on knife edge bearings in said frame, and having arms g g' secured upon said shaft to support the bearings of said upper hand wheel shaft, and the weighted lever K, secured upon said shaft between the knife edge bearings to counterpoise the bearings of the upper hand wheel shaft, and provide a sensitive automatic adjustment for the same, whereby the saw is kept at the proper tension, substantially as hereinbefore set forth.

6. The combination, substantially as hereinbefore set forth, of the supporting frame, the transverse shaft G, having knife

edge bearings g' secured in it, the supporting plates g', resting on brackets in said frame, the arms g g', having steps at their outer ends, the hardened steel adjustment screws g', passing through said steps, the vertically adjustable bearings for the upper hand wheel shaft, resting upon said screws, the lever K, secured upon said shaft, and projecting through the frame, the rod k upon the outer end of said lever K, the cap nut k' upon said rod, and the removable weights k', for the purpose specified.

7. In a hand saw mill, the combination of a vertically or axially adjustable support for the rear bearing of the upper hand wheel shaft, the said bearing eccentrically pivoted upon top of said support, and means, such as shown, to rotate and at the same time either elevate or lower said bearings, substantially as and for the purpose set forth.

8. The combination, in a hand saw mill, of the supporting column C, the tubular bearing h, secured to it, the shaft bearing support H, fitted to slide and turn in said bearing, the supporting shaft H', united by screw threaded connection with said trunnion, the upper rear bearings F' for the band wheel shaft, eccentrically secured upon top of said shaft bearing support, and means, such as shown, to rotate said shaft bearing support for the purpose of adjusting the rear bearing of the band wheel shaft independent of the front bearing, substantially as shown and described.

9. The combination, substantially as hereinbefore set forth, of the vertically adjustable supports for the bearings of the upper hand wheel shaft, means, such as shown, to simultaneously adjust said supports to elevate or lower said shaft, the rear bearings F', pivoted eccentrically upon said rear support, the worm wheel H', splined upon the rear support, the worm H'', meshing with said worm wheel, and the hand wheel H' to actuate said worm, whereby the rear support is rotated within its bearing for the purpose set forth.

10. In a hand saw mill, the combination of the column C, brackets projecting from said column, a rock shaft having knife edge bearings resting upon said brackets, a weighted lever, and two arms g g' secured upon said rock shaft, with the band wheel shaft and its boxes and rod supporting the said boxes, said rods resting upon the arms g g' substantially as shown and described.

It is declared by the decision that the hand saw mills made and sold by the Vulcan Iron Works are infringements upon claims 1, 2, 3, 4, 5, 6 and 10 of the letters patent, and that the complainants recover the profits which have accrued from the mills manufactured, and the damages which the complainants have sustained, together with costs of suit. The Hon. E. H. Heacock, master in chancery, is appointed to ascertain these profits and damages. The Vulcan Iron Works are perpetually enjoined from making, using, selling or dealing in any hand saw machinery containing the invention, improvements, or combinations covered by the claims named above.

PERSONAL.

Amos Bowen, lumberman, of Quebec city, is dead.

Jay Gould, the lion of Wall street, New York, who died during the past month, was a holder of considerable southern pine and cypress.

Mr. H. H. Cook, president of the Ontario Lumber Company, with headquarters in Toronto, will, it is said, open a branch office at Tonawanda, N.Y.

The wedding is chronicled of Miss Bella Thackray, daughter of the well-known Ottawa lumber manufacturer, to Mr. H. Huron of the interior department, at the Capital.

Ephraim Conrad, who died at Philadelphia, Pa., last month, was a member of the pioneer lumber firm at Port Washington, that State, starting in business at that point about 30 years ago.

Mr. Clarence Primrose, of Pieton, N. S., who has been called to the Senate, in place of the late Hon. Mr. Grant, is a member of the firm of Primrose Bros., lumber and commission merchant.

The death of General W. W. Crosby, which occurred at La Crosse, Wis., Dec. 14th, removes another old-time lumberman on Black river. He was born in Blandford, Mass., in the year 1818, consequently was 74 years of age.

Ram Chunder Tatt, of Howrah, Bengal, India, is one of many new subscribers whose names have been added to the LUMBERMAN lists during the past few weeks. The LUMBERMAN subscription lists pretty well skirt the globe.

Mr. J. W. Phillips, well known throughout Canada and in Newfoundland, died at his residence, Toronto, on 27th ult. Mr. Phillips had large financial interests in lumbering in Newfoundland. He was at one time an alderman of this city.

There died at Ottawa, a week ago, Mrs. John Gunn, who had been a resident of the Capital for fifty six years. She was wife to John Gunn, who survives her, the oldest lumber cutter in Canada, and has for years been connected with the firm of McLaren & Co.

Our Michigan correspondent notes the fact that the veteran lumber manufacturer, Mr. Sage, of Saginaw, who is about retiring from lumbering, obtained his first knowledge of the business on Lake Simcoe, in this province, thirty-six years ago. At that time he had a mill of 10,000,000 capacity, and was possessed of large holdings of Canadian timber.

WANTED AND FOR SALE

Advertisements will be inserted in this department at the rate of 15 cents per line each insertion.

WE WANT ALL KINDS OF HARDWOODS. Will pay cash. ROBERT THOMSON & CO., 103 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 commission. TUCKER DAVID, lumber commission merchant, 202 Eleventh Ave., N.Y.

WANTED-BY YOUNG MAN-SITUATION as book-keeper, cashier or correspondent; rapid worker; energetic, and thoroughly reliable and experienced; competent to take charge of manufacturer's office. Address: "Accountant," care CANADA LUMBERMAN, Toronto.

PLANING MILL, SHOP AND DRY KILN

FORMERLY OCCUPIED BY GALL LUMBER Company; power supplied. Railway siding into premises.

N. V. KUHLMAN, 107 Niagara St., Toronto.

For Sale

SEMI PORTABLE SAW MILL AND FOUR hundred acres of land, heavily timbered with birch, maple, elm, hemlock and cedar, in one of the best farming sections of the province. A decided bargain.

Apply to JAMES SLOANE, Melancthon P.O., Co. Dufferin.

WANTED FOR CASH

Ash and Soft Elm

MOSTLY ONE-INCH, SOME ONE-AND-A-HALF quarter and one-and-a-half inch, strictly firsts and seconds; also commons. Furthermore, Ash and Oak squares from one-and-a-half to four inches thick.

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

TO EASTERN STATES LUMBERMEN.

AN EXTENSIVE HANDLER OF PULP wood, fir, spruce, canoe birch and poplar, is desirous of finding a market for same in the Eastern States-New York or Boston preferred.

I.C.L., care CANADA LUMBERMAN, Toronto.

