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THE CANADA LUMBERMAN

WOOD WORKERS' MANUFACTURERS' AND MILLERS' GAZETTE

VOLUME XIV.
NUMBER 11.

TORONTO, ONT., NOVEMBER, 1893

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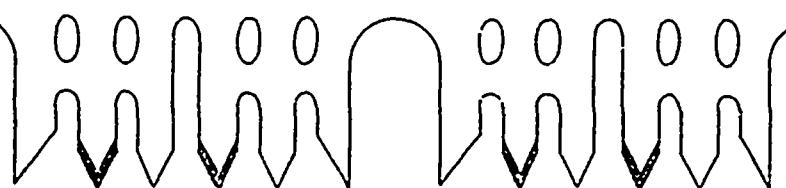
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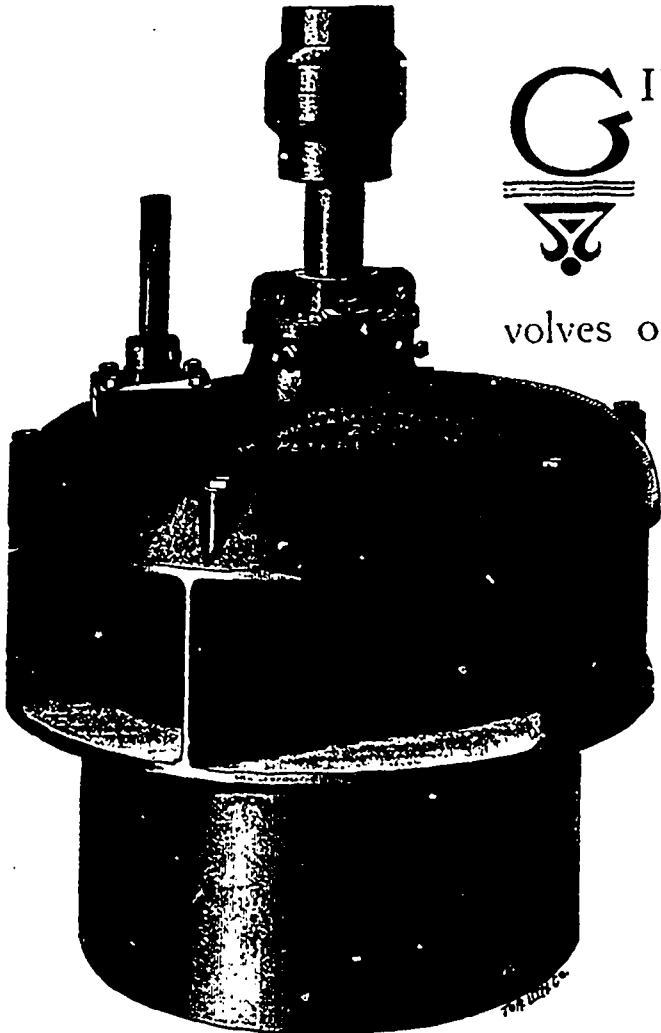


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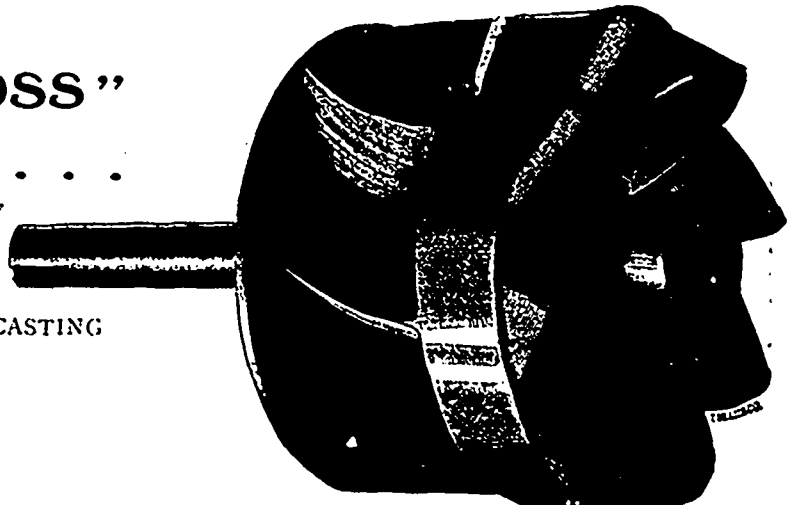
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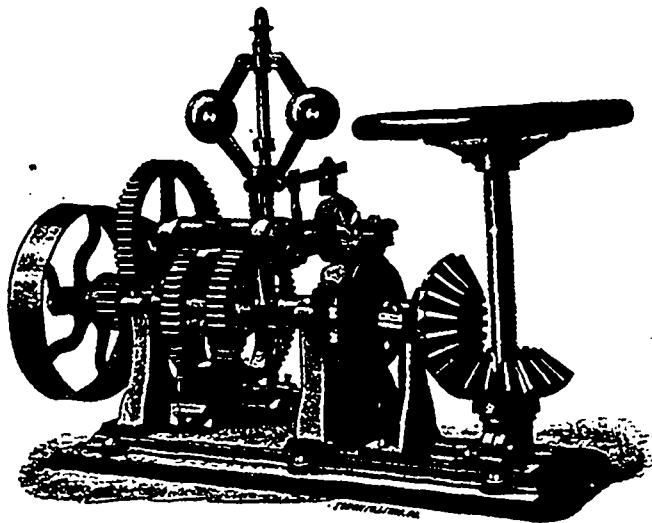
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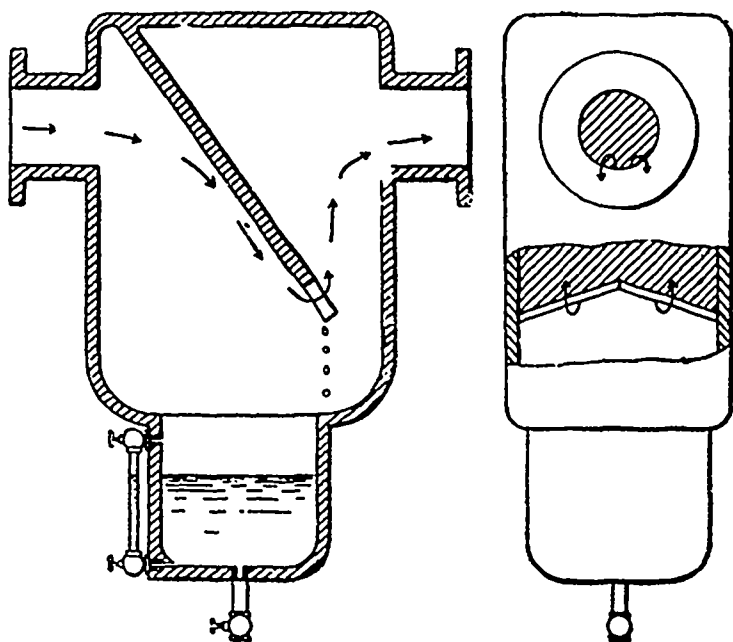
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ON SEPARATORS.

THIS is a day for watching the small economies of business. The time was, as the Locomotive says, when manufacturers paid comparatively little attention to the smaller losses that occurred in their mills and factories. Competition was not severe, and it was not considered necessary to keep a watchful eye on the innumerable small leaks through which profits escaped. Competition in all lines of manufacturing has increased tremendously, and the narrow margins on which business must be done make the most trifling losses worthy of serious consideration. This studied economy shows itself in the use of steam; and we find mills fitted out with triple-expansion engines and running at pressures that call for the utmost skill in designing boilers that shall carry these pressures safely. The drips from the pipes are carefully collected and returned to the boiler-house, and heat that otherwise would be wasted is utilized for heating feed-water. As the utilization of waste is increasingly realized, new problems are continually arising and forcing themselves on our attention. Thus, in saving the heat from exhaust steam, it was soon found that, when open heaters are used, the oil particles that are carried along from the engine pass into the feed-water and give trouble in the boilers.

The action of oily or greasy matter in boilers will be understood from the following extract from the Locomotive for March, 1885: "The action of grease in a boiler is peculiar. It does not dissolve in the water, nor does it entirely decompose. Neither does it remain on top of the water; but it seems to form itself into what may be described as 'slugs,' which at first seem to be slightly lighter than the water, of just such a density that the circulation of the water carries them about at will. After a short season of boiling, these 'slugs' or suspended drops seem to acquire a certain degree of stickiness, so that when they come in contact with the shell and flues of the boiler, they begin to adhere thereto. Then under the action of heat they begin the process of 'varnishing' the interior of the boiler. The thinnest possible coating of this varnish is sufficient to bring about overheating of the plates. We emphasize the point that it is not necessary to have a coating of grease of any appreciable thickness to cause overheating and bagging of plates and leakage at seams. The time when damage is most likely to occur is after the fires are banked; for then, the formation of steam being checked, the circulation of water stops, and the grease has a chance to settle on the bottom of the boiler and prevent the contact of water with the fire-sheets. Under these circumstances a very low degree of heat in the furnace is sufficient to overheat the plates to such an extent that bulging is very likely to occur." Of course there is greater likelihood of trouble with some kinds of oil than with others, animal oils being most troublesome, and mineral oils least so. Various means have been devised for preventing the harmful effect of oil in boilers, and one of the most

common of these is the separator. The object of this appliance is to free the steam of such particles of water, oil or dirt as it may hold in suspension. When the object is to remove entrained water, the separator is placed in the steam-main, near the engine; and when it is used to remove oil, it is placed in the exhaust-pipe between the engine and the heater. There is a great number of makes of separators on the market, but all of them depend for their action on the great mobility of steam and the inertia of solid or liquid particles. For convenience we may divide them into two classes, which we may call momentum separators and centrifugal separators, respectively. Our illustrations of these two types are to be considered merely as diagrams illustrating the principles of the separator, and in no sense as pictures of appliances that are in actual use. Fig. 1 shows the principle on which the momentum separator is based. Steam enters it at one nozzle and leaves it by the other, its general course being indicated by the arrows. Directly across the course of the steam there is a plate of iron called the baffle-plate. This baffle-plate causes the steam to deflect downward, but the oil particles, on account of



FIGS. 1 AND 2.—DIAGRAMMATIC VIEWS OF THE MOMENTUM SEPARATOR.

their momentum, impinge against the plate and collect in drops until they run down and fall into the receiver below. Usually the baffle-plate is not cut square across at the bottom, but runs obliquely across the casing, as shown in Fig. 2, so as to lead the oil-drops to one side and prevent them from falling directly through the main current of steam. The reservoir or catch-basin is provided with a gage-glass to indicate the height of the oil and water in it, and also with a cock for drawing them off. Some provision should also be made for removing the particles of mud and grit that are liable to collect. Fig. 3 shows a centrifugal separator in which the steam is made to circulate spirally around a central core, the centrifugal action so developed throwing the particles of oil and water to the sides of the casing, where they collect and flow down into the catch-basin below, a glass-gage and a cock being provided, as before. The principles illustrated in these diagrams are applied in practice in a great variety of ways.

AN INDIA RUBBER SOLVENT.

THE demand for both gutta-percha and india rubber is extensive and increasing yearly, owing in a large measure to developments in telegraphy and electrical engineering, besides many uses which are being found for them in minor industries. The present supply of gutta-percha is not sufficient to meet the demand, and it is believed that unless steps are soon taken to preserve the sources of supply there will be an actual dearth of this commodity. This has had the effect of raising its value in the market, and while in 1860 the price of the best quality of refined gutta-percha was \$1,200, by 1890 it had advanced to \$3,900 per ton. An attempt has been made to economize this useful material by combining it with rubber, which is a much cheaper article, varying as it does in price from \$750 to \$1,600 per ton. In a new invention, the two materials are

blended by a cheap process, both being partially dissolved, and afterwards intimately mixed. The main feature of the invention is the employment of a substance hitherto little known or understood, but which exhibits singular properties. This substance acts as a solvent both on gutta-percha and rubber, and combines with them in such a way as to form a united and homogeneous mass, which possesses the qualities of the best gutta-percha, while being superior to it in nonoxidizing properties, elasticity, tensile strength and insulating power, besides being produced at much smaller cost.

BOILER CONNECTIONS.

IT is a pretty good plan to make all your connections for boiler appliances with pretty good sized piping, so as to avoid the chance of having them stopped up with a little scale as is too often

the case. For connecting up water-column, or other combinations of a similar character, use at least inch pipe, and though it may look out of proportion, it is better than having them stopped up and leave you without any means of knowing where your water is in the boiler. Steam gauge connections do not come under this head as they should come out of the steam space of the boiler and there is not the liability of being clogged that there is in water connections, still a little larger than is generally used will do no harm and might be an advantage in some instances.

In piping up boiler fixtures, or any other kind for that matter, it is a pretty good plan to make a free use of "crosses" instead of using "ells," and then plugging up the two free ends.

This gives you a chance to "probe" both ways by taking out the caps and is often very handy, indeed in keeping things cleaned up thoroughly and is a good plan to be used in all kinds of piping that is liable to be stopped up from dirt or scale.

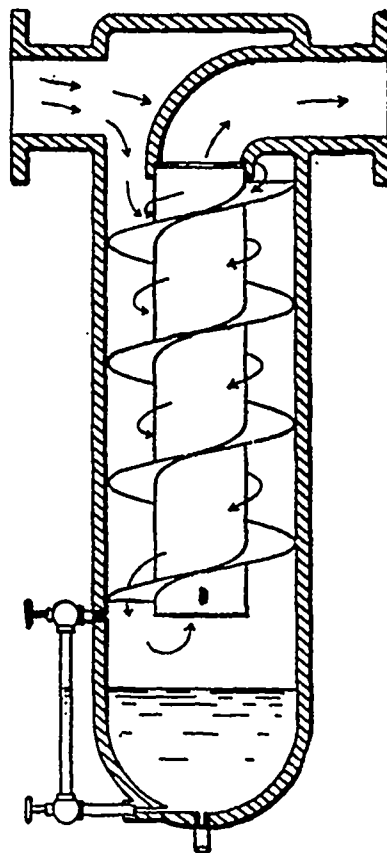


FIG. 3.—DIAGRAM SHOWING THE PRINCIPLE OF CENTRIFUGAL SEPARATORS.

DOWN THE RAINY LAKE RIVER.

VAST TIMBER RESOURCES OF THE DISTRICT.

COMMENCING at Port Arthur, writes Mr. A. M. Weber, and running west along the old Dawson route through and down Rainy Lake river, Rainy river and Lake of the Woods, as the several selections of this big water course is named respectively, following the boundary line between the state of Minnesota and the Dominion of Canada, the country is almost one vast wilderness and contains much to interest lumbermen and miners alike, and to better convey an idea of the country to those who have never been over it, the writer will attempt to describe a trip recently made on a tour of inspection of its timber resources. Our party consisted of four persons. A gentleman seeking recreation by the name of George Salisbury, two Indian canoe voyagers and myself. We started out in two Peterborough canoes, which, by the way are finely adapted for such a trip, and paddled and poled up the Pigeon river which forms the national line to the Pigeon falls, and could proceed no further. We had passed for the most of the way through a buied precipitous rocky country, said to be rich in silver ore to a considerable degree. Here and there could be seen varying distances and points of vantage, groves of pine that had not yet succumbed to the destroying element. At the falls we camped for several days, and I proceeded to explore the country further up.

I concluded to go no further in that direction, but the investigation disclosed a heavily timbered country, with pine of a very good quality, but locked in the valley and on the higher table lands with no outlet except over the Pigeon falls, which, by the way, is 200 feet perpendicular, with a very ragged, rough and rocky stream both ways up and down for miles. It would seem as though this pine would have to stay there for some inventive genius to provide for it the necessary transportation. But the forest fires are now likely to take it up in smoke before it goes out in any other way.