CANADA PINE FOR SALE.

FOUR WELL-WATERED BERTHS: VIRGIN timber; all within eighteen miles of the Georgian Bay. Apply

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WANTED FOR CASH.

ASH AND SOFT ELM DIMENSION STOCK cut to exact sizes. Apply for specification, prices, etc., to

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Rochester Bros.

: : COMMISSION AGENTS

Limits bought and sold on commission. Limits traveled 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.

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J. D. SHIER

MANUFACTURER OF

Lumber, Lath & Shingles

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MACHINERY

FOLLOWING LIST OF NEW AND SECOND-hand Boilers, Engines and General Machinery for sale by The Canada Machinery and Supply Co., Brantford, Ont., dealers in new and second-hand machinery and supplies:-

ONE 10 x 28 ALMOST NEW WHEELOCK engine, rated 41 h.p., without condenser.

ONE ALMOST NEW STEEL BOILER, WATEROUS make, 48 in. dia. x 14 ft. long.

ONE BOILER, TO BRICK IN, 44 IN. DIA. x 11 ft. 7 in. long, 41 3/4 in. tubes, in first-class order.

ONE BOILER, TO BRICK IN, 44 IN. DIA. x 11 ft. 8 in. long, 38 3/4 in. tubes, in first-class shape.

THREE 25 H.P. PORTABLE LOCO. FIRE BOX boilers, in good order.

ONE 20 H.P. RETURN TUBULAR BOILER, to brick in.

TWO 6 H.P. FIRE BOX BOILERS FOR cheese factories.

ONE 4 H.P. UPRIGHT BOILER, ALMOST new.

ONE 12 x 16 SLIDE-VALVE ENGINE, BECKETT'S make.

TWO 9 x 12 SLIDE-VALVE ENGINES, Goldie & McCulloch and Morrison makes.

ONE 6 x 10 SLIDE-VALVE ENGINE, REID & Har make.

ONE 0 1/2 x 9 SLIDE-VALVE ENGINE, COPP Bros. & Barry make.

TWO 3 1/2 x 9 SLIDE-VALVE ENGINES, BECKETT'S make.

ONE 6 H.P. ENGINE, UPRIGHT, with 8 H.P. boiler combined on one cast iron base.

ONE 15 H.P. ENGINE, English make.

ONE 14 H.P. LEONARD MAKE ENGINE, nearly new.

ONE 12 H.P. HORIZONTAL PORTABLE ENGINE and boiler on skids; Ames & Co., makers, Oswego, N.Y.

MACHINERY:-

ONE 24-INCH MCGREGOR, GOURLAY & CO. make heavy surface planer, almost new.

TWO 24-INCH CANT, GOURLAY & CO. MAKE light surface planers, in good order.

ONE GOLDIE & McCULLOCH THREE-SIDE moulder.

ONE ONE-SIDE MOULDER.

TWO 14-INCH WHEELS BAND SAWING machines.

ONE ALMOST NEW VERTICAL SPINDLE boring machine, McGregor, Gourlay and Co.'s make.

ONE ALMOST NEW IRON TOP JIG SAW, Cowan and Co., makers.

ONE BLIND SLAT TENONING MACHINE.

ONE GOOD SHAPER.

SIX GOOD SAW TABLES.

ONE NEARLY NEW GOLDIE & McCULLOCH tenoner, with double copet.

ONE WOOD FRAME TENONER IN GOOD shape.

ONE SET TWO HEAD BLOCK SAW MILL, iron.

ONE SELF-ACTING SHINGLE MACHINE, Waterous make, with jointer.

TWO UPRIGHT SWING SHINGLE OR or heading machines, with jointers.

FULL PARTICULARS CHEERFULLY GIVEN upon enquiry at the Canada Machinery and Supply Co., Brantford, Ont.

SALE OF VALUABLE TIMBER LIMITS

-ON-

12th JANUARY, 1893

THERE WILL BE OFFERED FOR SALE by public auction at the Russell House in the City of Ottawa on

Thursday, the Twelfth day of January, 1893

at the hour of half-past two o'clock in the afternoon, the following valuable Timber Licenses and Limits situated in the Province of Quebec.

Parcel 1.-License No. 281, known as River Coulonge Berth A, and License No. 286, known as River Coulonge Berth B, both of the season 1891-92, containing an area of about fifty square miles each. Permanent numbers of above berths being 233 and 234 of 1871-74.

Parcel 2.-Berths Nos. 394 and 395, Black River, containing an area of about fifty square miles each.

Parcel 3.-Berths Nos. 138, 139 and 140, Township of Montcalm, River Rouge; 31 and a quarter square miles, Spruce and Pine.

The terms and conditions of sale will be made known at the time of the sale. For further particulars apply to Messrs. Gormully & Sinclair, Solicitors, Ottawa, or to W. L. Mailer, Esq., Merchants Bank of Canada, at Ottawa.

Sale of Timber Limits

FOR SALE BY PUBLIC AUCTION, AT OUR waterrooms, 64 Wellington street west, Toronto, at two o'clock in the afternoon of

Tuesday, January 10th, 1893

the following timber limits:

Parcel No. 1.-Berth No. 40, north shore Lake Huron, area 36 square miles, well timbered, short haul.

Parcel No. 2.-Berth No. 47, Township of Dryden, area 36 square miles.

Both these berths are on the Wahnapique River, and are very accessible via C.P.R., main line of which crosses Wahnapique River at Wahnapique Station on No. 47.

Terms and conditions made known on day of sale. For other information apply to Harriet Timmins, Mat-tawa.

SUCKLING & CO., Auctioneers.

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ALONG LINE OF GREAT NORTHERN RAILWAY

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Gives measurement of all kinds of Lumber, Logs, Planks, Scantling; cubical contents of square and round timber; hints to lumber dealers; wood measure; speed of circular saws; care of saws; cordwood tables; selling trees; growth of trees; land measure; wages, rent, board, interest, stave and heading bolts, etc. Standard book throughout the United States and Canada. Get the new illustrated edition of 1892. Ask your bookseller for it. Sent post paid for 35 cents.

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or A. G. MORTIMER, Toronto, Can.

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

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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.



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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 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.