As miners are prospecting all over that country, and fires get away from them quite often, mining men have no use for pine timber. After their log buildings are up they wouldn't give a cent for the balance of the timber even if it stood fifty thousand feet per acre. But the conclusion a practical lumberman would come to after seeing the stock piles of silver ore in that country and the pine situated in that particular place would be that he would not give much for either just at present; at least that is the way it would look to a man up a tree.

After feasting on trout to our heart's content, we returned down the Pigeon and proceeded to Grand Marie and took the route across country from there which leads from one lake to another, and over many portages a distance of about thirty-five or forty-miles to Gunflint lake, which with the exception of North and South lake is the head waters of Rainy Lake river. We passed through a well timbered pine country of a small growth, ten logs per thousand and four log trees, about half Norway, and considerable fine spruce and cedar, which grows on dry land among the pine. The Port Arthur, Duluth and Winnipeg railroad has been built to the National line at Gunflint lake from Port Arthur, and is surveyed and some work done on the gap between there and Ely on the Duluth & Iron Range railroad, with which it is said they intend to connect, and then build from Tower to Hannaford on Rainy river and on to Winnipeg. Our course from here was westerly, passing through a veritable chain of lakes. Occasional detours into the interior showed a well timbered country with common pine, even the islands of which all of the lakes are well studded are heavily pined.

Hunters' island contains about one hundred and forty thousand acres, and is on the Canadian side. It is well covered with pine, and is said to be very rich in silver ore.

We entered Cram lake and run up the Vermilion river about fifty miles to the lake by that name and portaged from the west end into Elbow river and run down that into Pelican and back into Vermilion river near its mouth. Vermilion river proper has not very much pine on it, and what there is is small ten log timber, one-half Norway. It stands in groves here and there

and is all settled upon by the squatters. Elbow river runs through a country well-timbered as also does the Pelican, and in many places timber grows clear down to the banks, and is a better quality, running more to white pine, and larger. None of these streams have ever been driven and are in their natural state, but with a little fixing all can be made navigable for logs. The country generally is quite rough and stony so far as we have gone. We re-entered Rainy Lake river and travelled northwesterly into the arm leading us into Capitogoma lake, which extends east and west for about forty miles and is studded with islands thicker than we have ever seen before, and hardly distinguishable from the mainland. Detours were made to the south up the Mogose, Ash and Grassy rivers, that empty into this lake, as well as up the Net lake trail, and the whole country was found to be heavily timbered with white and Norway pine of quite a good quality, about eight logs per thousand on the average, and the country quite level and free from stone. Large groves of white pine of the best quality was found to exist near the head waters of these streams that will run about five logs per thousand and five log trees are occasionally mixed with a big red Norway of prodigious size. The squatters have also invaded this country in great numbers and built cabins all over the country on each quarter section that contained a million or more feet. The streams mentioned are very finely adapted to the driving of logs, only one falls on each near the lake, all of which can be fixed for some \$500 to \$1,500 each. The current is a little faster than would be called gentle, but yet not so rapid as to run water away from logs if they happened to jam. There are also good sized lakes at the head of each that can be utilized as reservoirs.

Passing on to the west end of Capitogoma lake we portaged over to Black bay by an arm or extension of Rainy lake proper. The land as far west as this suddenly changed to a quite level, rich soil, covered with the finest spruce, cedar, ash, elm and poplar, more of a second growth nature. Special mention should be made of the poplar, as it is large, averaging in some places ten to fourteen inches in diameter. It is a very sound timber, clear of limbs for a great length and is used extensively by the Lake of the Woods Milling company at Rat Portage in making flour barrels. It makes a very light, clean and smooth barrel, and as this country for millions of acres in extent is heavily timbered with it, the barrel stock for the future is a certainty.

After investigating the Rainy lake shores on the American side, we proceeded to the inlet of Rainy lake river, which we had left when we entered Capitogoma lake. Here we found Kittle falls which, by the way, is an eight foot drop in a distance of perhaps twenty rods, thus barring navigation from Rainy lake to the big river above in that direction. Not much pine can be seen from the shores of Rainy lake, as the loggers have been busy there for the last dozen or more years, and have pretty nearly cleaned up all the handy haul. Making our way down to the mouth of the lake we find a big river with a twenty-four foot drop in twenty rods, three miles below the mouth, and around which falls is clustered a little village and the Old Hudson Bay Fur Company's trading post. The whole settlement is called Fort Frances, which has two creditable hotels and several churches, all situated on the Canadian side. A canal has been blasted around the falls through solid granite, but never completed, consequently this point is at the head of steamboat navigation for the present, although several raft boats have been built above the falls and are used in towing logs through Rainy lake to this river. We passed on down the stream, which is about 100 rods wide and quite deep and smooth, passing a great many fine farms on the Canadian side, and a few new settlers on the American side. Fifteen miles farther brought us to the mouth of another large stream called the little fork, which is about forty rods wide at its mouth, gradually narrowing up as we ascended it to the small streams that have their source some three hundred miles by the river among the new Mesaba iron mines.

This country is quite level and contains much nice white pine, cedar, spruce and poplar, as well as considerable hardwood, and is quite free from stone. Evidence shows that the water rises and falls something like

twenty-five feet. The banks are high and clean with no sloughs for logs to go astray in. The soil is very rich throughout the whole country here and west of here. After satisfying myself that the head waters of this stream contained a large quantity of pine of good size and quality we returned down stream to a point where big bends in both rivers brought us nearest the Big Fork, a sister stream which empties into Rainy river five miles below the one we were on. We found a portage which led us across towns 65, range 24 w. and 25, and carried us across into Big Fork, passing through several fine groves of timber. We then went up to its head waters, finding the same conditions with the exception of more timber and of a still better quality. The two big rivers are about 400 miles long and drain a territory of about four million acres with the assistance of their tributaries.

We returned down to the mouth of the Big Fork to Rainy river again, where nature has formed the most natural boomage I ever saw, with capacity for as many hundred million feet of logs as will ever be banked to be manufactured, and which we learned was in possession of E. S. Shepard, an explorer of this part of the country of considerable note. We reached Rat Portage on the Canadian Pacific railway, after a voyage of 160 miles on the boat and went home from there on the cars. One will ask the question as to how much pine timber exists in that country. This is a hard question to answer. There are, to be sure, large areas of muskeg swamp and barren wastes of country, but on the whole I should think there was at least seventy-five to a hundred billion feet on the American and Canadian sides of this vast water shed.

SOMETHING ABOUT CAMS.

WHENEVER we wish to get a peculiar motion in any machinery it can usually be best accomplished by the use of cams, in some shape or other, and almost any motion desired can be obtained if we go about it right. In cams cut in rings, or "ring cams," it is necessary to use a conical roll, and the cone is determined by a line drawn from the centre of the ring to the diameter of the roll, a very good angle being twenty-four degrees, or twelve degrees each side of the centre line. These conical rolls are very apt to give trouble, and often cut the sides of cam, but certain cases demand their use and by giving the rolls ample bearing surface and having them fit the cams very accurately, but if possible they can well be avoided. The simplest form of cam, and the one which will give the best satisfaction in most cases, is the cam which has the roll working on the outside, or what is commonly called a "rim cam," as this is the easiest to make and the best for wearing qualities. In a cam of this kind you can keep the roll in contact with the cam by a spring of the required tension, and there is no back lash to contend with.

But with the cam where the roll plays between two surfaces there must be allowance enough made for the roll to pass through and touch but one side, and this gives a little back lash in spite of all we can do, and this is very often an objectionable feature, too.

A face cam, or one with the cam slot cut in the face of the disk, is bad in several ways; it is hard to cut, and the roll must have freedom enough to roll freely and this introduces the same back lash as before mentioned, so where possible it is best to use the "rim cam."

ATTENTION TO LOOSE PULLEYS.

IT would seem unnecessary to speak of the great need of attention to loose pulleys and other "overhead work" in shops, as everyone must know of the importance of those things, yet they are shamefully neglected, as an incident of the other day testified to me. A countershaft was squeaking and grinding over a lathe that is never oiled (as none of the tools are until they refuse to go), and finally the shaft actually twisted in two, and had not the loose pulleys caught with the cone in such a way as to wedge and prevent their fall, a serious accident might have occurred, as men were working below at the time, but fortunately such was the case, and unfortunately the same thing will be repeated with the new countershaft when it is made, as a lesson is never taken until some one is badly hurt.

AN IMPORTANT AWARD.

THE accompanying cut is a good illustration of the "Andrews" Lumber Dryer, which was last month awarded the Gold Medal at the World's Columbian Exposition in Chicago.

The gentlemen appointed to investigate the different systems now before the public for the drying of lumber and other wood goods, reported as follows:

"The Andrews Lumber Dryer is adjudged worthy of award for the following points of excellence:

(1) For its fire-proof qualities, the sides being brass, primarily serving as condensing surfaces, and the roof being covered with gravel.

(2) For a progressive system of heating, secured by a graduated arrangement of pipes beneath the lumber.

(3) For even circulation of heat upward through the lumber and downward through the hollow walls, thus coming in contact with the brass exterior covering, acting as condensing sheets, the heat thus being nearly even at the top and bottom of kiln with a positive circulation without the aid of blowers or chimneys.

(4) For controlling the condensation so that the moisture appears on the surface until it is entirely expelled from the lumber, the drying being from centre outward.

(5) Economy of heat by means of using the same air continuously with little loss."

The following gentlemen composed the Departmental Committee on awards:

- S. Suwa, Secretary Imperial Japanese Commission.
- Baron de Marajo, commissioner from Brazil.
- G. Neiderli, scientist and commissioner from Argentine Republic.
- Dr. E. Hessler, botanist and commissioner from Paraguay.
- Prof. A. Runnebaum, University of Eberswalde, Germany.
- Prof. G. Sellergren, University of Stockholm, Sweden.
- Prof. A. Grelmitzky, University of St. Petersburg, Russia.
- Robert Hudson, commissioner from New South Wales, Australia.
- Hon. B. L. Butcher, West Virginia, U.S.
- G. A. Priest, Census Bureau, Washington, D.C.
- Hon. R. C. Joiner, Wisconsin.
- M. Fenlon, Kansas.
- Dr. B. E. Fernow, Chief Forestry Department, Washington.
- O. S. Whitmore, Forest Botanist, Chicago.
- Phro Suriyn, Siam.

This kiln, of which there are now nearly five hundred in use in the United States and Canada, is controlled in this country by the Dominion Dry Kiln Co., of Toronto, who will cheerfully furnish full particulars as to its workings to anyone making application for same.

THE GANG EDGER.

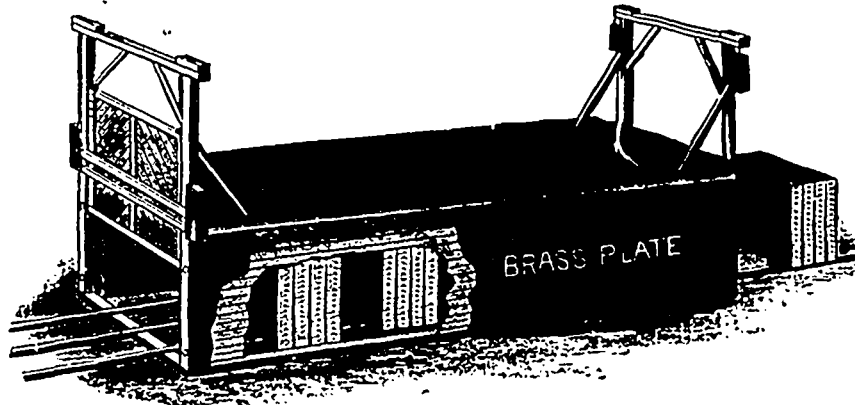
ONCE obtain intelligent control of the main machines in a mill and it may be said that half the battle of mechanical management is mastered. The gang edger, in the judgment of Mr. J. H. Miner, who usually writes with a clear comprehension of mechanical matters, is one of the most important machines of a sawmill. It is, he tells us in an article in the Southern Lumberman, one-half the capacity of a mill when it is a good machine and run as it ought to be. It is too often classed as secondary and has attention only when necessity compels it. Edgers have been much improved lately, yet it is a difficult matter for a man to get just what he wants. Some manufacturers have discarded valuable features simply that they proved a detriment in the hands of an operator.

Take adjustable boxes for the rollers. This is certainly a valuable feature, but as a prominent manufacturer remarked to me, "the first time that the saws got dull, sprung and running crooked, the rollers would be adjusted, throwing the machine out," which is true. Such a machine should not be in the hands of any but a skilled saw-mill foreman. For a time all will work well with solid boxes cast into the frame, but the "punching" of the lumber against the front roller and the pull of the driving-belt wear the two shafts so that they come closer together, and there is no bearings of this class that do not wear. The front idler roller is now discarded by many, and if rightly conducted I think they are an advantage. The principal drawback seems to be the obscuring of the saws, by

which, with the malleable frames a better view could be had, and with sectional idler rolls do 10 per cent. more and better work. Only when the saws are in nice trim does the edgerman have no "chasing" to do until the back rollers take the lumber. Guides are a nuisance on edgers. The shaft becomes dry and the force necessary to shift the saw wears the pins very fast. Soon a one-fourth inch play can be found, and unless they are taken up frequently much lumber is badly edged. I have no objection to good yoke shifters with a taper groove, so that every few months the yokes can be set up to accommodate the wear. Guides often heat the saws. There can be but little throat had to allow the saws to close up to within three inches. Knots, splinter—and in cypress mills, bark—give much trouble. An eight gauge for an eighteen inch saw and seven gauge for a twenty inch saw will do better work without a guide if they are kept in anything like shape. A dull saw pulling against a guide pin only makes matters worse.

I have never seen an edger with as large a pulley as I would want, and I can safely say that the edger costs more in many mills for belting than the remainder of the mill.

In some cases the belts are taken care of, and in one mill I knew a belt to run for several years. How many mills do we see with the edger belt entirely protected from dust and grease? and how many running a good endless belt with a reliable take-up? And yet they can



"ANDREWS" LUMBER DRYER.

be had from every flour-mill or extensive sawmill builder. Ricketty tighteners are an abomination. In some mills it requires a monkey-wrench performance in the starting and stopping of the engines, the belt tending away over to one side, running the edge if not arrested. In this particular case the pulley was twenty by twelve inches face, and flat at that. That pulley has worn out \$500 worth of belting, and I venture to say (if the firm hasn't suspended) that it is yet in use. With large crown pulleys and endless belts there is no occasion for such enormous expense.

The majority of edgers now in use cannot take over a 2-inch piece without a delay and the smoke flying from saws or belt. I have run on the light "St. Louis gang edger," 6-inch stitches making 6 x 6 and 6 x 8, and there are very few of the \$1,000 edgers that will do this.

The secret was in a variable feed. That is, I arranged a brake shoe by which I could regulate the feed as desired by friction. Four-inch stuff was as nicely run on that little edger as were 1-inch boards. No one could think of shifting belts, or having a trap of cones, but, with a feed similar to that of a good planing machine, an edger will do from 10 to 25 per cent. more work, which is a clear gain for the mill.

If an edger is kept in order, studding would not need sizing only for very fine work. Take the ordinary practice and 4-inch stuff ranges very nearly from 3 1/4 inches to 4 1/4 in width, and in extreme cases worse than this. The fence of many edgers are too far back from the saw. They should be right up to the first saw, and should it have much lead, by "monkeying" with it the end of the board will not fly around, making a nice little crook. A good edger will help to make or keep a good man. He will have time to make his calculations to the best economy and can "shoot" with certainty. A good workman appreciates a good machine, and naturally has the inclination and pride to do good work with it.

VIEWS AND INTERVIEWS.

Beechwood. Beechwood is neglected, especially for use in parquetry floors, for which it is particularly suited. In Germany

some decorators prefer it to oak for such uses. Mention is made in a recent German article of several oak floors laid some years later than others of beech, which show much greater signs of wear, the oak being much deteriorated, while the beech put down twenty years ago is still sound and the fibre as firm and fresh as if it had been laid but a few years. It is necessary to select the close-grained, narrow-ringed wood grown, so as to secure freedom from sap and to obtain a tough, compact fibre if the best results are to be attained. Though employed at times without comprehensive steaming, the wood is greatly improved by this process, as it tears open the walls of the cells and liberates the sap, and it is generally considered advisable to carry out this treatment as speedily as possible after the timber is felled.