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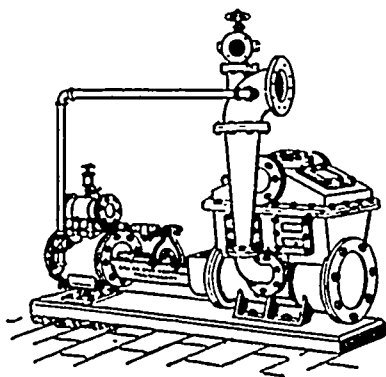
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Representative Lumber Manufacturers and Dealers

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 Hand Mill
Ottawa, Ont.	Ottawa	Bronson & Weston Lumber Co.	2 Saw mills, White and Red Pine, Wholesale	Water, Gang and Hand, 450m
Ottawa, Ont.	Ottawa	OTTAWA LUMBER CO.	Lumber, Pine, Spruce, Hemlock, Wholesale	2 Mills, Water, 1 Hand, 2 Gangs
Ottawa, Ont.	Ottawa	Perley & Pattee	Saw and Lath Mill, Pine, Wholesale	Wat., Gang and Hand, Saw 400m, Lath 70m
Parry Sound, Ont.	Utterson	Conger Lumber Co.	Lumber, Wholesale and Retail.	Water, Gang, Circular, Saw 90m, Shingles 70m, Lath 30m
Parry Sound, Ont.	Parry Sound	Parry Sound Lumber Co.	Saw, Shingle and Lath Mills, Pine, Wholesale	2 Mills, Water, 1 Hand, 2 Gangs and 3 Circulars
Muskoka Mills, Ont.	Penetanguishene	Muskoka Mill and Lumber Co., Head Office, Arcade, 24 King st. w., Toronto	W. Pine Lumber, Lath and Bill Stuff, all lengths	Water, Gang, Circular, Saw 90m, Shingles 70m, Lath 30m
Alexandria, Ont.	Alexandria	McPherson, Schell & Co.	Cheese Box Factory, Pine, Spruce, Cedar	Circular, 3m
Almonte, Ont.	Almonte	Caldwell, A. & Son	Saw mill, Pine, Spruce, Cedar, Hardwoods	Steam, Circular, 40m
Barrie, Ont.	Barrie	Dymont & Mickle	Saw, Shingle and Heading Mill, Pine, Cedar	Steam, Circular, 16m
Harrow Hay, Ont.	Warton	Barrow Bay Lumber Co., Limited	Oak, Oak Railway Ties, Paving Blocks	2 Mills, Water, 1 Hand, 2 Gangs and 3 Circulars
Blind River, Ont.	Blind River	Blind River Lumber Co.	2 Saw, Sh. and Lath Mills, Pine, Hem., Bl. Birch	Steam, Circular, 16m
Hoboyageon, Ont.	Fenelon Falls	Boyd, Mossom & Co.	Lumber, Wholesale and Retail.	2 Mills, Water, 1 Hand, 2 Gangs and 3 Circulars
Bracebridge, Ont.	Bracebridge	DOLLAR, JAMES	Lumber, Shingles, Wholesale	Steam, Circular, 40m
Barrie, Ont.	Barrie	Burton Bros.	Lumber, Wholesale and Retail.	Wauelaushene mill, 40m, 200m; Pt. Severn mill, water, 120m
Wauelaushene, Ont.	Wauelaushene	Georgian Bay Consol. Lumber Co. Hd. office arcade 24 King st. w., Toronto	Pine only	Wauelaushene mill, 40m, 200m; Pt. Severn mill, water, 120m
Calabogie, Ont.	Calabogie	Carswell, Thistle & McKay	Lumber, Wholesale and Retail.	White and Red Pine Lumber, Bill Stuff, Lath and Shingles
Callander, Ont.	Callander, G.T.R.	John B. Smith & Sons	Head Office, Strachan Ave., Toronto	Steam, 2 Circular, 60m
Collins Inlet, Ont.	Collins Inlet	Collins Inlet Lumber Co.	Lumber, Pine, Oak, Ash, Birch, Whol. and Ret.	Steam, Circular, 6m
Comber, Ont.	Comber	Ainslie, 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 Land, Hemlock, Pine, Lumber, Hardwoods	Lum., Tim., Pine, Hem., Hwds. Whol. and Ret.
Hamilton, Ont.	Hamilton	BRADLEY, MORRIS & REID CO.	Saw mill, Pine, Spruce, Hemlock, Hardwoods	Steam, Circular, 25m
Huntsville, Ont.	Huntsville	Heath, Tait and Turnbull	Saw mill, Pine, Spruce, Hardwoods	Steam, Circular, 4m
Hamilton, Ont.	Huntsville and Kairine	Thomson, Robert & Co.	Saw mill, Pine, Hardwoods, Wholesale	Steam, Circular
Keewatin, Ont.	Keewatin	Dick, Banning & Co.	Saw, Lath, Sh. and Pl. Mill, Moving Posts, Pine	Water, Hand and Circular, 100m
Keewatin, Ont.	Keewatin	Keewatin Lumber & Mfg. Co.	Lumber, Wholesale and Retail.	Steam, Circular, 25m
Lakefield, Ont.	Lakefield	Lakefield Lumber Mfg. Co.	Sawmill, Pine, Ash, Birch, Oak	Lumber, Wholesale and Retail.
Little Current, Ont.	Sudbury	Conlin, T. & J.	Exp. and dlr. in Am. Hwds. made to specification	Saw and Plan. Mill, Hemlock, Hardwds., Whol. Cherry, White Ash, Hardwoods, Wholesale
Little Current, Ont.	Sudbury	Howry, J. W. & Sons	Saw and Plan. Mill, Tim. Lands and Logs, Pine	Lumber, Wholesale and Retail.
London, Ont.	London	Gordon, James	Lumber, Wholesale and Retail.	Hardwoods, Shingles, Lath, Handles
Longford Mills, Ont.	Longford	Longford Lumber Co.	Lumber, Wholesale	Steam, Circular, 40m
Mount Forest, Ont.	Mount Forest	Greensides, W. S.	Lumber, Wholesale	Steam, Circular, 20m
Norman, Ont.	Norman	Cameron & Kennedy	Lumber, Wholesale	Com.
Norman, Ont.	Norman	Minnesota & Ontario Lumber Co.	Lumber, Wholesale	2 Mills, Water, 1 Hand, 2 Gangs and 3 Circulars
Louise, Ont.	Elmwood, G.T.R.	S. B. Wilson & Son	Lumber, Wholesale	Com.
Toronto, Ont.	Toronto	Campbell, A. H. & Co.	Lumber, Wholesale	Com.
Toronto, Ont.	Toronto	F. N. Tennant	Lumber, Wholesale	Com.
Toronto, Ont.	Toronto	Donogh & Oliver	Lumber, Wholesale	Com.
Toronto, Ont.	Toronto	Victoria Harbor Lumber Co.	Saw, Shingle and Lath Mills, White Pine, Whol.	Steam and Water, Circular, Portable and Stationary, 100m
Toronto, Ont.	Toronto	W. N. McEachren & Co.	Lumber, Wholesale	Circular, Gang and Hand, 150m
Toronto, Ont.	Toronto	James Tennant & Co.	Lumber, Lath, Shingles, etc., Wholesale	Water, Gang, 150m
Warton, Ont.	Warton	Miller, B. B.	Sawmills, Lumber, Barrel Heads	Steam, Circular and Hand, 50m
Buckingham, Que.	Buckingham	Ross Bros.	2 Sawmills, Pine, Spruce, Hardwoods	Water, Gang, 150m
Chaudiere Mills, Que.	Chaudiere Stn.	Breakay, John	Sawmill, Pine, Spruce, Hardwoods, Wholesale	Steam, Circular and Hand, 60m
Cookshire, Que.	Cookshire	Cookshire Mill Co.	Saw, Shingle, Planing, Stave and Heading Mill	Steam, Circular and Hand, 50m
Montreal, Que.	Montreal	Dufresse, O. Jr. & Frere	Sawmill, Pine, Spruce, Hemlock, Hdwds., Whol.	Steam, Circular, 200m
Montreal, Que.	Montreal	Roberts, Joseph & Fils	Saw and Planing Mills, Sash, Doors and Blinds, Int. Fin, Spruce, Hardwoods, Wholesale	2 Mills, Water, 1 Hand, 2 Gangs, 40m
Montreal, Que.	Montreal	SHEARER & BROWN	2 Sawmills, Oak, Ash, Elm, Pine, Hem., Dim.	Steam, Circular, 20m
Moodyville, N.C.	New Westminster	MOODYVILLE SAWMILL CO.	Saw and Planing Mills, Sash, Doors and Blinds, Fir, Cedar, Spruce, Hardwoods	Steam, Gang and Circular
New Westminster, N.C.	New Westminster	Brunette Sawmill Co.	Sawmill, Pine, Hardwoods	Steam, Circular, 38m
Canterbury, N.H.	Canterbury Stn.	James Morrison & Son	Sawmill, Pine, Hardwoods	Water, Circular and Gang, 200m
Hidgewater, N.S.	Hidgewater	DAVIDSON, E. D. & SONS	Saw, Shgle. and Lath Mills, Pine, Spr., Hwds.	