Tree of the Forbidden Fruit.

What was the tree that contained the forbidden fruit, so fatal to the happiness of our first parents? To those

who enjoy mental recreation of this kind the theme has always proven one of supreme interest. General (Chinese) Gordon is authority for the statement that the forbidden fruit was a cocoanut; the fruit of a palm tree called coco de mer, the botanical name of which is

Lodicea Seycheldarum. He made numerous sketches of it during his extensive travels, and has left the most authentic description of it we have, and it was through his writings that public sentiment was called to this singular palm tree. After years of efforts and experiments, the gardeners and botanists have succeeded in finally establishing it in the royal gardens of England. Whether the tree ever grew in the Garden of Eden or not is a matter of speculation of little interest to science or botany. Its present home is on the Seychelle islands, lying to the Northeast of Madagascar, a very considerable distance from the reputed location of the Garden of Eden. The

fruit is a double cocoanut, about fourteen inches in length and weighs, on an average, about forty pounds. The Maylay and Chinese sailors said it grew on a tree at the bottom of the sea, hence the name, coco de mar. The tree itself has been known to the civilized world only about 150 years.

Unwise Economy.

Just now every one is talking about hard times. Things are panicky, trade is depressed, and no one is sure

what disaster is ahead of them. One writer, more optimistic, doubtless, than some others, says: "When we get down to the bottom of things, no panic, no depression of a paralyzing character, can be found. And this is usually the case. People eat about as much, clothe about as well, live in about the usual style, in one year as another. The farmer at the base of industry works as hard and produces as much, and those that manufacture for him and others, and those ranged between the farmer and manufacturer, engage in distribution and professional and personal services, must also be kept right on at work in their several places. Sometimes a period of extravagance intervenes, when people get to buying more than their labor justifies them in consuming, and then dealers lay in large stock and manufacturers gauge production to a demand that cannot last. Such a time we have just passed, and now comes a reaction. But there can be no loss to the material welfare of any considerable fraction of the working body or of the country. People may be led to the other extreme of undue economy, and then business becomes restricted, but the purchasing power of the people as a whole has not been diminished. Its exercise may be deferred to in some degree, but it will not be lost, and hence it is that every period of reaction and depression carries with it the certainty of extremely good times to follow. And so it is of the present case."



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J. S. ROBERTSON,

EDITOR.

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

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

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

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

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

THE WORTH OF WOOD PRODUCTS.

"No business could be done were the goods given away," is a colloquial expression of tradesmen, employed often to denote the extreme dullness of business at particular times. In such times it may not be a case of price or quality; simply there are no buyers.

Not at all times is it want of money that may cause this dearth in business. The seasons may cause it, or changes in custom. One does not buy coats in mid-summer, nor straw hats in midwinter. Usually, however, when business men talk of the apparent impossibility of moving trade they mean that there is not money to move things with. Then comes the hour of trial to the man who may be working on a small capital, or whose credit mark is in the wrong column of Bradstreets. The temptation at these times is to lose money in order to get money. Goods are sacrificed; prices are cut. And when one merchant follows this plan he compels others to adopt a similar policy. All this may occur without one iota of reason, save the pressure of financial obligations.

Lumber has been depressed for several months and sales have been hard to make. Prices had been on the ascendent, but as the depression continues, the question is being asked, will former prices continue to be maintained? Similar rules will operate with lumbermen that we have illustrated as operating with tradesmen generally. Those who can hold out over the dull period will not break prices, but as the tension continues, it becomes hard for the weaker ones to hang on.

It is not without an appreciation of this fact that the LUMBERMAN would enjoin upon all in the trade to test their powers of endurance to the utmost. More, we are inclined to think, than with any other branch of commerce, there is no reason to force any break in the prices of wood products. It may be argued that with the activity of the early spring prices became unduly inflated. Is that the case? Prices advanced, it is true, and remained very firm and fixed. But why not? With some of our natural resources it is difficult to estimate just what these possessions amount to. It is so

with coal and minerals, and products that lie hid in the bowels of the earth.

Forest products are above the ground, and within easy view, so to speak, of the naked eye. The science of lumbering has reached a point where it can be very closely estimated how much standing timber exists in a given district. In many parts of the United States, and in most parts of Ontario, the supply is so far on the short side, that the work of computation and stock-taking is comparatively light. Different, too, to many products of the soil the young pine cannot be planted in the spring time, and keep pace with the ear of corn in reaching maturity. Trees from 100 to 150 years old, as one has patly said, cannot be duplicated at the asking.

Need more be said to show the logical sequence of holding fast to present prices for lumber? Forest lands, as we deal with the forest in this country, must advance.

EDITORIAL NOTES.

FEW men in Canada have shown a more intelligent interest in forestry than Hon. Mr. Joly, of Quebec. A recent proposition to the farmers of his province is that they should cultivate the walnut tree, as has been done in some of the Western States. They require a deep, rich soil and want little attention, after planting.

THE efforts to make life more cheerful and improving for the thousands of men all over the country who spend their winters in the lumber camps continues an important part of the work of the W.C.T.U. and other philanthropic institutions. At the meeting of the National Woman's Christian Temperance Union, recently held in Chicago, Mrs. Upham, superintendent of this department of work, reported that quantities of literature had been distributed, and work done by missionaries, in the lumber camps of Wisconsin, Minnesota, New Hampshire, Maine, Michigan, Vermont, Massachusetts, Pennsylvania, California, Texas and Washington. In Canada similar work is carried on by the W.C.T.U., and also by various church organizations.

A LUMBER cotemporary takes the cheery view of the financial depression that after all "there can be no entire stoppage. People must be fed, clothed and housed; railroads and steamboats must keep moving, and everything made wholly, or in part, of wood will decay or wear out, and must be renewed or repaired, and so long as this condition lasts there will be some movement of lumber." This is a good deal like the way a literary cotemporary announces the title of two articles in a recent issue, (a) "Why do not literary women marry?" (b) "But they do marry?" So it is with lumber. "People must be fed, clothed, housed, etc." But in the meantime, they remain satisfied, perforce, with their present state, and as a result lumber remains dull.

REPRESENTATIVE WEADOCK'S bill in reference to the lumber duty is now before the Ways and Means Committee of Congress. It provides that in case any foreign country shall impose an export duty upon sawlogs, pulpwood or other raw products designed for the use of American mills or factories, import duty upon the product of sawlogs, pulp wood and other forest products of the kinds upon which the export duty is imposed, such as lumber and pulp wood, shall, when imported into the United States from such country, be increased by a sum equivalent to the amount of export duty, and if the article is on the free list a rate of duty equivalent to the export duty shall be imposed upon it. It is observable that the bill is not now, any more than when talked of before, some months ago, giving rise to serious discussion or consideration by the lumber press of the United States. If any importance is attached to the bill the policy is one of a "still hunt."

THE financial troubles of the Nicaragua Canal Construction company, to which reference was made in our British Columbia letter of a month ago, have at last resulted in its bankruptcy. It will be an unfortunate affair if the present difficulties should lead to a permanent abandonment of the project. If it is only a case of the work being transferred from United States capitalists, who have been ambitious to control the scheme, and foreign capital and influence is enlisted, the immediate

trouble will not be an unmixed good. The new route that will have been opened out when the canal is completed ought not to be left in the control of any one nationality. Its commercial possibilities are such that the route needs to be left open to the world free from any possible restrictions or arbitrary regulations. The lumber trade, as we have before pointed out, and especially the lumber interests of British Columbia, have a very lively interest in the construction of this route.

THE announcement is made of the formation of a strong concern at Winnipeg, Man., incorporating Dennis Ryan, of St. Paul, Minnesota, miller; William Travers Creighton, of Rat Portage, miller; William Robert Dick, of Winnipeg, miller; Mary Banning, of the same place, miller; John Alexander McKee, of Niagara Falls; James Malcolm Savage, of Rat Portage, miller; Douglas C. Cameron, of Norman, miller; Walter Ross, of Rat Portage, miller; Richard Hall, miller; and Matthew Brown, miller, for the following purposes, viz.: The purchasing and manufacture of timber into logs, lath and lumber of every description; to manufacture pulp, paper and articles to be made from paper or pulp; to purchase and operate steamboats, tugs, barges or other vessels; to acquire stock in other similar companies as the consideration for goods, wares or merchandise sold to such similar companies in the ordinary course of business, the operation of the said company to be carried on throughout the Dominion of Canada by the name of the Ontario & Western Lumber company (limited), with a total capital stock of \$1,000,000, divided into ten thousand shares of \$100.

THE Tradesman, a journal that gives an intelligent interest to lumber matters leans strongly to the view that the forests of the United States are being rapidly depleted. The United States sells its forest lands at \$2.50 an acre, lumber companies indirectly acquiring a square mile of land for little over \$1,600, while the timber on it is often worth \$20,000. The French government forests return an average profit of \$2.50 an acre annually from timber sales, or 2½ per cent. interest on the value of the land. The United States now owns only enough forest land to provide a continual timber supply to its present population, if forests are managed and lumber used as in Germany. The United States is exactly in the position of a man making large drafts on and using up an immense idle capital, which, if properly invested, would return an interest sufficient for his expenditures. In 1880 the government of Bavaria sent an expert forester to study the timbers of the United States, who stated: "In fifty years you will have to import your timber, and as you will probably have a preference for American kinds, we shall now begin to grow them, in order to be ready to send them to you at the proper time."

IN the construction of railway ties an enormous amount of lumber has been consumed every year. But the fear has been that as iron has taken the place of wood in ship-building, steel or iron would become the substitute of wood products in the manufacture of railway ties. The Railway Review has a paper from a French engineer, in which this notion is discouraged. In the judgment of this expert not much progress has been made in the direction of procuring a satisfactory tie made from steel or iron. Leaving out the question of first cost, the expense of maintenance in metal ties in any line where there is heavy traffic is so great as to be almost prohibitory. The ordinary style of steel tie is hollow with the opening down, but such a tie is very difficult to thoroughly tamp, and while it will answer for a time, it eventually packs the material within it into a solid core which resists tamping and injures the adjacent ballast. The result of experience in the use of metal ties is said to be that no line having heavy traffic at high speed has yet succeeded in using them with any satisfaction. According to this specialist, the ideal metallic tie will be shaped much like the wooden tie, with a flat under surface, or with a prismatic section. But as yet nothing satisfactory has been designed. This tells of a continued heavy drain on the forest resources and good business for a long time ahead for that branch of the lumber trade interested in the cutting of timber for railway ties.



A LUMBER shipper from the Maritime provinces, queried as to the outlook for trade, said: "Spruce boards are worth only \$10 to \$12 in Boston, and lath \$1.75 to \$2—and there is nothing doing. Brokers—my agents there—tell me not to ship any more. They don't want it. The market is sick and disorganized. Some dealers told me that they believed the worst had yet to come, for there is a lot of paper that is simply being renewed. Money is easier in one sense, and the banks are able to discount, but nobody cares to take the paper for fear it will not be met. One man told me he made a sale at sixty days at a cut rate because he wanted the money. When the sixty days expired all the customer could do was to give him a note at four months. This is characteristic of the trade as it has been and is at present."

* * * *

Queer finds in lumber continue to multiply. One of the oddest is seen in the cutting of a shingle bolt from Novar, Muskoka, in the possession of Mr. John Hall, lumber dealer, city, showing a knot of peculiar form. The cutting is 6 x 4, pointed at one end, triangular in shape. The knot is a perfect picture of a female form, with head, arm, breasts and body, showing a red dress with brown cloak and hood or cap to match. It is a most singular piece of natural wood.

* * * *

Alderman Bailey has been spending a month's holidays at Aird's Island at the mouth of the Spanish river, Georgian bay. He says: "The lumber interest in that district is very flat. The reason given for that is the existing depression in the United States. All the mills have vast quantities of stock cut, and at some of the large mills there are miles of lumber ready for shipment. In consequence of this slow demand the mills have already shut down and the hands have gone out to the bush for the winter. The wages of the men have also been cut down, and altogether the outlook is not by any means bright."

* * * *

Thomas Hale, the well-known lumberman, of Pembroke, says that there are excellent prospects of the Quebec market becoming cleared of timber next spring for the first time in many years. As a consequence those dealing in square timber this year would no doubt find a ready sale for it. It was not likely that the market would be flooded, as operations this year would be conducted on a limited scale. He estimated that very little over one million cubic feet would be turned out this season, while in the middle of October last year that amount alone was cut. Operations were slow in commencing this fall. He doubted if his gang on the Kippewa would not be the first to start.

* * * *

W. H. Rowley, secretary-treasurer of the E. B. Eddy Manufacturing company, Hull, says that his firm were out of the lumber trade altogether. They had closed down the sash factory, which was the last remaining link, and had torn out all the machinery, which they intended to sell. The old sash factory building they were turning into a third paper mill for the manufacture of paper from pulp. They were now busy putting in \$68,000 worth of machinery, and would be running as soon as they could possibly get things in order. Both their old mills are running day and night. Last year the firm's wages amounted to \$329,000, and with the new mill they would be very much increased for the coming year.

* * * *

Wm. Little, of Montreal, who has been visiting Chicago, is reported to have said to a representative of the Timberman that his wish was that the present American government would repeal the duty on lumber, not because it would benefit the Canadian market

materially, but viewing the matter from a purely forestry standpoint. Mr. Little participated in the Forestry Congress which was in session. Referring to the present condition of the lumber trade in the Dominion, he said that as the lumbermen of his section depended largely on New York and neighboring territory, the stagnation now existing in that locality affected them most severely, business being extremely quiet. He anticipated an improvement, however, in the early future.

The redoubtable Edward Farrar, the boss negotiator of reciprocity treaties between Canada and the United States, has turned up this time in Montreal, and has caused to be sent to the Chicago Tribune a reported report of an interview revealing the nature of his visit to Quebec, and which I notice is being printed by some lumber contemporaries. He is represented as having been sent to Montreal as the special agent of Secretary Carlisle, of the Cleveland Cabinet. Mr. Farrar states that there is an earnest desire on the part of the Democrats to conclude a treaty with Canada, which would include all natural products. Lumber would naturally be affected by any such change. A meeting of the Cabinet is to be called to consider any suggestions which Mr. Farrar may lay before them. It has to be remembered that all this is a dispatch to a United States paper. Perhaps the Cabinet will confer with Mr. Farrar—perhaps.

* * * *

William Baldwin, an old Ottawa boy, has returned from Oregon, where he has been lumbering for some years. It was fully three hundred miles back from the coast that Mr. Baldwin lived. As for lumber he says there is plenty of it not unlike our Canadian pine found in the Ottawa valley. The Oregon pine which grows to such enormous proportions is a fine wood but hard to saw on account of gum. The valleys of the Rockies, some of which afford the richest of soil for farming, have failed this year to bring forth their accustomed large yield. Wheat, the principal grain crop, has been a complete failure on account of a long drought which lasted during the hottest part of the summer. It is selling for thirty cents a bushel. A large amount of oats is being raised on some of these farms this year. This crop, it is said, is rapidly advancing. Rye and barley are not grown to any great extent. The root crops have also been somewhat of a failure this year on account of the drought. The mining industry is paralyzed so far as silver is concerned. A large number of fine silver mines have had to close down altogether and others are badly shaken. During the summer, however, a number of old gold mines have been re-opened and these are being worked continually. There was a good fruit harvest, Mr. Baldwin says, including all the berries and apples. General business is at a standstill in Oregon, every branch of industry being shaken by the uncertain condition of the American money market.

* * * *

In the E.L.M page of the September LUMBERMAN there appeared the statement of an Ottawa gentleman purporting to give figures showing the amount of money that had been made in the purchase and sale of timber limits by various Canadian lumbermen. Mr. J. K. Ward, of Montreal, who was named as one of the lucky ones, contradicts the statement so far as he is concerned, in these words: "I am referred to as having bought a limit near Lake Expance during the Mercier regime for three dollars a mile, which I now hold at \$1,000 per mile, etc. As this is entirely at variance with facts please allow me to correct it. About twelve years ago I bought (during the Chapleau administration) at public competition the limit referred to above, for which I paid \$300 per mile, not \$3, as stated. This can be easily verified by referring to the books in the Crown Land Department in Quebec. I may say that I never acquired a foot of Crown Lands either directly or indirectly for myself during the Liberal regime, and whatever the fallen chief may have to answer for, it will not be, as far as I am cognizant, giving away the Crown domain to lumbermen for political or other reasons. On the contrary, the trade has considered that it has been harshly dealt with by the late Government, which raised the ground rent 50 cents, and dues on logs, etc., 30 cents per 1,000 feet higher than paid for the same thing in

Ontario. The law is that all public lands for lumbering purposes are sold at public auction to the highest bidders. Some holders of limits have made money by transferring their licenses. Many, no doubt, have made money, but you can easily see that my deal has not been a bonanza

* * * *

A young man from Ottawa, who is now clerking at Atkinson's creek, among the wilds of the Gatineau, gives the following picture of shanty life in that district: "Arrived safe and sound, after a tramp of nearly forty miles. We stayed at the Kazabazua Friday night and had breakfast there Saturday morning. Walked fifteen miles on Saturday over the roughest road you or anyone else ever laid eyes on. We got to Ousiers Saturday night, all tired out. Ate a good big supper of fat pork (about three inches fat and quarter of an inch lean.) Went to bed at 8 p. m. and was up at 3.30 a.m. and on the road to the farm some eleven miles, where we arrived at 11 a.m. Sunday. Stayed there till yesterday 6 a.m. and walked to camp fifteen miles with ninety pounds on my back and worked all afternoon in camp. I have not been asked to cut any roads yet and don't intend to if I can help it. I have had three good feeds of pork and beans and they are good. I ate about twice as much as any Frenchman in the shanty. There are forty-two men in camp now with about ten more to come. Sunday was not Sunday at all; it was more like Rockliffe on Saturday. We had two fiddles going all afternoon and evening and the Frenchmen were more than dancing. The foreman is an Irishman and a very fine fellow and comes from the Pickanock. I had to go to the Hibow depot last night for some papers I wanted to use and that added six miles more to the list. Again I was there this morning before you were thinking of getting out of bed. That was before breakfast and we had breakfast at 4.30. It is very cold at nights and mornings, and there has been ice over the little puddles. Our shanty is very cold as it has not yet been filled in with moss. We are drying the moss now and will have it filled in by the last of next week. You may not get this letter for a week or two but you must consider it has to be carried nearly sixty miles by different people going in towards the first post-office. It is very lonesome here."

* * * *

How successful men made their first start in life is a matter of interest to most everyone. I have been learning something of Mr. J. R. Booth, who stands head of the list, it is generally claimed, among the several big lumbermen of the Chaudiere. Thirty-eight years ago Mr. Booth came to Ottawa and with a prescience that has been borne out by subsequent transactions he saw in the great water power of the Chaudiere the possibilities for lumber and man ifacturing. In company with Mr. Soper he built his first shingle mill on the site of his present big mill. That was his first venture, and on that small beginning he has reared a colossal fortune, the fruit of downright pluck, indomitable energy, unwearied industry, and the close application of first-class business talents. As an illustration of Mr. Booth's great foresight and faith in the country of his birth, it is related of him that he astonished the lumbermen during the prevalence of hard times between 1874 and 1879. There was a general want of courage among limit holders. They thought that the bottom had dropped out of the lumber market, and it was going to keep that way, and as a matter of course took the earliest opportunity of disposing of their limits. When these limits were put up at auction, Mr. Booth was always there to bid, and the lumbermen were astonished. But Mr. Booth paid no attention to their astonishment. He had faith in the lumber industry, and bought limits right and left, and now they are worth five times the amount he paid for them and in the meantime he has cut all the logs off them he required for his business. In 1881 he threw himself into the building of the Canada Atlantic and in a very short time the road was constructed and at once took a first place amongst Canadian railways. Those who know the man best say the Parry Sound will be in complete running order from the Sound inside of three years. It will be news to some people to know that Mr. Booth is a Canadian, born in Sheffield, County of Waterlo, sixty-five years ago.

OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THERE is at the present time a fair amount of activity in lumber circles. A considerable quantity of lumber is being shipped both by rail and barge. One shipper, however, is authority for the statement that although trade was good, yet, it is not nearly as brisk as last year. The Export Lumber Co. is doing a brisk business from their Rochester ville yard, and the Shepard-Morse Co. are shipping large orders to Burlington and New York City. Whilst a good many men have already been despatched to the woods the impression is general among the trade that the monetary depression of the past summer will have the effect of reducing the cut in the woods the coming winter. It would appear quite certain that American firms owning limits in Canada will do comparatively little cutting, and already some of the results are observable here in the number of Michigan shantymen who are seeking work.

INDIFFERENT LENGTHS.

Gilmour & Hughson's mill in Hull has been equipped with an electric plant.

The river boats, as the season draws near to an end, are being kept busier than they had anticipated.

The Rathbun Lumber Company, who purchased the lumber in the Perley & Pattee piling ground on each side of the aqueduct are removing it to the Company's piling grounds in Rochester ville.

A number of barges are at the basin here and want to go into the dry dock, but cannot secure ship carpenters competent to do the repairs they are in need of. The work is of a very particular kind, bolting and such, and the barges will have to be sent elsewhere to have it done.

R. Thackeray has carried off substantial honors at the World's Fair having been awarded a diploma for his exhibit of sash, doors, blinds, frames, turning and joiners' work, and in addition a gold medal for the superior and artistic workmanship displayed in preparation of the same.

A large party of citizens, consisting of the Mayor, aldermen, heads of various civic departments, and others partook of the hospitality of Ald. Bingham, a few days ago at that gentleman's lumber camp on the Gatineau some three miles from the mouth of the river. They went for a "snack" of beans cooked in shanty style.

Five large rafts of square timber are laid up for the winter at the head of the Calumet, near Bryson. These rafts belong to A. Barnett, Barnett & Mackie, Klock and A. Fraser. They will come to Quebec early next spring. None of the booms on the upper Ottawa have been closed, so that logs are now running down tributary streams.

A number of improvements have been made lately at Conroy's mills at Deschênes. Instead of allowing carts to load blocks from the mill the refuse wood is all carried away by tramways to a distance where it is piled. The carts now load dry fire wood instead of soaking wet as it used to be. Another great improvement has been carried out in the arrangement of carriers which run from the butting tables outside the mill. By this means the labor of sorting is saved.

OTTAWA, Can., Oct. 28, 1893.

NEW BRUNSWICK LETTER.

[Regular correspondence CANADA LUMBERMAN.]

J. W. KENNEDY, formerly of Buctouche, intends erecting a sawmill, and going into the lumber business, in Newfoundland.

John McLoggan, of Newcastle, on the Miramichi, has entered the lumber commission business in Boston.

James Hayes has purchased a sawmill on St. Mary's river, near Sherbrooke, N.S., and will cut for the British markets. He formerly ran a shingle mill at Charlo, N.B.

Lumbermen of Nova Scotia are finding an improvement in the South America lumber markets. A shipment of 600,000 feet was recently sent from Apple river by Mr. Chas. T. White, one of the largest operators of these parts.

Alfred Dickie, at his steam sawmill, at Lower Stewiacke, is cutting 55,000 feet each 24 hours. The mill is running night and day. The cut this season will run nearly 10,000,000 feet of lumber, besides 8,000,000 laths and about two car loads of box boards.

Young Bros. & Co., of which firm Mr. C. W. Young, of St. Stephen, is a member, the largest lumber operators in Cumberland, Nova Scotia, will make the largest output this year. They will cut 10,000,000 feet of long lumber and 7,000,000 laths at River Hebert and Newville, Nova Scotia.

ST. JOHN, N.B., Oct. 23, 1893.

LITTLE CURRENT.

[Regular Correspondence CANADA LUMBERMAN.]

LUMBERING is not going to be as brisk here as last winter. Howry & Sons, our largest operators, are going to work only two small camps, as they calculate that will clean off the balance of their timber here. They shipped this week most of their lumbering kit, including horses, etc., to Peterboro', as they intend operating on their limits in that vicinity this winter. The steamer City of London, of the North Shore Navigation Co., made a special trip to the Whitefish River after these supplies, and was loaded to her fullest capacity with them. The sleighs belonging to this company have each 12 ft. bunks.

Mr. Treat, foreman of the shingle mill, went to Buffalo last week to get a complete gang of experienced shingle makers to run four machines.

The amount of cedar taken out here on the island this winter will be about as usual. Mr. Collins, foreman for W. L. Herriman & Son, has his camps completed. They will take out over 100,000 pieces of cedar in ties, poles and posts, besides 1,000,000 feet of pine and 2,000 cords of shingle timber.

J. & T. Charlton & Co. are going to take out their usual cut—5,000,000 feet. Their limit is at the mouth of the Whitefish river, and, consequently, they have very little expense driving logs. It is rumored that J. & T. Conlon have secured more pine, and will be taking out a large stock this winter. They have lately sold their season's cut of lumber, and the mills are now running again to the full capacity.

LITTLE CURRENT, Ont., Oct. 18, 1893.

MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE lumbering season is drawing rapidly to a close with the feeling among the trade that the business done is nothing to brag about. The black eye that monetary conditions gave business a few months ago is still causing trouble. Confidence, in part, has been restored, but not to the extent of helping business this season in any large degree. The docks are piled up with lumber and the cut of logs will undoubtedly be affected as a consequence. I understand that Michigan lumbermen owning limits in Canada will do comparatively little in the woods the coming winter.

BITS OF LUMBER.

Hargrave & Co., of Bay City, are in receipt of another large raft of Canadian logs.

The cut at Menominee is said to compare favorably with a corresponding period of 1892.

Col. A. T. Bliss, of Saginaw, will cut 15,000,000 feet in Canada this winter. He also will lumber near Coleman.

J. T. Hurst, of Wyandotte, who is interested with several Bay Cityans, has let contracts for cutting 30,000,000 feet in the Georgian Bay country.

Arthur Hill, of Saginaw, will cut 10,000,000 feet of logs to clean up the timber held by him adjacent to Sault Ste. Marie. He will cut no logs in Canada this year.

Henry Stephens & Co., at St. Helen, have closed down their mill, having exhausted the stock tributary to it. The mill has been in operation about fifteen years.

Pitt & Co., of Bay City, are operating to considerable extent in Canadian logs, having so far brought over about 20,000,000 feet. They are much pleased with the quality of the stock.

C. Merrill & Co., of Saginaw, have not put an axe into the woods as yet, and the head of the firm says they may not put in a log. The firm has over 15,000,000 feet of lumber on hand.

Camps have been started in the Georgian bay territory by the Saginaw Lumber & Salt Company, but this strong concern will only put in enough to stock the company's own mill which will be about 25,000,000 feet.

The Tittabawassee Boom Company has suspended operations for the season, with the smallest output in 30 years, the amount falling far below the smallest predictions at the commencement of operations, and only 15,000,000 feet hung up.

The shipments of lumber this season from the Saginaw valley are 117,553,000 feet less than those of last season, and 220,395,000 feet less than those for the same period in 1890. It is hardly probable that the total water shipments this season will reach 200,000,000 feet.

Rust Bros. & Co. will finish the timber owned by them tributary to Saginaw waters this season. The output of the mills on the Saginaw river with which the Rusts have been connected is estimated at over 1,000,000,000 feet since their first mill was erected here in 1863.

The Ayres Lumber and Salt Co. are in financial difficulties, having executed a mortgage to Eben R. Ayres in trust for the use and benefit of the company's creditors, amounting to \$61,993.13. There is about \$20,000 due to the creditors which is not mentioned in the mortgage, so Mr. Ayres says, and as the assets greatly exceed the liabilities, they will be paid in full. It will continue in operation.

The Democrat, of Cheboygan, says there will be 150,000,000 feet of lumber sawed at that place this season, and possibly 160,000,000 feet, a larger amount than was ever sawed at Cheboygan before. Besides this the output of shingles and lath has exceeded the record, and the first shipments of leather and staves have been made. The Democrat does not think the hard times have struck Cheboygan.

SAGINAW, Mich., Oct. 26, 1893.

BRITISH COLUMBIA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

OUR shingle and lumber interests have of course suffered from the general depression, but British Columbia shingles have certainly not been used at any time instead of coin for payment of lumbermen's debts. Such, however, according to the West Coast Lumberman, of Tacoma, has been the case across the border in Washington, where, it is stated shingles are being sold at an unnecessary sacrifice, whilst "butchers, grocery men, machine houses, etc., have been taking shingles from their debtors, until it looked as though shingles could pass current in Washington, the same as coon skins did in Indiana." The Lumberman quaintly adds: The rumor that shingles were being thrown in contribution boxes and that ministers were taking them on salary account seems to be unfounded. This was doubtless a yarn started by some man who failed to bring his orthodoxy west when he came.

LUMBER EXHIBITORS.

The annual exhibition of the Royal Agricultural and Industrial Society was held here during the last week of September. All the sawmills and wood-working establishments in this locality were large exhibitors. The Pacific Coast Lumber Company obtained first prize for shingles. The New Westminster branch of the B. C. M. T. & T. Co. exhibited a cedar plank 2 in. thick, 40 in. wide, and 100 ft. long; a fir plank, 1½ in. thick, 52 in. wide, and 100 ft. long, which attracted considerable attention even here, and what would have been said had they been seen at an eastern fair? The Brunette Sawmill Company had some very fine mantels on view which have been sold in eastern Canada and England.

COAST CHIPS.

A practical man suggests that our mills or lumbermen might add to their other manufactures that of Venetian blinds, outside shutters and like goods.

Trade keeps holding its own. The B. S. Mill company loaded another vessel for Australia in September and have one now loading for the same destination.

Sample shipments of rough cedar are being sent to Japan by the Empress of India. If the result proves satisfactory large further consignments will be made, thus adding desirably to Canadian export trade in Japan, which is yet but small.

NEW WESTMINSTER, B.C., Oct. 20, 1893.

PERSONAL.

G. M. Merkley, of the planing mill, Morrisburg, Ont., was married the early part of October to Miss Emma Mickle, of Marietown. Congratulations.

The LUMBERMAN extends congratulations to Mr. H. H. Spicer, the big shingle manufacturer, of Vancouver, B.C., on the occasion of his recent marriage. The fair bride was Miss Anna Matilda Hart, a well-known resident of Vancouver.

Henry B. Frey, a millionaire lumberman, of Minneapolis, has taken to himself, for the third time, a wife in the person of a pretty Norwegian girl of twenty-three, who has acted as his housekeeper for the past three years. The bride is said to be not only remarkably pretty, but also bright and clever, despite her humble birth.

TRADE NOTES.

The Waterous Engine Works Co., of Brantford, Ont., are known to deal liberally with their customers, but when the printer in their advertisement of last month made them intimate that a saving of 50% was to be secured in placing an order for a hand saw now, he was a little too generous. The types should have read 5%, which at the low prices of the Waterous hand saws would mean a decided saving.

THE CANADA LUMBERMAN, \$1.00 per year. Subscribe.

THE NEWS.

CANADA.

—Conroy's mills, Ottawa, Ont., are now lighted by electricity.

—Two lumbermen at Collin's Inlet, Ont., quarrelled, when one man seized an axe and split open the head of the other, death resulting from the blow.

—Thos. Henry Jones, accountant of the Quebec Bank, Que., is dead. He was a son of Horatio Nelson Jones, in his life time a prominent ship-builder and lumber dealer, of Quebec.

—W. H. Macalpine, lumber, Montreal, Que., whose assignment is reported, started in February '91 and never made much headway. He owes \$17,000, and his wife is a creditor for between \$7,000 and \$8,000. Other creditors are Dupuis & Co., \$1,097, and the Rathbun Co., \$908.