Lumbermen desirous of being represented in this Directory can obtain information in regard to rates by communicating with the Publisher.

LUMBER TRUCK WHEELS

The Montreal Car Wheel Co.

.... MANUFACTURERS OF

Charcoal Iron Gilled

RAILROAD

WHEELS

OFFICES:

NEW YORK LIFE INSURANCE BUILDING, MONTREAL

WORKS: LACHINE, QUEBEC

We make a specialty of Wheels suitable for the requirements of Lumbermen and Street Car Service, and can supply them Hot, Finished and Balanced.

CORRESPONDENCE SOLICITED

OAK TANNED BELTING

TORONTO
20 FRONT ST EAST
TELEPHONE 475

THE J.C.McLAREN BELTING CO MONTREAL

Auction Sale
OF
BAND SAW MILL

THERE WILL BE OFFERED FOR SALE BY public auction, under a power of sale contained in a certain agreement, on

Thursday, the 19th January, inst.,

at the hour of two o'clock in the afternoon, at Perry Station, on the Canada Southern railway, one No. 2 Waterous Band Mill, four ten-inch saws, and complete fitting-room machinery; three-black heavy carriage; Cunningham steam feed; friction log jack; three-saw gang edger; two-saw trimmer; slab saw; five rolls;

log and lumber car; all driven by a 14 x 18 straight-line engine and a 65 x 14 ft. 9 in. steel boiler. Machinery all new and or ly operated a few months, cutting about 500,000 feet of stock.

The above machinery can be seen at any time on the premises at Perry Station.

Terms of sale: Twenty per cent. cash at time of sale, balance within thirty days.

For further particulars enquire of the undersigned.

Dated at Brantford, Ont., 1st January, 1891.

WILSON & WATTS,
Vendor's Solicitors.

FIRE PROOF
ROOFING
ILLUSTRATED CATALOGUE FREE
METALLIC ROOFING CO
MANUFACTURERS, TORONTO.



DONOGH & OLIVER
WHOLESALE DEALERS IN **LUMBER**

OFFICE
Nos. 213, 214 and 215
Board of Trade Building
Toronto, Ont.

F. E. DIXON & CO.

MANUFACTURERS OF

Star Rivet LEATHER BELTING

70 KING ST. EAST

WRITE FOR DISCOUNTS

Toronto

THOS. WHALEY, President

W. E. HUTCHINSON, Sec.-Treas.

The Whaley Lumber Co., Limited

of HUNTSVILLE, ONT.

Manufacturers of

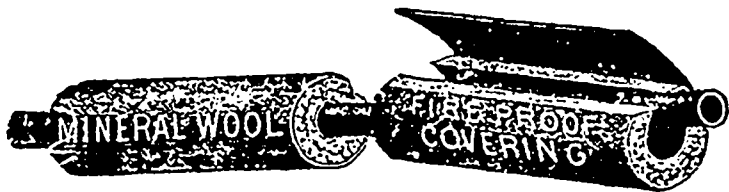
White Pine Lumber, Bill Stuff, Lath and Shingles

Also HARDWOOD LUMBER

All Orders promptly attended to

First-class facilities for Shipping

CORRESPONDENCE SOLICITED



MINERAL WOOL

STEAM PIPE AND BOILER COVERING

Saves enough fuel to pay for itself in one season.

Is Fire-proof, Frost-proof, Vermin-proof and Indestructible

CANADIAN MINERAL WOOL CO., LTD.. 122 BAY ST., TORONTO

THIS IS 1893 ... WHAT CAN WE DO FOR YOU?

OUR STOCK OF

NEW AND SECOND-HAND MACHINERY FOR SAW AND PLANING MILLS

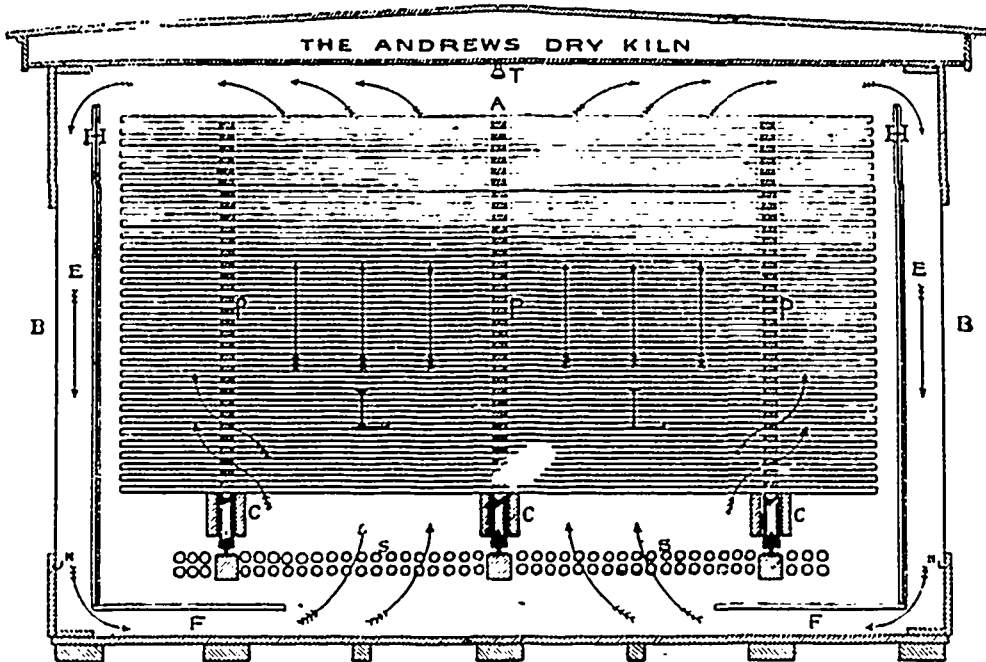
IS BOTH LARGE AND VARIED.

LUMBERMEN who contemplate making changes or additions to their plant before next cutting season should communicate with

H. W. PETRIE, TORONTO, ONT. SEND FOR FREE CATALOGUE

THE ANDREWS DRYER

For Lumber, Lath, Shingles, Staves, etc.



THIS DRYER

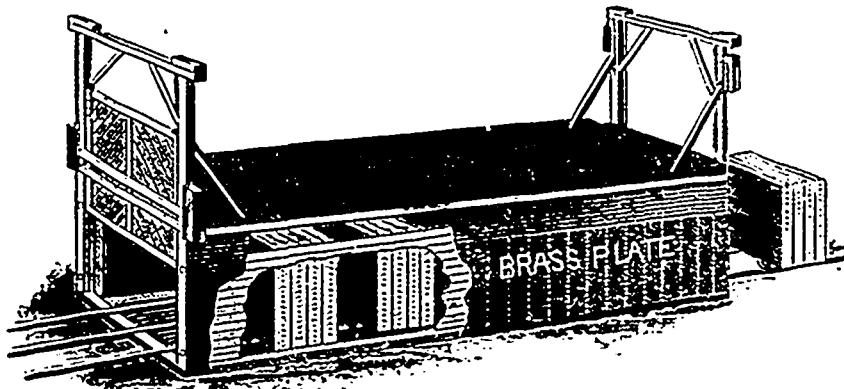
HAS PROVED TO PURCHASERS TO DO WHAT IS GUARANTEED IN SAVING THEM MONEY IN

Freight, Insurance, Time, Interest, Expense, Capital, Yard Room, Labor

There may be persons who do not appreciate the advantages of the artificial drying of lumber. But the shrewd men, in the manufacture of furniture and other woodwork where reputation would be sacrificed by a lack of proper material for good gluing and finishing, recognize a good system of drying as an important element of their success. High scientific authorities and thoroughly practical men are now agreed that the hot-blast and rapid-current systems ARE WASTEFUL, and that steam heat is the only safe means for artificial drying. The mode of applying steam heat most efficiently and economically is therefore now the essential point. The Andrews Dryer accomplishes this result more surely than any other known system.

This system and apparatus covered by letters patent.
 A-Drying-Room. BB-Brass Condensing-Walls. CCC-Lumber Cars. EE-Down Air-Flues. FF-Bottom Air-Flue. III-Inside Walls, protecting meta^s from heat. LL-Lumber on cars. NN-Brass Gutters for receiving condensed moisture. PPP-Sticks between lumber. SS-Double Steam-Coils. T-Automatic Steam Fire-Extinguishers. Arrows show direction of currents of air.

- NO FAN
- NO ENGINE
- NO SMOKE
- NO CHIMNEY
- NO SPECIAL FIREMAN OR FUEL
- NO EXPENSIVE BRICKWORK
- NO RISK OF FIRE
- NO CHECKING OR WARPING
- NO CASE-HARDENING
- ... NO EQUAL ...



Outside View of the Andrews Progressive Kilo, showing Lumber placed crosswise the building, on cars.

"WE PUT GREEN SPRUCE IN DRIPPING WITH WATER, AND IN EIGHTEEN HOURS IT WAS DRYER THAN LUMBER THAT HAD BEEN STUCK UP IN THE YARD ALL SUMMER."

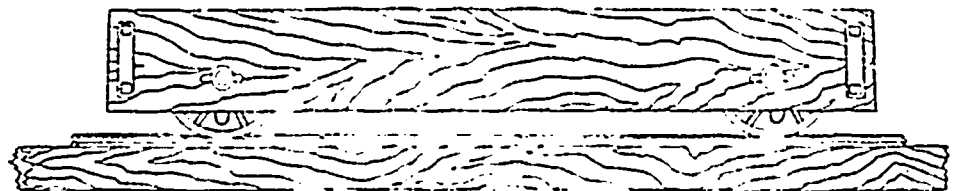
This is the verdict of a Quebec lumber firm, and we can give equal results every time.

The Andrews Lumber Dryer

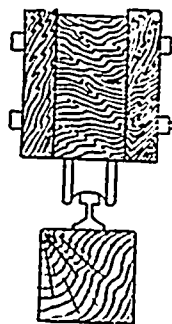
Has been proved to possess the following points of excellence:

- 1st. That its drying is rapid and perfect.
- 2nd. That external and internal checking and discoloration are entirely avoided by this method.
- 3rd. That the drying is done by a CONTINUOUS system and the temperature of the kiln is under absolute control at all times.
- 4th. That our Dryer is free from the varying air currents (always wasteful) incident to all fan and open-draft kilns.
- 5th. That our drying is done by the slow continuous movement of a large body of slightly-moistened air.
- 6th. That our condensing surface is so very large as to be adequate to precipitating the moisture of the saturated air with the least amount of movement.
- 7th. That our piping is tested by high pressure and every outfit is fully guaranteed.
- 8th. That by our improved system of drainage the freezing of pipes becomes impossible.

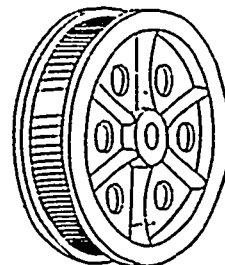
SEND FOR CIRCULARS



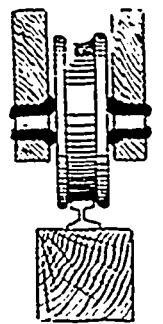
SIDE VIEW OF CAR AND TRACK.