—D. Gareau, a lumber dealer of the Upper Ottawa, at Aylmer, Que., has abandoned his estate for the benefit of his creditors. Liabilities about \$5,000. A lawsuit is threatened from the fact that before the abandonment a portion of the estate had been seized and advertized for sale.

—McRae Bros. & Co., of Ottawa, Ont., have a gang of men at work clearing away the debris, in order to build their new mill at Calabogie. Besides the circular saw, they intend to have a shingle and a lath saw. It is expected that the shingle mill will be ready to start in the early part of the winter.

—Pickard & Rowan, of Hepworth, Ont., have, by mutual consent, dissolved partnership and have formed a new firm composed of Thos. Pickard, T. A. Pickard and Wm. Rowan, who have bought a mill which is situated at Owen Sound, also a limit on the Bruce peninsula from J. E. Murphy, of Hepworth.

—A census bulletin recently issued by the Canadian Government shows that the workers in wood in the Dominion number 78,604; in stone, 30,856; in wood and stone combined, 10,201; and in metals, 49,476. The number of carpenters and joiners is 45,760; stone masons, 10,312; and painters and glaziers, 10,202.

—Chew Bros., of Midland, Ont., are cutting lumber for the Sault canal. The mills of Victoria Harbor, Penetang, Midland and Bobcaygeon are all engaged filling orders for square timber for the canal. Inspector Perkins is quoted as saying that there are yet three barge loads to be cut this autumn, and the chances are some one will have to go to the woods, if not British Columbia, before the order can be completed.

GENERAL.

—The saw and shingle machinery houses of Portland, Ore., complain of quiet times and slow collections.

—The damage done by forest fires in some parts of Wisconsin will necessitate a larger cut than was expected.

—One of the leading companies operating in lumber in eastern Oregon is the Oregon Lumber Co., which is owned and conducted solely by members of the Mormon church.

—Up to a fortnight ago, the Menominee River Boom Company had sorted 375,000,000 feet of logs. This is 80,000,000 feet less than the amount sorted up to the same date last year.

—Reports from Albany, N. Y., are to the effect that the lumber market of that city continues flat, and there is little in the situation to warrant a brisk fall business in the two months remaining before the close of navigation.

—Recently men have been looking over the Fire steel river, in Ontonagon county, Mich., with a view of cleaning it out for log driving. It is said that about fifty million feet of pine is tributary to that stream and will, in the near future, be cut and driven down to Lake Superior.

—The H. R. Duniway Lumber Co., of Portland, Ore., has made an assignment. The assets and liabilities are stated to each equal about \$100,000. The business will be continued in charge of a receiver. The cause of the assignment is attributed to the monetary stringency.

—A Swedish statistician has estimated that the extent of forest destroyed by fire in Norrland during the last 10 years is no less than 74,000 hectares—about 185,000 acres. Most of these conflagrations are caused by camp fires, which are left smouldering, while a great many others are due to incendiarism.

—It is estimated that the total amount of lumber sawed this season by the Minneapolis sawmills is 413,000,000 feet against 488,724,624 last year. This shows a reduction of fully one-sixth of the production of last season, which together with the 42,000,000 that was destroyed by the big fire in August, curtails the available lumber in the market at Minneapolis by 24.2 per cent. of last year's figures.

—For the third time a suit has been entered against W. S. Hill, of Minneapolis, for damages arising from the death of

George Kuroy, a four year old boy who was killed by falling lumber. The first time the case was brought up it was thrown out by the grand jury, and the second trial found a disagreement among the jury. The outcome of the present trial is awaited with considerable interest. The boy's parents ask for \$5,000, claiming that the lumber had been piled in a dangerous manner.

—The report of Surveyor-General Grossman for the first nine months of 1893 shows a large falling off in the amount of lumber handled at Bangor, Me., thus far this year as compared with the output during the corresponding period of 1892 and 1891. It is as follows:

	1891	1892	1893
Dry pine.....	11,030,051	13,631,861	11,905,597
Green pine.....	3,837,400	3,438,881	2,790,908
Spruce.....	91,909,693	78,856,931	56,700,089
Hemlock, etc.....	17,753,970	21,360,977	20,159,279
Totals.....	124,571,123	117,290,643	91,664,873

—Notwithstanding the financial depression in the United States there will not be a decrease in rail shipments of either lumber or shingles a year in the Puget Sound District. Up to Sept. 1 the shipments of shingles aggregated something over 900,000,000 against less than 1,000,000,000 for the entire year in 1892. The lumber shipments up to Sept. 1 run over 80,000,000 feet. The shipments during the year 1892 footed up 105,000,000 feet. So it will be seen that the rail trade will show up all right this year. The cargo movement, however, will show a decrease, some say of 50,000,000 feet.

FIRES AND CASUALTIES.

FIRES.

—The sawmill and stove factory of Ament Bros., Brussels, Ont., was destroyed by fire in October. Loss, \$7,000; insurance, \$2,000.

—The planing mill owned and occupied by James McDonald, at Oakville, Ont., was completely destroyed by fire about ten days ago. Loss about \$3,000; insured.

—A sawmill owned by John McConachie, at Pennsular Portage, Ont., 7 miles from Huntsville, Ont., has been burned, also about 500,000 shingles. Loss, \$3,000; no insurance.

CASUALTIES.

—Two men in J. R. Booth's mill, Ottawa, Ont., received severe bruises through being caught in certain unprotected shafting.

—J. W. Asselstine was the victim of an untoward accident while working in the Sash factory at Deseronto, Ont. His left hand came in contact with the saw and the two forefingers were cut off, while the thumb and another finger were also badly scratched.

—Albert Fournier, employed in Conroy's lumber yard at Deschene mills, Ottawa district, fell from the top of a moving tramway lumber car, a wheel striking him on one side of his body breaking a number of ribs and causing other serious injuries from which he died half an hour afterward.

—A peculiar and serious accident occurred at Daniel Henrick's sawmill, Scaforth, Ont. Fred. Rudolph, who was running the saw, fell under the fly-wheel and in its revolutions the flesh between the shoulder blades was as completely roasted as though done with a hot iron. One of the small bones was also broken. His case is serious, but his physician hopes to be able to pull him through.

PUBLICATIONS.

We have received a copy of a pretty song entitled "Deal Gently with the Erring," published by F. W. Helmick, 265 Sixth Avenue, New York.

"The Psychology of Crime," by Henry Wood, is a notable feature of the October Arena, which also contains able contributions on religious, social, political and economic issues. The Arena fully maintains its position as the review which most clearly voices advanced thought and progressive ideas.

The Review of Reviews almost more than any other journal seems to meet the needs of every class of readers. Its contributed articles from many of the ablest writers of the day are always timely. We do not know where a more perfect digest of current affairs is to be found than in its editorial discussions of public events, whilst its summary of the contents of all the magazines is as unique as it is comprehensive and intelligible.

From out of the large number of trade journals, that reach this office, English, American and Canadian, we can easily give the special Fall number of the Canadian Grocer, published by the J. B. McLean Publishing Co., of Toronto, a foremost place. The lithographed cover is handsome, whilst the letterpress and illustrations reflect great credit on printer and engraver. The contents are specially suited to the trades

represented, and embrace a wide range of topics, telling of the painstaking care and ability of the editor.

The record of the Cosmopolitan Magazine since the price was reduced to 12½ cents a copy is unprecedented in the history of magazine journalism. After 211,000 copies of the September number had been sold the News companies had orders for 50,000 which they were unable to supply. The publishers do not yet know what their real circulation is, owing to the limited capacity of their presses; but machinery is being put in place which will supply an edition for December exceeding 300,000, and during that month it will be possible to determine just how many Cosmopolitans the public will buy.

With its November issue the Ladies' Home Journal celebrates its tenth birthday by an attractive jubilee number, which is crowded with good things. Frank R. Stockton tells how he conceived and wrote his famous story "The Lady or The Tiger." Professor H. H. Boyesen writes of "Mr. Howells at Close Range." Rev. Morgan Dix, D.D., of Trinity Church, gives a portrayal of "The Society Woman of To-Day." Amelia E. Barr has a strong article in answering the question "Why do Not Literary Women Marry?" which Octave Thanet cleverly supplements in a brief article, "But They Do Marry." Robert J. Burdette is at his best in pointing out what, in his opinion, is "The Taskmistress of Woman," while Will Carleton suggests his best poems in "Captain Young's Thanksgiving," which is accompanied by a characteristic illustration by Alice Barber Stephens.

THINGS TO REMEMBER ABOUT SHAFTING.

Don't buy light hangers and think that they will do well enough, when your own judgment tells you that they will spring.

Remember that shafting is turned one-sixteenth inch smaller than the normal size.

Cold-rolled and hot-rolled shafting can be obtained the full size.

The sizes of shafting vary by quarter inches up to 3½ inches. The ordinary run of shafting is not manufactured longer than from 18 to 20 feet.

For line shafts never use any that is smaller than 1 11-16 inches in diameter, as the smallest diameters are not strong enough to withstand the strain of the belts without springing. The economical speed of shafting for machine shops has been found to be from 125 to 150 revolutions per minute, and for wood-working shops from 200 to 300 revolutions.

A jackshaft is a shaft that is used to receive the entire power direct from the engine or other motor, which it delivers to the various main shafts.

Keep the shaftings well lined up at all times, and this will ward off a break down and avoid a waste of power.

Know that the pulleys are well balanced before they are put in position, as a pulley much out of balance is quite a sure method to throw shafting out of line.

Look at the pulleys and see that they have been bored to the size of the shaft and prevent smooth running.

If possible, apply the power to a line of shafting at or near the centre of its length, as this will enable you to use the lightest possible weight of shafting.

Hangers with adjustable boxes will be found to be the most convenient for keeping the shafting in line.

Keep your drip-cups cleaned, and do not allow them to overflow or get loose.

Have a supply of tallow in the boxes; in case of accidental heating it will melt and prevent cutting; this rule, while good for general use, applies particularly to special cases where there is a supposed liability to heating.

Never lay tools or other things on belts that are standing still, for they may be forgotten and cause a breakdown when the machinery is started.

Don't attempt to run a shaft in a box that is too large or too small, as you will waste time and fail to secure good results.

A loose collar held by a set-screw will cause the collar to stand askew, and it will cut and wear the box against which it runs.

In erecting a line of shafting, the largest sections should be placed at the point where the power is applied. The diameter can then be gradually decreased toward the extremities remote from this point.

Don't put loose bolts in plate couplings, as this will give no end of trouble in cutting, shearing and the wearing away of the bolt holes.

Don't think that because your shafting has been well erected, and you oil it regularly, that it will never need any inspection or repairs.

Don't try to economize in first cost by having long distances between hanging, for a well-supported shaft will always do the best work; short shafts are surest to be straight and remain so.—American Engineer.

TRADE REVIEW.

Office of CANADA LUMBERMAN, }
(October 31, 1893.)

THE GENERAL SURVEY.

AS the active season for lumber hastens to a close the disposition is to make the most of all business that comes along. Shipments are hurried forward before navigation closes, and the rail trade is pushed before the difficulties of snow and frost hamper this method of locomotion. For these reasons lumber trade has been fairly active during the month. It is a time, as it were, when the ends of business are gathered up, and a clearing of the decks, to use a nautical expression, takes place. On the Chaudiere we hear of a good deal of shipping, not a little to the United States, despite the depression, and of fair quantities going to South America.

Relatively there will be greater activity in the woods in Canada the coming winter than in the United States, and yet a conservative feeling prevails among lumbermen in regard to the work to be done. Across the border it seems pretty certain that the supply of shanty-men will far exceed the demand.

Lumbermen of the North Shore and Georgian Bay districts have done a rather steady business, affected certainly by the depression across the border, but not as much as might have been expected.

Home trade in Ontario is slow. Little building is doing and the complaint is of money being hard to get.

With an anticipated revival of business in Australia and South America, lumbermen of British Columbia are looking forward to an improving trade. Local trade is only middling.

In the Maritime provinces, taking the month through, there has been a good deal of shipping, and lumbermen and millmen not disposed to complain terribly of the condition of trade. Farnworth & Jardine, in their Liverpool Wood Circular, say of New Brunswick and Nova Scotia spruce and pine deals: "The import has been moderate, viz., \$1,401 standards, against 9,185 standards in 1892 and 10,382 standards in 1891 corresponding time; the deliveries have been fair, and the stock remaining over may now be considered moderate: notwithstanding this, prices during the month have slightly given way, although late sales show a little recovery. Pine deals are seldom enquired for."

UNITED STATES.

It is beginning to be felt that the hopes entertained a month ago of a revival of lumber trade in the United States this fall are falling far short of realization. With a likely settlement of the monetary difficulties, with which Congress has been wrestling, business looked up in September, but the revival has not extended through October. At most leading points the complaint is that the distribution of lumber is falling considerably short of that of a year ago. The look now is forward to the spring which is not without some signs of encouragement.

FOREIGN.

Not from any source do we get encouraging news of the British lumber markets. Farnworth & Jardine, of Liverpool, in their wood circular for October say: "We have no improvement to report in the tone of our market, which continues exceedingly dull, and although a fair quantity of the import has gone direct from the quay into consumption, the values realized have been disappointing, and stocks of all articles are quite ample." Of Canadian woods the circular says: "Of waney pine the import has been heavy, but the bulk has gone direct from the quay into consumption; values have been maintained; the stock is sufficient. Square pine has been imported moderately, there is no improvement in the demand, and the late sales have been at lower rates. Red pine has moved off very slowly; there is no change in value, and only large wood is saleable. Oak has come forward too freely; first-class wood continues to move off at satisfactory prices, but the stock of inferior

is accumulating, and is too heavy. Ash has been imported in excess of the demand, prices are easier, and the stock is too large. Pine deals have come forward more moderately; there is no improvement either in the demand or value, and the stock, although considerably less than at the same time last year, is quite sufficient." Denny, Mott & Dickson, in their current London circular tell a similar story to their Liverpool congeners in the trade. They say: "Business during the past month has shewn no tendency to improve, and the underlying feeling for some time past that the turning to the long lane of stagnation must be near at hand, is losing its sustaining power in face of the great blow inflicted on the leading industries of the country by the unhappy strike in the coal trade—a blow which must react on the consuming power of the community. Whether the timber trade will be seriously involved in the financial embarrassments which promise to be brought about, should the remaining quarter of the year fail to show some improvement in trade, remains to be seen, but there can be little doubt that, notwithstanding the return to cheap money, the strain is getting increasingly severe on holders of small means, and the outlook is rather ominous, unless a revival of trade is nearer than seems now apparent." From Australia comes word of an easing up of the money market. The monetary stringency, which has been long and severe, is showing signs of improvement. During the period of depression lumber stocks were allowed to run very low, and now a period of stocking up, to some extent at least, is becoming a necessity. Favorable reports are also received from South America, and within the past month several fair shipments were sent from Canada to South American ports.

HARDWOODS.

The trade in hardwoods, particularly in the States is largely in a demoralized condition. The Northwestern Lumberman says: "Reports from the eastern markets indicate that the season's accumulations of the hardwoods are now being urged on the markets in quantity sufficient to cause a severe pressure on prices. The same is true of western markets, though the effect is less pronounced, perhaps, in the west, because there is little buying at any price. The time has come when we may look for a crisis in hardwood prices unless there shall be a sudden and considerable rise in consumptive demand. Hardwood mill operators have held out of the market through the season, hoping that affairs would so improve as to give them outlet and relief. They have waited only to be disappointed, and are now inclined to sell product for what it will bring in order to make their January settlements and avoid carrying their lumber into another year."

TORONTO, ONT.

Toronto, October 31, 1893.

CAR OR CARGO LOTS.

1 1/4 in. cut up and better	33 00	36 00
1 1/2 and 1 3/4 dressing and better	20 00	22 00
1 1/2 and 1 3/4 mill run	16 00	17 00
1 1/2 and 1 3/4 common	13 00	14 00
1 1/2 and 1 3/4 square culls	10 00	11 00
1 1/2 and 1 3/4 mill culls	10 00	11 00
1 inch clear and picks	28 00	32 00
1 inch dressing and better	20 00	22 00
1 inch siding mill run	14 00	15 00
1 inch siding common	12 00	13 00
1 inch siding ship culls	11 00	12 00
1 inch siding mill culls	9 00	10 00
Cull scantling	8 00	9 00
1 1/2 and thicker cutting up plank	24 00	26 00
1 inch strips 4 in. to 8 in. mill run	14 00	15 00
1 inch strips, common	12 00	13 00
1 1/2 inch flooring	19 00	20 00
1 1/2 inch flooring	16 00	17 00
XXX shingles, 16 inch	7 50	8 00
XX shingles, 16 inch	1 50	1 60
Lath, No. 1	2 15	2 25
Lath, No. 2	1 80	1 85

YARD QUOTATIONS.

Mill cull boards and scantling	5 00			
Shipping cull boards, promiss-				
ions widths	13 00	1 1/2 in. flooring, dressed	25 00	29 00
stocks	16 00	" " " rough	18 00	22 00
		" " " dressed	23 00	28 00
Scantling and joist, up to 16 ft	14 00	1 1/4 in. flooring, un-		
" " " " 18 ft	15 00	dressed, No. 1	16 00	18 00
" " " " 20 ft	16 00	1 1/4 in. flooring, dressed	18 00	20 00
" " " " 22 ft	17 00	" " " undressed	12 00	15 00
" " " " 24 ft	19 00	Beaded sheeting, dress-		
" " " " 26 ft	20 00	ed	20 00	35 00
" " " " 28 ft	22 00	Clapboarding, dressed		
" " " " 30 ft	24 00	XXX sawn shingles		
" " " " 32 ft	26 00	per M.	2 60	2 70
" " " " 34 ft	27 00	Sawn lath		
" " " " 36 ft	29 00	Red Oak	30 00	40 00
" " " " 38 ft	31 00	White "	32 00	45 00
" " " " 40 ft	33 00	Hasswood, No. 1 and 2	28 00	39 00
" " " " 42 ft	35 00	Cherry, No. 1 and 2	26 00	31 00
" " " " 44 ft	37 00	White ash, 1 and 2	24 00	30 00
Cutting up planks, 1	25 00	Black ash, 1 and 2	20 00	30 00
and thicker, dry	28 00			
board 18 in	24 00			
Dressing blocks	16 00			
Picks Am. inspection	20 00			

HARDWOODS—PER M. FEET CAR LOTS.			
Ash, white	1 to 2 in.	\$18 00	\$20 00
" black	1 to 2 in.	20 00	24 00
Birch, sq.	1 to 2 in.	17 00	20 00
" red	1 to 2 in.	8 50	20 00
" yellow	1 to 2 in.	22 00	25 00
Basswood	1 to 2 in.	14 00	15 00
Butternut	1 to 2 in.	13 00	16 00
Chestnut	1 to 2 in.	25 00	28 00
Cherry	1 to 2 in.	35 00	40 00
" "	1 to 2 in.	50 00	60 00
" "	1 to 2 in.	60 00	65 00

OTTAWA, ONT.

OTTAWA, October 31, 1893.

Pine, good sidings, per M feet, h.m.	\$32 00	40 00
Pine, good strips, " "	27 00	35 00
Pine, good shorts, " "	20 00	27 00
Pine, 2nd quality sidings, per M feet, h.m.	20 00	25 00
Pine, 2nd quality strips, " "	18 00	22 00
Pine, 2nd quality shorts, " "	15 00	18 00
Pine, shipping cull stock, " "	14 00	16 00
Pine, box cull stock, " "	11 00	13 00
Pine, s.c. strips and sidings, " "	11 00	14 00
Pine, mill cull, " "	8 00	10 00
Lath, per M	1 60	1 90

QUEBEC, QUE.

QUEBEC, October 31, 1893.

WHITE PINE—IN THE RAFT.

For inferior and ordinary according to average, quality etc., measured off	14	18
For fair average quality, according to average, etc., measured off	16	20
For good and good fair average, " " "	23	27
For superior " " "	28	34
In shipping order " " "	29	35
Waney board, 18 to 19 inch " " "	30	36
Waney board, 19 to 21 inch " " "	37	40

RED PINE—IN THE RAFT.

Measured off, according to average and quality	14	22
In shipping order, 35 to 45 feet	27	30

OAK—MICHIGAN AND OHIO.

By the dram, according to average and quality	45	51
By the dram, according to average and quality, 45 to 50 feet	30	32
" " " " 30 to 35 feet	25	28

ASHL.

14 inches and up, according to average and quality	30	34
16 inch average, according to average and quality	20	23

TAMARAC.

Square, according to size and quality	17	19
Flatted, " " "	15	18

STAVES.

Merchantable Pipe, according to qual. and spec'n—nominal	\$330	\$350
W. O. Puncture, Merchantable, according to quality	90	100

DEALS.

Bright, according to mill specification, \$115 to \$123 for 1st, \$78 to \$82 for 2nd, and \$37 to \$42 for 3rd quality.		
Bright spruce, according to mill specification, \$40 to \$43 for 1st, \$27 to \$28 for 2nd, \$23 to \$25 for 3rd, and \$19 to \$21 for 4th quality.		

BOSTON, MASS.

BOSTON, Mass., Oct. 31.—A hopeful tone prevails among lumbermen. Sales are made with comparative freedom. Spruce is in fair demand, the opinion prevailing that no risk can be taken at present low prices.

EASTERN PINE—CARGO OR CAR LOAD.

Ordinary planed	1 1/2 inch	9 50
boards	1 1/2 inch	8 50
Coarse No. 5	1 1/2 inch	9 00
Refuse	1 1/2 inch	8 50
Outs	1 1/2 inch	8 50
Boards, 1 inch	1 1/2 inch	35 00
" 1/2 inch	1 1/2 inch	20 00

WESTERN PINE—BY CAR LOAD.

Uppers, 1 in.	42 00	46 00
1 1/2, 1 3/2 and 2 in.	55 00	60 00
3 and 4 in.	60 00	65 00
Selects, 1 in.	45 00	47 00
1 1/2, 1 3/2 and 2 in.	48 00	50 00
3 and 4 in.	56 00	59 00
Moulding boards, 7 to 11 in. clear	16 00	18 00
11 in. clear	16 00	18 00
6 per cent. clear	14 00	16 00
Fine common, 1 in.	38 00	43 00
1 1/2, 1 3/2 and 2 in.	41 00	43 00

SPRUCE—BY CARGO.

Coarse, rough	12 00	14 00
random cargoes	14 00	15 00
Yard orders, ordinary	12 00	13 00
sizes	15 00	16 00
Yard orders, extra	16 00	18 00
sizes	19 00	20 00
Clear floor boards	16 00	17 00
No. 1	16 00	17 00
No. 2	16 00	17 00

LATH.

Spruce by cargo	2 30	2 50
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SHINGLES.

Eastern sawed cedar, extra	\$2 75	\$3 00
clear	2 75	2 80
2nd	1 75	2 00
extra No. 1	1 25	1 75
Eastern shaved sawed cedar, 1st quality	3 00	4 75
2nd quality	3 85	4 00
3rd "	3 00	3 75
4th "	1 50	
Spruce No. 1	1 50	

OSWEGO, N.Y.

OSWEGO, N.Y., Oct. 31.—Pine and hardwood are both in better demand than for some time past.

WHITE PINE.

Three uppers, 1 1/2, 1 3/2 and 2 inch	\$47 00	\$49 00
Pickers	39 00	40 00
No. 1, cutting up	34 00	35 00
No. 2, cutting up	24 00	25 00
In strips, 4 to 8 wide, select ^d for moulding strips, 14 to 16 ft.	32 00	34 00

SHINGS.

1 in. siding, cutting up	32 00	33 00
1 in. jacks and uppers	19 00	21 00
1 in. dressing	14 00	15 00
1 in No. 1 culls	19 00	20 00
1 in No. 2 culls	13 00	14 00
1 in No. 3 culls	10 00	11 00

1 1/2 INCH.	
12 and 16 feet, mill run.....	21 00 24 00
12 and 16 feet, No. 1 and 2, barn boards.....	19 00 20 00
12 and 16 feet, dressing and better.....	27 00 31 00
12 and 16 feet, No. 2 culls.....	15 00 16 00
1 3/4 INCH.	
12 and 13 feet, mill run, mill cullout.....	21 00 21 00
12 and 13 feet, dressing and better.....	26 00 28 00
12 to 14 to 16 barn boards.....	18 00 19 00
12 and 13 feet, No. 1 culls.....	19 00 17 00
12 and 13 feet, No. 2 culls.....	15 00 16 00
14 to 16 feet, mill run mill cullout.....	21 00 21 00
14 to 16 feet, dressing and better.....	29 00 28 00
14 to 16 feet, No. 1 culls.....	17 00 13 00
14 to 16 feet, No. 2 culls.....	15 00 18 00
10 to 13 feet, No. 3 culls.....	11 00 12 00
1 1/2 INCH.	
Mill run, mill cullout.....	25 00 25 00
Dressing and better.....	27 00 35 00
No. 1 culls.....	17 00 18 00
No. 2 culls.....	15 00 16 00
1 3/4 INCH.	
Mill run, mill cullout.....	17 00 17 00
Dressing and better.....	24 00 30 00
No. 1 culls.....	14 00 15 00
No. 2 culls.....	13 00 14 00
1 1/2 INCH.	
6, 7 or 8, mill run, mill cullout.....	20 00 25 00
6, 7 or 8, drsg and better.....	25 00 30 00
No. 1 culls.....	16 00 17 00
No. 2 culls.....	14 00 15 00
SHINGLES.	
XXX, 18 in. pine.....	3 70 3 90
Clear butts, pine, 18 in.....	2 70 2 90
XXX, 16 in. pine.....	3 30 3 50
Stock cedars, 5 or 6 in.....	4 50 5 00
XXX, 18 in. cedar.....	3 50 3 71
Clear butt, 18 in. cedar.....	2 50 2 71
XX, 18 in. cedar.....	1 90 2 00
LATH.	
No. 1, 1 1/2.....	2 00 2 00
No. 1, 1 in.....	1 20 1 20
No. 2, 1 1/2.....	2 00 2 00
No. 2, 1 in.....	1 20 1 20

BUFFALO AND TONAWANDA, N.Y.

TONAWANDA, N.Y., Oct. 31. The season is coming to a close here with dullness marking trade. Throughout the entire month business has dragged. A fair demand exists for pine, but generally shipments of any size are unknown. Prices do not change, and this is the most favorable feature of the month.

WHITE PINE.	
Uppers, 1, 1 1/2, 1 3/4 and 2 in.....	\$2 00 50 00
2 1/2 and 3 in.....	36 00 58 00
4 in.....	64 00 62 00
Selects, 1 in.....	38 00 49 00
1 1/2 to 2 in.....	40 00 42 00
2 1/2 and 3 in.....	51 00 53 00
4 in.....	52 00 53 00
Fine common, 1 in.....	35 00 38 00
1 1/2 and 1 3/4 in.....	37 00 38 00
2 in.....	39 00 40 00
3 in.....	47 00 47 00
4 in.....	47 00 47 00
Cutting up, No. 1, 1 in.....	22 00 30 00
1 1/2 to 2 in.....	35 00 36 00
No. 2, 1 in.....	19 00 20 00
No. 2, 1 1/2 to 2 in.....	25 00 29 00
No. 3, 1 1/2 to 2 in.....	18 00 19 00
BOX.	
1x10 and 12 in. (No 3 out).....	14 00 14 00
1x6 and 8 in. (No. 3 out).....	13 50 15 00
1x13 and wider.....	16 00 18 00
SHINGLES.	
18 in. XXX, clear.....	3 75 4 00
18 in. XX, 6 in. clear.....	2 75 2 75
LATH.	
No. 1, 4 ft.....	2 60 2 70
No. 2, 4 ft.....	1 95 1 95

ALBANY, N.Y.

ALBANY, N.Y., Oct. 31.—Trade has not nearly equalled expectations for this season of the year. Shipments in place of being lively, as they usually are towards close of navigation, are slow. Reports from salesmen on the road do not possess much encouragement.

PINE.	
2 1/2 in. and up, good.....	\$16 50 \$16 50
Fourths.....	58 50 58 50
Selects.....	50 50 50 50
Pickings.....	45 50 45 50
1 1/2 to 2 in. good.....	52 50 52 50
Fourths.....	47 50 47 50
Selects.....	47 50 47 50
Pickings.....	37 50 37 50
1 in. good.....	52 50 52 50
Fourths.....	47 50 47 50
Selects.....	47 50 47 50
Pickings.....	37 50 37 50
Cutting-up.....	27 50 27 50
Bracket plank.....	39 50 39 50
Shelving boards, 12 in. up.....	39 50 39 50
Dressing boards, narrow.....	20 50 20 50
LATH.	
Pine.....	\$2 40 \$2 40
Spruce.....	\$2 40 \$2 40
SHINGLES.	
Sawed Pine, ex. XXX.....	\$4 35 \$4 50
Clear butts.....	3 15 3 25
Smooth, 6x18.....	5 50 5 60
10-in. common.....	\$15 \$16
12-in. dressing and better.....	25 34
Common.....	15 17
1 1/2 in. siding, selected, 13 ft.....	49 45
Common.....	15 17
1-in. siding, selected.....	38 47
Common.....	22 25
Norway, clear.....	15 17
Dressing.....	22 25
Common.....	16 18
10-in. plank, 13 ft., dressing.....	11 15
and better, each.....	42 55
10-in. plank, 13-ft. culls, each.....	23 25
10-in. boards, 13 ft., dressing.....	25 22
and better, each.....	25 22
10-in. boards, 13-ft. culls.....	17 21

SAGINAW, MICH.

SAGINAW, Mich., Oct. 31.—The hoped-for, and with some, predicted revival of trade, so soon as the silver question was settled, has not reached this centre. The season will mark one of the duller for years. Lumber does not move, and the plans for the winter's work are on an extremely limited scale.

FINISHING LUMBER ROUGH.	
Uppers, 1, 1 1/2 and 1 3/4.....	45 00 45 00
2 in.....	40 00 40 00
Selects, 1 in.....	40 00 40 00
1 1/2 and 1 3/4.....	41 00 41 00
2 in.....	41 00 41 00
Fine common, 1 in.....	35 00 35 00
1 1/2 and 1 3/4 in.....	30 00 30 00
2 in.....	30 00 30 00
C, 7, 8 and 9 in.....	30 00 30 00
SIDING.	
Clear, 1/2 in.....	21 00 21 00
3/4 in.....	21 00 21 00
Select, 1/2 in.....	21 00 21 00
3/4 in.....	21 00 21 00
TIMBER, JOIST AND SCANTLING.	
24 to 10x10, 12, 14 and 16 ft.....	\$11 00 11 00
18 ft.....	11 00 11 00
20 ft.....	11 00 11 00
22 and 24 ft.....	15 00 15 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 65 3 65
XXX Saginaw.....	3 40 3 40
XX Climax.....	2 25 2 25
18 in. 4 in. c. b.....	1 25 1 25
LATH.	
Lath, No 1, white pine.....	2 25 2 25
Lath, No. 2, W. pine, Norway.....	1 65 1 65

NEW YORK CITY.

NEW YORK, Oct. 31.—Trade is of an uncertain and indifferent character. There are spurts now and again, but no large volume of business is doing. The New York Lumber Trade Journal says: "Dealers are renewing customer's paper right and left, and conditions are not at all favorable at the present time for a good winter's trade. Nothing is in demand except for immediate wants, and it would be ridiculous to say to the contrary."

WHITE PINE—WESTERN GRADES.