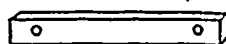
DOUBLE FLANGE WHEEL ON SINGLE TRACK



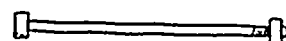
CAR WHEEL, DOUBLE FLANGE



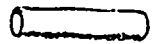
SECTION OF CAR TRUCK, SHOWING AXLE BOX.



STRAP WASHER



BOLT



AXLE

DOMINION DRY KILN COMPANY

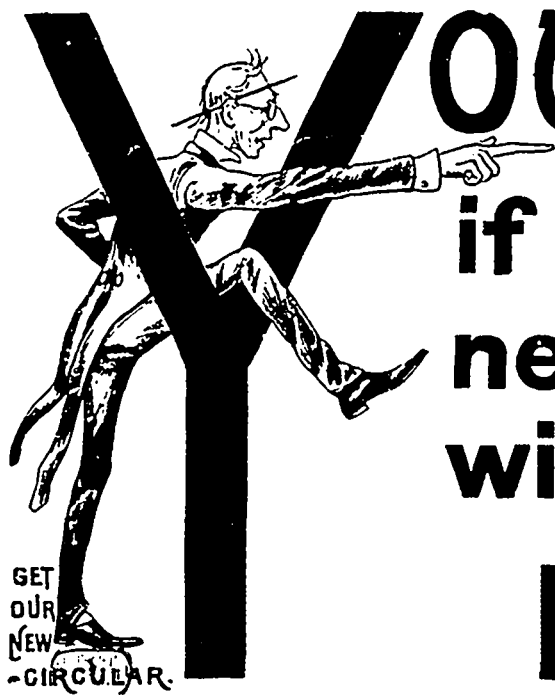
CANADA LIFE BUILDING : : : TORONTO, ONT.

W E HAVE WASTED
E ARE WASTING
E WILL WASTE..

O UR GRAND
H ERITAGE
O F PINE..

U NLESS THE BAND
S UPPLANTS
T HE CIRCULAR..

A 14-GAUGE BAND SAW SAVES OUT OF AN 8-GAUGE
CIRCULAR'S SAWDUST PILE 5 ONE-INCH BOARDS ON
EVERY 32 CUT.



YOU'll Regret
if you start
next season
without a

BAND MILL

EVERY YEAR'S STOCK YOU WASTE, REDUCES THE PROFIT
FROM YOUR TIMBER LIMIT BOUGHT AT SUCH A HIGH PRICE

THE CHANGE TO THE
BAND IS INEVITABLE

Make it now

ORDER YOUR MILL EARLY BEFORE THE RUSH AND AVOID DISAPPOINTMENT.

HAVING DECIDED TO CHANGE, INVESTIGATE THE MERITS OF OUR BAND MILL.

"NONE SURPASS THE WATEROUS"

IN QUANTITY AND QUALITY OF CUT

RIGIDITY AND STEADINESS UNDER MOTION

TRUE WHEELS

SENSITIVE TENSION

FAST FEED

NO BREAKAGE OF SAWS

FEWER DETENTIONS FOR ADJUSTMENT OR REPAIRS

NOR IN OUR FILING ROOM TOOLS

SEND FOR NEW BAND MILL CIRCULAR AND 5/32 BOOKLET

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Brantford,
Canada.

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HALF-TONE CUTS made direct from photos our specialty.

LINE CUTS for Newspaper and other advertising purposes.

Send for Catalogue and Prices.

MOORE & ALEXANDER, Props.
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NEW & 2ND ILLUSTRATED CATALOGUE FREE H.W. PETRIE TORONTO, CANADA

USE SPOONERS HONOR BRIGHT COPPERINE BEST MACHINERY BOX-METAL EXTANT. CANADIAN MADE & STUMPS THE WORLD. QUALITIES TO DO ALL YOUR WORK. HARDWARES ALL SELL IT. EASY AS AN OLD SHOE. COOL BEARINGS NO HOT BOXES. GENUINE SAFEGUARD FOR ENGINEERS. HIGH CLASS METAL

Patented Solid Web Wood Split Pulley

Alexander Thomson, Bamboo and Art Furniture Manufacturer, Hamilton, writes:

"I find your Wood Split Pulleys give entire satisfaction. They do not slip, and are very handy to put on. I have had from twenty to twenty-five years' experience in pulleys, and I find none so satisfactory as yours, and am sure they will meet with success."

The CANT BROS. CO., Ltd.

Wood-working Machinery of all kinds

GALT, ONT., CANADA

Napanee Cement Works, Ltd.

NAPANEE MILLS, ONT.

MANUFACTURERS OF

STAR BRAND OF PORTLAND CEMENT

NONE BETTER; AND OF

NAPANEE CEMENT

PARTICULARLY ADAPTED FOR DAMS, SMOKE-STACKS, FOUNDATIONS, CULVERTS, CISTERNS, CELLARS, ETC. LARGELY BEING USED IN THE ST. LAWRENCE RIVER CANAL. ENDORSED BY LEADING RAILWAYS AND CONTRACTORS.

F. REDDAWAY & CO. MANUFACTURERS OF

BREAKING STRAIN 6 IN. "CAMEL" HAIR BELT ----- 14,181 lbs.
" " 6 IN. ENGLISH OAK DOUBLE LEATHER ----- 7,522 "

ALSO MANUFACTURERS OF
LINEN FIRE HOSE
MANCHESTER, ENGLAND. 57 ST. FRAS. XAVIER ST. MONTREAL

ROBIN & SADLER MANUFACTURERS OF

Leather Belting

SPECIALTIES
DYNAMO BELTS WATERPROOF BELTING

MONTREAL TORONTO
2518 & 2520 NOTRE DAME ST. 129 BAY ST.

Send for sample of our new SAWMILL BELT

H. G. ROSS & CO.

Real Estate, Fire and Life Insurance

SHIPPING AND GENERAL COMMISSION AGENTS

... TIMBER LIMITS AND FARMING LANDS A SPECIALTY. ...

A.H.C. CODE CANAL ADDRESS: "ROSS" NEW WESTMINSTER, B.C.

CORRESPONDENCE SOLICITED ... Box 273

A PARTNER'S DEATH

In every partnership there are two factors of great importance—the managing brain and the capital employed—and if death removes either the business must suffer. It often happens that the brains belong to one man and the capital to another. If the manager dies the capital is worth less than before, and if the capitalist dies and his capital is withdrawn, the manager is crippled. It is clear that each has an insurable interest in the life of the other, because the profits of each depend in part upon the life of both. The firm should, therefore, insure for the benefit of the business on either the ten-twenty plan or the modified natural premium life of the Manufacturers'. These are the plans best adapted to suit the requirements of such cases. Let this statement be tested by comparison.