Uppers, 1 in.....	\$4 00 45 00	Coffin boards.....	20 00 22 00
1 1/2, 1 3/4 and 2 in.....	46 00 47 00	Box, in.....	\$17 00 17 50
3 and 4 in.....	55 00 58 00	Thicker.....	17 50 18 50
Selects, 1 in.....	40 00 41 00	Ceiling, base, fig. No. 1.....	40 00 42 00
1 in., all wide.....	41 00 43 00	No. 2.....	35 00 37 00
1 1/2, 1 3/4 and 2 in.....	43 00 44 00	No. 3.....	24 00 26 00
3 and 4 in.....	52 00 53 00	Shelving, No. 1.....	30 00 32 00
Fine common, 1 in.....	36 00 37 00	No. 2.....	25 00 27 00
1 1/2, 1 3/4 and 2 in.....	38 00 40 00	Molding, No. 1.....	36 00 37 00
3 and 4 in.....	46 00 48 00	No. 2.....	34 00 36 00
Cutting up, 1 in. No. 1.....	28 00 30 00	Bevel siding, clear.....	22 50 23 00
No. 2.....	21 00 23 00	No. 1.....	22 00 22 50
Thick, No. 1.....	29 00 32 00	No. 2.....	20 00 20 50
No. 2.....	24 00 26 00	No. 3.....	16 00 17 00
Common, No. 1, 10 and 12 in.....	22 00 23 00	Norway, c1, and No. 1.....	23 00 25 00
No. 2.....	20 00 21 00	No. 2.....	20 00 22 00
No. 3.....	17 00 18 00	Common.....	18 00 19 00

DONT.

ONE of the most common, and at the same time greatest abuses of the boiler, is the reckless practice of blowing out the boiler as soon as the fires are hauled, and the boiler still hot. Under such circumstances the contraction of the fire-sheet, tube-sheet and tubes is so unequal and rapid that in the end it results in the ruin of the boiler.

LEADS THE WORLD.

THE Magnolia Metal Company, having offices at New York, Chicago, London and all over the world, has been allotted the highest award possible at the World's Fair, Chicago, on their Magnolia Metal. A medal has been granted and a diploma with following specifications allowed and set forth:

- 1—It prevents hot boxes.
- 2—It will not cut or heat journals.
- 3—Its lasting qualities are of the highest order.
- 4—It is a self-lubricating metal, saving large percentage of oil.
- 5—It increases the motive power.
- 6—It is the only metal that protects and does not wear journals. It enamels them.
- 7—It is adapted to high and low speed machinery.
- 8—It will stand the heavy work of sugar, rolling, saw and wire mills.
- 9—It is a success for main journal and crank-pin bearings; also, gills of steamships and steam tugs.
- 10—It is the best water metal.

WELL ORGANIZED.

LONDON has long been the monetary centre of Western Ontario. Its loan companies control more capital than those of any other city in Canada except Toronto, while all the chartered banks in London reap good results. The latest enterprise established here, with its head office at the Masonic Temple, is the Steam Boiler Inspection and Plate Glass Insurance Company. Already it is acquiring a snug and thriving business. Its board of directors are well-known business men, E. Jones Parke, Q.C., being president; F. A. Fitzgerald, president of the Imperial Oil Company, is vice-president, and Tom. David Mills, Q.C., M.P., ex-Minister of the Interior, Mr. John Morrison, ex-governor of the British America Insurance Company of Toronto, and Mr. T. H. Pardon, barrister, of London, are the directors. The services of Mr. J. H. Killey, of Hamilton, have been secured as consulting engineer, and it will be welcome news to the citizens generally to know that Mr. John Fairgrieve returns to London as its inspector. The management is in the energetic hands of Mr. James Law, and the Advertiser predicts a successful career, under his oversight, for London's latest enterprise.—London Advertiser.

STEAM PUMPS



Duplex Steam Pumps

AND SINGLE AND POWER

If you require a pump for any duty, of the latest and most improved pattern, and at close prices,

WRITE US

NORTHEY M'FG CO.

LIMITED TORONTO - ONT.

LUMBERING IN ENGLAND.

THE English lumber trade, as seen by one who has been accustomed to lumbering in its various branches in the new world, is a peculiar institution. Some little time since a representative of the North-western Lumberman visited Great Britain, and while there made a study of lumber in that country. An attempt to learn it, he tells us, is about as novel as learning a new language. Although England is not in any comprehensive sense a lumber producing country, yet the stumps and bean poles which are periodically collected and advertised as timber sales, supply to some extent the domestic demand, and act as a check on the prices of foreign lumber.

In the northern part of England, and still more in Scotland, scientific tree raising has developed to such an extent that crops of trees are raised and sold like wheat or cabbages. These trees, however, are generally pine, spruce or larch, or else coppices of hardwoods, that is, small growths, the stumps of trees being cut back so as to produce an abundant crop of small poles from two to five or six inches in diameter. No boards can be sawed from such stuff, but it is useful for poles, mine-props, railway ties, fence posts and the like, and for firewood. A limited quantity of timber is also obtained from old trees on the various large estates which are cut down from time to time, and advertisements are often seen in the lumber journals like the following:

250 oak trees, with top, top and bark, contents seventeen feet average, 300 coppice grown ash trees, three birch, two maple, five pear logs, also alder and birch props, and a quantity of poles and tops.

Of course such trees have a very short trunk or "leg" as it is called, generally under ten feet in length, but everything is most religiously saved. These country auction sales are very pleasant affairs, but the buyers never allow feelings to influence their bids. One o'clock in the afternoon is a popular time for a sale, and it is frequently preceded by a substantial lunch, with liquid trimmings furnished at the expense of the seller, and this genial custom obtains even at some of the great Liverpool sales. These goods to be sold will perhaps consist of half a dozen small piles of oak, ash and elm logs, from five to fifteen feet in length, some piles of long, slender ash and alder poles, coppice grown, and a few heaps of brushwood for supporting peas and beans.

The buyer is expected to know what he purchases; every log is examined with almost microscopical minuteness before the sale, and a crowd of solemn, well-fed Englishmen poking around among a quantity of stumps and brush heaps, punching their canes and pocket-knives into every knot-hole or decayed spot, or passing funeral criticisms as to how far a crack extends into a log is a sight worthy of commemoration by a camera. The sales are generally made where the articles to be sold are lying: the bidders gather around as if to review the remains of the dear departed, the auctioneer calls out the bids in about the same tone of voice as a minister would use at a funeral, and after the lot has been bid off, the purchaser tears off the sale number for identification, and the crowd moves to the next grave. Larger sales are generally made by offers in writing, after advertisement, the highest bid being accepted. Buyers of course, remove their purchases at their own expense and take them either to the mills, or as is not uncommon, have the mills, small, portable affairs, come to them.

The timber yards, as they are called in the large cities, are very compact, and even in the great metropolis of London are to be found in the busiest part of the city. Generally they do not occupy more than 3,000 to 5,000 square feet of ground room, and the bulk of the lumber is stacked up vertically. This is covered over, and on an upper floor will be found assorted sizes of dressed lumber of various kinds. In the case of valuable kinds of wood, such as oak, mahogany, teak, walnut and the like, it is the practice to cut the logs without squaring, so as to keep all the boards of a log together, and then they are stacked vertically, so that a purchaser can easily examine each board. Such sawed logs are sold as a whole, though a purchaser can buy the center boards which will be rift-sawed, but will be compelled to pay a much higher price in proportion. Large stocks and extended yards, such as can frequently

be seen in the larger cities in the United States, are very rare in England, except on or near the dock in the few cities of Liverpool, Bristol, London, Grimsby, Hull, etc.

But to get a notion of the English timber trade, and to get at the secrets of its peculiarities, one must spend a day at the Surrey Commercial docks. One searches in vain along the vast river front of the Thames to find lumber vessels unloading at the wharves, and to see the adjacent piles of lumber, but once let him find the narrow entrances to the Surrey docks and the mystery is solved. These famous docks, the chief depot for the lumber and grain trade, not only of London, but of England, are situated in a curve of the river Thames, about four miles in a straight line southeast from the Bank of England and the centre of the city. They consist of a series of 16 ponds, connected with one another, and also connected with the Thames by four inlets. Ten of these bodies of water are called docks from the wharves that line them, the remaining ponds being used for storing floated timber. These docks and ponds cover 159 acres, and around them are 220 acres of piling ground for the lumber in store. The length of quayage or water frontage available for the discharge of cargoes is five miles.

There are charges for everything, from the time of entering the docks—for lirage, for dockage, for repiling, assorting, carting, calculating—though the charges of the dock company proper do not begin until after the piling is done. One case has become classic. A cargo of yellow deals, from Gefle, Sweden, comprising 350 stds. (700,000 ft.) of deals, 575,000 pcs. of prepared boards and a small quantity of moulding, was delivered at the Surrey docks. This sorting took six weeks, and the space occupied was 25,000 square feet during that time, and 12,000 feet after the cargo was finally piled. To ascertain the quantity so as to determine the charges and make out an invoice necessitated over 5,000 acts of calculation.

Since the establishment in foreign countries, particularly Norway, Sweden and Russia, of huge saw and planing mills, the tendency has been to send all lumber cut to size, and, where possible also dressed, and the size and qualities now used comprise many utterly unknown to the trade a few years ago. Competition has made it necessary for manufacturers to cut as near as possible to the requirements of the buyer, and in the future this will be done more than ever. The log trade is almost wholly confined to shipment of expensive foreign woods, such as mahogany, rosewood, ambony, tulip-wood, and sometimes poplar, walnut, teak, etc., where extra size or extra fine boards are wanted. The tendency to complications from the multitude of different sizes and qualities explains the difficulty, not only of comprehending the English trade, but of catering to it successfully.

Of course, with the centralization of trade, many of the importers do not pretend to keep yards. If they buy to arrive, the cargoes, when received, are piled, and the invoices turned over to them. The "timber travellers," as the druggers are called, are then put on the road, and sales made without the owner having any further trouble or even seeing his own stock. If the vessels arrive without sales having been made, the cargoes are unloaded and piled on the docks, and then sales made either privately or at auction.

Retail sales are also made direct from the docks, and these small sales have grown to astonishing figures. The deliveries of wagon loads of less than 2,000 feet in 1882, numbered 78,100, while in 1891 it had grown to 101,810. Figures are dull reading, but to give a slight idea of the business of the Surrey docks, it may be stated that the number of orders for transfer and delivery in 1875 run 70,888, and in 1891 149,970, nearly doubling in seventeen years. The "wood goods," comprising all kinds of timber and lumber received in 1891, was about three hundred and eighty million feet board measure, and the deliveries from the docks, which approximately represent the sales for the same time, were 418,000,000. The amount of lumber exclusive of firewood consumed in London in 1891 was 33,198,000 pieces of sawed wood, including deals or plank of all lengths, two inches thick and seven inches or over wide, "battens," or similar pieces under seven inches wide, boards and "ends" or short pieces, from two to six feet

long, and 218,700 "loads" of 50 cubic feet of timber square and round.

"Where does all this lumber go to?" is naturally one of the first questions which one will ask on reading the above figures and the question is not very easy to answer. The wood industries of Great Britain are very numerous, there being some thousands of firms in London alone engaged in various lines of business in which wood is employed. The importers in the city number 86, the timber dealers or wholesalers, 55, and the timber merchants or retailers, 470. Then there are 139 packing case manufacturers, 221 firms engaged in running saw and planing mills, 95 mahogany merchants, 43 firewood importers, and nearly a hundred agents and brokers of various kinds.

ELECTRICAL POWER.

IN the present day it is not enough that the proprietor, or his expert in charge of the mechanical operations of mill or factory, should be possessed of an intelligent knowledge only of the uses of steam and its various properties. It is important that he should fully understand these things. But with the developments in electricity and the extent to which this newer power is being applied to manufacturing purposes, it becomes almost as necessary, that the mechanical manager of to-day should know as much of the uses of electrical power as of steam power. How to handle the electrical motor; what to do when an awkward balk asserts itself, is a part of his education that he cannot afford to neglect. On this line the matter of reversing a motor is made the subject of intelligent discussion by a writer in the Tradesman. He says: "To reverse the direction of any electric motor it is only necessary to change the direction in which current passes through it. But simply taking down the wires and attaching the + wire where the - wire formerly was, will not answer. That will cause the motor to run in the same direction as before. The way to do it is to take down the connections between the brushes and field magnets and change the direction of the current there, through one, either through the armature, or through the field magnet coils. This will change the direction in which the armature will revolve.

"Current always flows from the + or positive line wire into the - or negative one. Here is a handy rule for telling which way the current is passing in any dynamo: First, find the direction in which the lines of force are passing between the field magnets; this can be done with a pocket compass. Hold the instrument over the dynamo, half way between, and six inches above the armature; the compass needle will immediately arrange itself in line with, and pointing directly from one field towards the other. The north end of the compass needle will always point towards the south pole of the motion field magnet, and as the lines of force always travel from the north to the south field of any motor or dynamo, it is known that the lines of force are always passing in the direction pointed out by the north end of the compass needle.

"We can now lay the hand on the dynamo, the thumb pointing in the direction taken by the lines of force. The first finger pointing parallel with the armature winding, while the other fingers are bent slightly, and point around the armature in the direction of its travel. The flow of current in the armature winding will always be in the direction toward which the first or index finger points. Only, bear in mind that the armature coil is always supposed to be between the eye and hand while making the test. Thus, if the dynamo run in a certain direction called "right-handed," the right hand can be used to bring in all the conditions mentioned above. But if the dynamo runs in an opposite direction, the left hand must be used.

"This matter is very useful in determining which way a motor will revolve after it is started up. It is only necessary to find which way the current will pass in the armature, then lay on the hand as before, with index finger pointing in the direction current flows. The thumb points in the direction taken by the lines of force, and the other fingers will, when slightly bent, point in the direction in which the motor armature will revolve. Always bear in mind, that with a dynamo and motor connected in the same circuit, the armatures will revolve in opposite directions."

CANADA'S PART IN THE WORLD'S FORESTRY.

OF the Canadian exhibit of lumber at the World's Fair, Mr. F. Howard Amnes writes:

"The coolest corner I have been able to find in the White City is the forestry building. Close to the ceaseless lapping of the waves on the shore of Lake Michigan, in the extreme southeastern part of the park, there is always a grateful breeze playing through its piney portals. Beautifully situated, it is one of the most unique and interesting buildings of the World's Fair, both for its style of architecture and the highly attractive exhibit it contains. Rustic in design and detail, the forestry building is probably the most expensive of that particular kind ever erected in America. It cost \$100,000. The sides are made of slabs with the bark removed. There is a wide verandah encircling the whole building, the columns of which, supporting the roof, are all of varied tree trunks. They are bunched in groups of three, one of which will be from 16 to 20 inches in diameter, and the other two companions smaller. They are all 25 feet in height and neatly labelled. The dimensions of the building are 528 by 208 feet. Inside are all sorts of wood both in rough and manufactured state from every clime—plain, mountain, sea shore, river bottom, swamp and jungle have all contributed to the display. The central exhibit in the building is a grand pyramid built of specimens of wood from all over the world.

"Verily it is a universal congress of blocks. California's contribution, a cutting 14 feet in diameter of redwood, 475 years old when Columbus landed under the scant shade of the palm trees of San Salvador, forms the base of the pyramid. Around and upon it are grouped ching-chang from Siam, bamboo from Japan, teakwood from India, birchwood from Ontario, and specimens from all other countries. And there is a real sure enough axe in a glass case that figures as a sort of frontispiece to this wonderful wood-grouping in the central exhibit. It is Gladstone's axe, the very axe the Grand Old Man used in cutting out the undergrowth at Harwarden when in training to knock out Salisbury in the political arena. Some of the specimens in the exhibits attract special attention. There is a mammoth redwood plank, 16 feet 5 inches wide, 12 feet 9 inches long, 5 inches thick, cut from a California tree 35 feet in diameter and supposed to be 1,500 years old. A beautiful carved door made of teak wood from British India, is much admired, and a very large birch knot from Peterboro county, Ontario, attracts no end of attention. There are collections of wood from twenty-five of the different states representing numberless varieties of forest growths.