The Manufacturers' Life Ins. Co.

Corner Yonge and Colborne Sts., Toronto

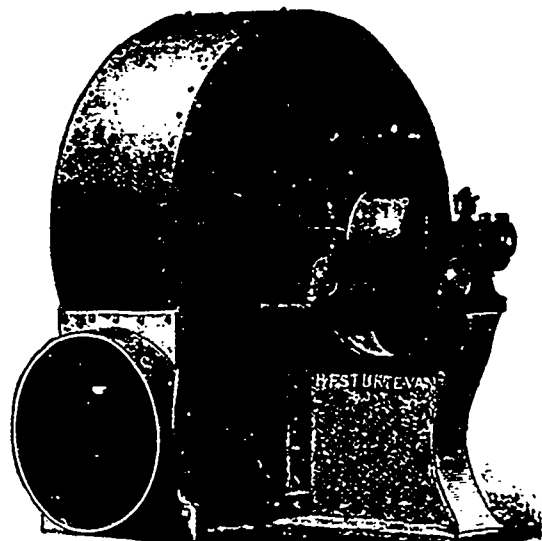
THE STURTEVANT STEEL PLATE Planing Mill Exhausters

PROGRESSIVE LUMBER DRY KILNS Heating and Ventilating Apparatus for all classes of Buildings

B. F. STURTEVANT CO., Boston, Mass., U.S.A.

A. R. WILLIAMS, GENERAL AGENT FOR THE DOMINION + TORONTO AND MONTREAL

BRANCHES: - - 91 LIBERTY STREET, NEW YORK; 16 SOUTH CANAL STREET, CHICAGO; 135 NORTH THIRD STREET, PHILADELPHIA



CANADIAN
LUMBERMAN'S DIRECTORY
AND INDEX TO THE
Planing Mills and Sash and Door Factories



Preliminary Announcement:

Prompted by the many enquiries constantly being received from the United States, Europe and our own country for a Directory of the Lumbermen and Wood-Workers of the Dominion, we have decided to undertake the compilation of the same at once. The labor entailed in securing from each firm throughout the provinces the information necessary to make such a publication invaluable is very large, and we therefore hope that promptness will characterize replies to questions which will be asked through circulars to be issued to the trades interested at an early date.

It will be the aim of the publisher to compile not only a reliable and complete reference book, containing the name and address, shipping facilities and class of manufacture of each lumberman and wood-worker, but also to impart other information valuable alike to the manufacturer and dealer.

It is premature to announce the exact date of issue of this Directory, as much will depend upon the promptness of those interested in supplying the information asked, but the work will be pushed forward as expeditiously as possible, and we hope to announce its issue not later than September 1st, 1893.

The next issue of the LUMBERMAN will contain our prospectus, and in the meantime we hope to gather much valuable information.

All communications should be addressed

DIRECTORY DEPARTMENT,

CANADA LUMBERMAN,

TORONTO, ONT.

GALT MACHINE KNIFE WORKS



PETER HAY, GALT, ONT.

J. W. MAITLAND—H. RIXON J. G. AINSLIE—W. STODART

MAITLAND, RIXON & CO.

OWEN SOUND, ONT.

Saw Millers and Lumber Dealers

All kinds of Building Material kept in stock

WE MAKE A ... SPECIALTY OF LONG BILL STUFF IN ROCK ELM, PINE, CEDAR AND HEMLOCK

Quotations furnished on application

The Georgian Bay

A. M. DODGE, President. W. J. SHEPPARD, Superintendent.
JAS. SCOTT, Vice-President. C. P. STOCKING, Treasurer.

Consolidated Lumber Co.

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PINE LUMBER, BILL STUFF, SHINGLES AND LATH

Shipments by Vessel or Rail

Address WAUBAUSHENE, Ont. or 24 King St. West, TORONTO

The Rathbun Company

DESERONTO, ONT.

MANUFACTURERS OF

Doors, Sash, Blinds, Stairs

And all kinds of House-Finishing Materials

CEDAR OIL for Purgin Boilers

CORRESPONDENCE SOLICITED

John Bertram & Sons

CANADA TOOL WORKS
DUNDAS, ONTARIO
MANUFACTURERS OF
WOOD-WORKING MACHINERY
MACHINE TOOLS, ETC.
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MANUFACTURERS OF
LEATHER BELTING :::
AND LACE LEATHER
Danville, Que.

GEO. GORMACK

Wholesale and Retail Dealer in
ALL KINDS OF LUMBER
LUMBER SHIPPED TO ALL PARTS BY RAIL OR VESSEL
WHITBY, ONTARIO

IMPROVED IRON FRAME

LOG JACK

WITH ENDLESS CHAIN

DRIVEN BY INTERNAL FRICTION

MADE IN
3 SIZES

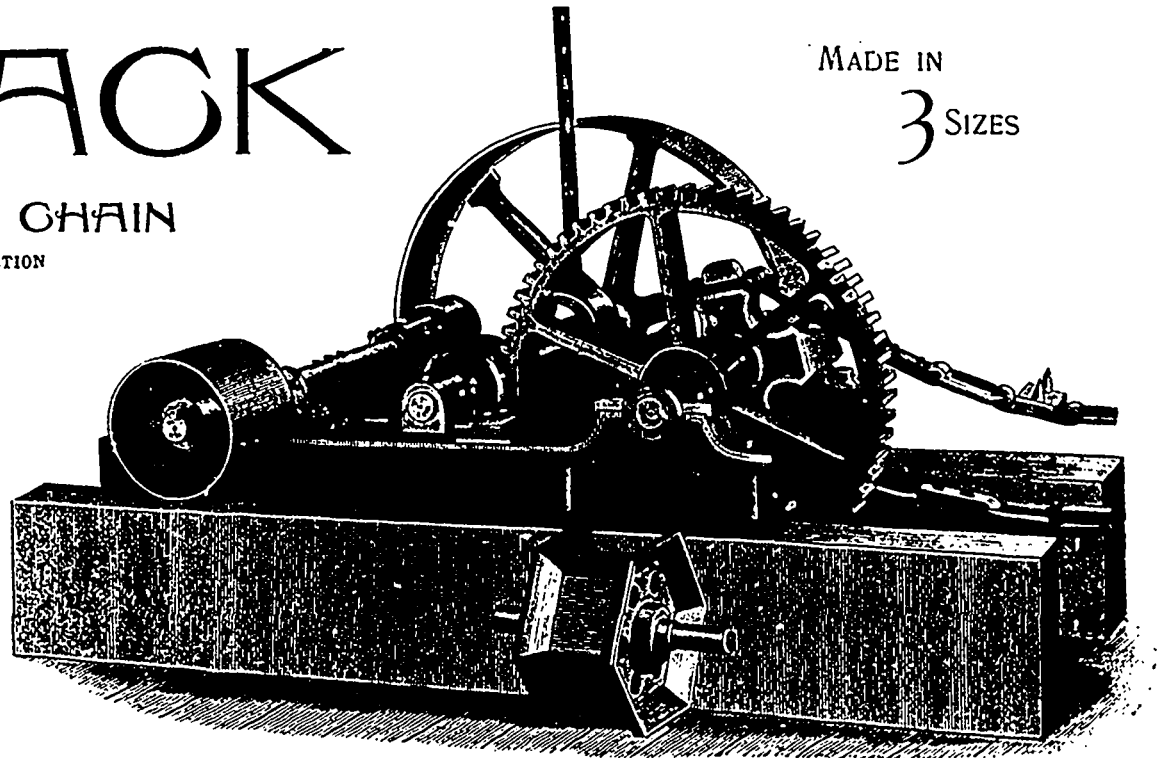
THE most powerful and smoothest-running Jack Works made.

Easy to place in mill.

Can be placed on mill floor or on timbers underneath the floor.

No crossed belt is required.

Can be stopped or started instantly without a jar.



F. J. DRAKE

BELLEVILLE, ONT.

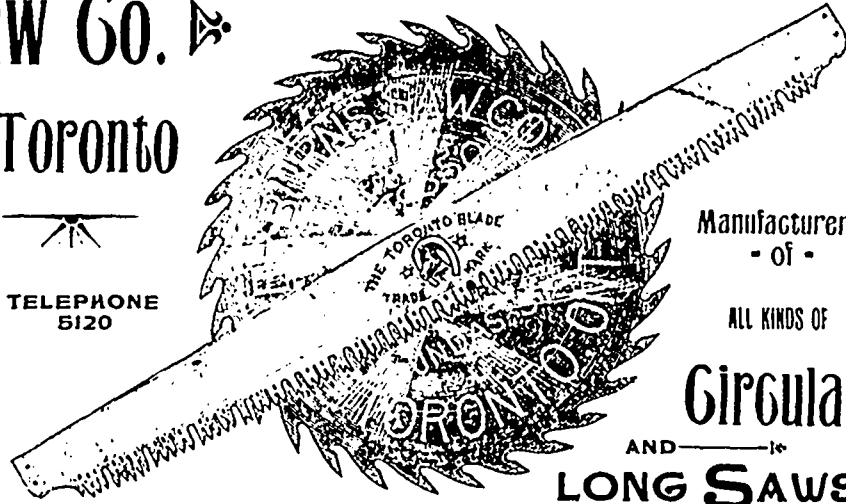
E. R. Burns Saw Co. ✦

WORKS AT
.. PARKDALE



Toronto

TELEPHONE 5120



Manufacturers
- of -

ALL KINDS OF

Circular
AND
LONG SAWS



THE DOMINION LEATHER BOARD GO., MONTREAL

MANUFACTURERS OF

ASBESTOS MILL BOARD

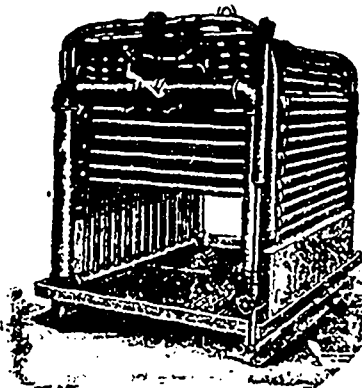
FOR STEAM PACKING

FRICTION PULLEY BOARD

THE BEST FRICTION KNOWN

Proprietors Sault au Recollet Paper Mills, making ROOFING, SHEATHING, FLOORING AND LINING FELT

THE ROBERTS SAFETY WATER TUBE MARINE BOILER



For Yachts, Launches
and other Steamers

THE ORIGINAL FIXED WATER LINE PIPE BOILER

NEARLY 400 IN USE

SAFE, RELIABLE, SIMPLE, LIGHT WEIGHT,
ECONOMICAL, NO SHOP REPAIRS, SMALL SPACE

Send for ILLUSTRATED PAMPHLET and other
reading matter, with hundreds of enthusiastic
letters from purchasers and engineers.

DOTY ENGINE WORKS CO.

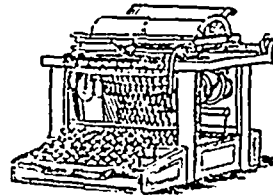
MANUFACTURERS

TORONTO, ONT.

Marine Engines, High Pressure, Compound and Triple Expansion
Armington & Sims High Speed Engines for Electrical Work

Marine, Stationary and Portable Boilers Hoisting and Vertical Engines, all sizes

1892 MODEL Remington Typewriter



Unapproached for Excellence of Design and Con-
struction, Quality of Work, Simplicity
and Durability.

Send for Circular.

GEORGE BENGOUGH,

Tel. 1207 10-12 Adelaide St. East

22 MACHINES FOR RENTAL and
COPYING DONE OPERATORS SUPPLIED

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SPACKMAN & CO., 164 St James St

TORONTO AGENCY OF The Rathbun Co.

Are open to Purchase

Oak, Ash, Birch
Basswood
and Good Pine Lumber
Gedar and Pine Shingles

Manufacturers having such for sale are invited to com-
municate with

T. W. WALKER, Agent
TORONTO

Office Cor. Spadina Ave. and Front Street

Use McCOLL'S "LARDINE" AND HIGH GRADE OTHER MACHINE OILS

Our CYLINDER OIL IS IN USE IN ALL THE BIG MILLS

McCOLL BROS. & CO., - - TORONTO

R. H. SMITH CO., LIMITED

ST. CATHARINES, ONT.

Sole Manufacturers

... OF ...

The "SIMONDS"
CIRCULAR SAWS

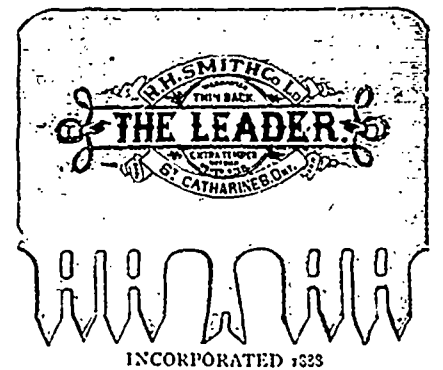
The "LEADER"
CROSS-CUT SAWS

THE BEST SAWS IN THE WORLD

None Genuine without our Trade Mark

OUR HAND SAWS cannot be excelled for variety,
quality, style or finish REPAIRING PROMPTLY ATTENDED TO

. . . Price List and Discounts on application . . .



We Manufacture SAWS of every description. Also CUTTING-BOX KNIVES