"Sixteen foreign nations and 31 individual exhibitors, domestic and foreign, and among them the province of Ontario, make a very creditable showing and withal a very practical one. The Ontario section is on the main aisle, south of the Dominion court, and occupies a floor space of 1,000 square feet. It is fronted by a Corinthian archway, over which is the sign "Ontario" in gold letters. The whole is surmounted by Canadian flags and emblems. The Ontario exhibit tends to show the splendid forest resources of the province in

a manner that arouses the greatest interest, especially amongst the practical lumbermen, builders and cabinet workers. There are 66 exhibits in the log and squared blocks, comprising all the valuable woods such as red pine, spruce, oak, ash, beech, maple, birch, etc. all neatly arranged and relieved at intervals with sample boards, beautifully polished. An attractive feature is a case of polished wood specimens sent by the Hon. A. S. Hardy, commissioner of crown lands, some thirty different kinds of wood being represented. A pyramid of blocks ornamented with carved Indian hunting scenes from D. S. Hill of the Six Nations Indians also attracts much attention. There are particularly fine specimens of black cherry and white pine. Mr. George Harte, of Saltfleet, Ont., is the very efficient and courteous superintendent of this section. Mr. Matthew Goetz, who is here to meet and interest German visitors to the exposition is a valuable acquisition to the staff of the Ontario commission. The other 2,000 feet of space allotted to Canada is divided between Quebec, British Columbia and the Northwest Territories.

"The Dominion has a large collection of photographs of living trees, contributed by the Geological Survey Museum, Ottawa. The photographs are shown in frames made of the wood represented in the picture. Chief Buchanan is said to have expressed the opinion that the exhibit of commercial timber made by Ontario is the best in the building. However that may be, as regards the fir woods, the birch, beech, cherry and other fine hardwoods capable of brilliant polish, cause great admiration. No less than 660 inquiries by letter have already been received as the "first fruits" of this wonderful display of Canadian woods. The value to the Dominion of this advertisement of its forest wealth will presently be appreciated at its true worth."

AN AIR THERMOMETER.

THE air thermometer is the name given to a recent English device for giving warning of a fire. In this apparatus the expansion of air by heat in an air box fitted to the ceiling of the room is made to inflate a thin, hollow India rubber diaphragm. This rises a small terminal rod, bringing it into contact with another terminal, an electric circuit being thus completed, the current ringing an alarm bell and releasing a semaphore, which serves to indicate the location of the outbreak. As thus arranged the apparatus consists of three essential parts, the air box, the pulsator, and the indicator. Heat currents ascending to the ceiling cause the enclosed air in the air box to expand—the force of this expansion being directed to the under side of the India rubber diaphragm of the pulsator—an electrical current is in this way made and the alarm given. The air box and pulsator may be in the same room, or in proximity to each other, but the indicators may be placed in any part of the building or at a remote distance. The sensitiveness of such an apparatus to thermal changes, and the ease with which it can be adjusted over a wide range of temperature, have, it is asserted, been fully determined by numerous experiments.

THE SENSATIONS PRODUCED BY A HEAVY ELECTRICAL CURRENT.

EDISON'S Orange laboratory, despite its pastoral surroundings and the pacific nature of its habitues, has been the scene of some gruesome experiments. When the new law was passed, enlisting electricity as an agent of death, Mr. Edison was consulted as to the best method of applying that mysterious and deadly fluid, and in the experiments made by him to test the comparative action of different currents at various intensities, many painful animal executions were necessary. Mr. Edison's most valuable friend and assistant, Charles Bachelor barely evaded the distinction of officiating as a sacrifice on the altar of experimental science. He was mending some defective apparatus in connection with a lamp, and, as it seemed to him at the time, had taken all imaginary precautions against an accident. He supposes, however, from the presence of a burn afterward found on one of his fingers, that he must unconsciously have established a circuit by holding a wire in each hand. No sooner had he made contact than he staggered back to a stool, with the awful memory of soul and body wrenched violently asunder, with such pangs as the Mohamudan death angels wreak on the awakening spirits of the damned. He describes it as resembling the sensations of an immense rough file thrust through the quivering fibres of the body, a shuddering pang, grinding its way through lungs and heart. For over fifteen minutes he sat motionless, bathed in an icy and death-like sweat, and nervously unstrung from head to foot. Yet, strange to say, the shock passed away in a day or two, leaving no visible injury except in the memory of the victim.—From "The Life and Inventions of Edison" in Cassier's Magazine for November.

CONDUCTIVITY OF WOOD.

IN some experiments performed by Delarive and De Candolle on prisms of different kinds of wood to ascertain their power of conducting heat, they found that the direction of the fibres materially interfered with their conducting power. Thus it appeared that the obstruction to the passage of caloric was greater when the current was at right angles to the woody fibre than when it flowed longitudinally in the direction of the fibres. This difference also appeared to increase in proportion as the wood was a bad conductor of heat. The conducting powers in the two directions may be represented very nearly by the following numbers: If longitudinally nutwood, oak and fir are each taken as 5, across the fibres they are respectively 3.46, 2.83, and 2.05. Hutchinson found in his researches on the conducting power for heat of building materials, that taking the conducting power of firewood as 100, beechwood was 83.19, and oakwood 134.10. But if the woods were compared with slate as 100, their conducting power would be as follows: Firwood 27.72, oakwood, 37.17, beechwood, 23.06. The cooling power of these woods is another important point, and this is not at all in relation to their conducting power. Thus firwood being 100, the cooling power of oakwood is only 30.38, whilst that of beechwood is 120.2. Compared with slate as

100, the cooling power of the woods are as follows: Oakwood, 55.60, firwood 69.16, beechwood 83.19. Another important point of inquiry with regard to the physical properties of wood, as to its value in building, etc., is its relation to moisture. If the specific gravity of woody fibre is 1.50, we should expect that the less the specific gravity of the wood the greater would be its capacity for moisture, and Hutchinson found, on immersing 500 grains of each of the following woods for nineteen hours in water, that such was the result, for they had gained as follows: Firwood 622.75 grains, oakwood 224.75 grains, beechwood 185.75 grains, Mulmein teak 82.50 grains.

A NEW LATHE ATTACHMENT.

A MOST ingenious lathe attachment has been contrived, adapted to any lathe within a certain limit of size, and with which the lathe can be turned into a pipe threading machine in a few minutes and pipe of any length threaded very rapidly and very correctly. The mechanism consists of a die-carrying head, attached to a spindle like a chuck, an adjustable self-centring vise attached to the carriage, and an adjustable pipe rest affixed to the bed of the lathe to support long lengths of pipe. The latter is held securely by the vise on the carriage and fed to the revolving dies by moving the carriage with the hand, or this can be done automatically by using the lead screw of the lathe set to the number of threads corresponding to the standard of thread to be cut. When the thread is cut to the length required the dies may be opened by turning the face plate, and the pipe be taken out without running back. All the dies are made adjustable to any variation of the fittings, and adjust from one size of pipe to another, so that each set of dies will thread several sizes of pipe without changing. To fit this attachment to any make or size of lathe no machine work is necessary except on the flange.

HIS AUTHORITY FOR IT.

A REVEREND gentleman who has charge of the advertising of a prominent religious weekly was recently asked what scriptural authority he could find for his occupation. "Oh," he replied, "that is easy enough. Advertising not only has scriptural authority, but it is of very respectable antiquity as well. If you will look in Numbers xxiv., 14, you will find Balaam saying 'Come now, and I will advertise,' and Boaz says, in Ruth iv., 4, 'And I thought to advertise.' Advertising is no modern thing."

AN exchange says that the art of paper making has reached the point where it is possible to cut down a growing tree and convert it into paper suitable for printing purposes within the short space of twenty-four hours.

GEORGE W. CHILDS, the veteran newspaper man and editor of the Philadelphia Ledger, was so pleased with the working model of the Michigan logging camp at the World's Fair, that he has purchased it and will remove it to his country home near Philadelphia.

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OFFICE

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Board of Trade Building

Toronto, Ont.

Representative Lumber Manufacturers and Dealers

Town	Railway, Express, or nearest Shipping Point	NAME	BUSINESS	Power, Style and Daily Capacity
Ottawa, Ont.	Ottawa	Booth, J. R.	Lumber, Wholesale and Retail.	Steam, Circular and Band Mill
Ottawa, Ont.	Ottawa	Bronson & Weston Lumber Co.	Sawmills, White and Red Pine, Wholesale	Water, Gang and Band, 450m
Ottawa, Ont.	Ottawa	OTTAWA LUMBER CO.	Lumber, Pine, Spruce, Hemlock, Wholesale	
Parry Sound, Ont.	Utterson	Conger Lumber Co.	Lumber, Wholesale and Retail.	
Parry Sound, Ont.	Parry Sound	Parry Sound Lumber Co.	Saw, Shingle and Lath Mills, Pine, Wholesale	Water, Gang, Circular, Saw 90m, Shingles 70m, Lath 30m
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, 2 Mills, Water, 1 Band, 2 Gangs and 3 Circulars.
Alexandria, Ont.	Alexandria	McPherson, Schell & Co.	Cheese Box Factory, Pine, Spruce, Cedar	
Almonte, Ont.	Almonte	Caldwell, A. & Son	Sawmill, Pine, Lumber, Hemlock, Hardwoods	Circular, 3m
Barrie, Ont.	Barrie	Dymont & Mickle	Sawmill, Pine, Spruce, Cedar, Hardwoods	Steam, Circular, 40m
Harrow Bay, Ont.	Warton	Barrow Bay Lumber Co., Limited	Saw, Shingle and Heading Mill, Pine, Cedar Oak, Oak Railway Ties, Laying Blocks	Steam, Circular, 16m
Blind River, Ont.	Blind River	Blind River Lumber Co.	Saw, Sh. and Lath Mills, Pine, Hem., Bl. Birch	Stm., Band, Cir., S. 75m, Sh. 60m
Hoboyagon, Ont.	Fenelon Falls	Boyd, Mossom & Co.	Lumber, Wholesale and Retail.	
Barrie, Ont.	Barrie	Burton Bros.	Lumber, Wholesale and Retail.	
Waukegan, Ont.	Waukegan	Burgin Bay Consol'd. Lumber Co. Ltd. office arcade 24 King St. W., Toronto	Pine only.	Waukegan mill, 5m., 200m; Pt. Severn mill, water, 120m
Calabogie, Ont.	Calabogie	Carwell, Thistle & McKay	Lumber, Wholesale and Retail.	
Callander, Ont.	Callander, G.T.R.	John B. Smith & Sons	White and Red Pine Lumber, Bill Stuff, Lath and Shingles.	Steam, 2 Circular, 20m
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, Circular, 6m
Glamis, Ont.	Pinkerton	McIntyre, N. & A.	Saw, Shingle and Lath Mill, Timber Laths, Hemlock, Pine, Lumber, Hardwoods	Steam, Cir., Saw 14m, Sh. 20m
Hamilton, Ont.	Hamilton	BRADLEY, MORRIS & REID CO.	Lum., Tim., Pine, Hem., Huds., Whol. and Ret.	Steam, Circular, 25m
Huntsville, Ont.	Huntsville	Heath, Tait and Turnbull	Sawmill, Pine, Spruce, Hemlock, Hardwoods	Steam, Circular, 4m
Hamilton, Ont.	Huntsville and Kairine	Thomson, Robert & Co.	Sawmill, Pine, Spruce, Hardwoods	Steam, Circular
Keewatin, Ont.	Keewatin	Dick, Banning & Co.	Sawmill, Pine, Hardwoods, Wholesale	Water, Hand and Circular, 100m
Keewatin, Ont.	Keewatin	Keewatin Lumber & Mfg. Co.	Saw, Lath, Sh. and Pl. Mill, Moving Posts, Pine	
Lakefield, Ont.	Lakefield	Lakefield Lumber Mfg. Co.	Lumber, Wholesale and Retail.	
Little Current, Ont.	Sudbury	Howry, J. W. & Sons.	Lumber, Wholesale and Retail.	
London, Ont.	London	Gordon, James	Exps. and dls. in Am. Hws. made to specification	
Longford Mills, Ont.	Longford	Longford Lumber Co.	Saw and Plan. Mill, Hemlock, Hardwds, Whol.	Steam, Hand and Circular, 100m
Norman, Ont.	Norman	Camerton & Kennedy.	Saw and Plan. Mill, Tim. Laths and Legs, Pine	Steam, Circular, 40m
Norman, Ont.	Norman	Minnesota & Ontario Lumber Co.	Lumber, Wholesale and Retail.	
Louise, Ont.	Elmwood, G.T.R.	S. B. Wilson & Son	Hardwoods, Shingles, Lath, Handles.	Steam, Circular, 20m.
Toronto, Ont.	Toronto	F. N. Tennant	Lumber, Wholesale	
Toronto, Ont.	Toronto	Donogh & Oliver	Lumber, Wholesale	
Toronto, Ont.	Toronto	Victoria Harbor Lumber Co.	(Saw, Shingle and Lath Mill, White Pine, Whol.)	Com.
Toronto, Ont.	Toronto	W. N. McEachern & Co.	Lumber, Wholesale.	Stm., Cir., Gang and Band, 140m
Toronto, Ont.	Toronto	James Tennant & Co.	Lumber, Lath, Shingles, etc., Wholesale	Com.
Warton, Ont.	Warton	Miller, B. B.	3 Sawmills, Lumber, Barrel Heads.	Com. and Water, Circular, Portable and Stationery, 10m
Huckingham, Que.	Huckingham	Ross Bros.	2 Sawmills, Pine, Spruce, Hardwoods	Circular, Gang and Band, 120m
Toronto, Ont.	Toronto	DeLapante & Bowden	Pine and Hardwood Lumber, Whol. and Retail.	
Montreal, Que.	Montreal	Dufresse, O. Jr. & Frere	Sawmill, Pine, Spruce, Hemlock, Huds., Whol.	Steam, Circular and Band, 50m
Montreal, Que.	Montreal	SREARER & BROWN	4 Sawmills, Oak, Ash, Elm, Pine, Hem., Dim.	2 Stm., 2 Wat., Hand, Cir., 40m
Moodyville, B.C.	New Westminster	MOODYVILLE SAWMILL CO.	Sawmills, P. Fir, Spruce, Cedar, Hardwoods	Steam, Circular, 20m
New Westminster, B.C.	New Westminster	Brunette Sawmill Co.	Saw and Planing Mills, Sash, Doors and Blinds	Steam, Gang and Circular
Canterbury, N.B.	Canterbury Stn.	James Morrison & Son	Fir, Cedar, Spruce, Hardwoods	
Bridgewater, N.S.	Bridgewater	DAVIDSON, E. D. & SONS.	Sawmill, Pine, Hardwoods	Steam, Circular, 35m
			5 Saw, Shgle. and Lath Mills, Pine, Spr., Huds.,	Water, Circular and Gang, 200m

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

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The Montreal Car Wheel Co.

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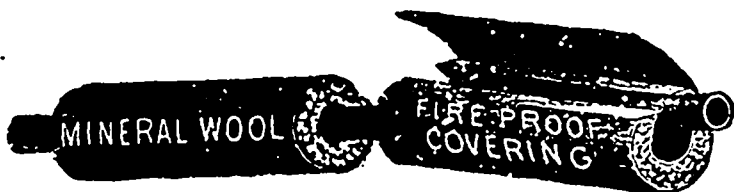
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USE MINERAL WOOL SECTIONAL COVERING

THE best non-conductor is the cheapest covering. Mineral Wool heads the list as a fire-proof non-conductor. Hard pressed coverings are poor non-conductors, and are therefore the most expensive in the end.

A good pipe covering is one of your best investments. It is false economy to have uncovered pipes, as you are just paying the coal man what the covering man should have, and only ashes to show for it. Give the matter your consideration, it means money to you.

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Times are hard, they say; but if they are hard now to your family and yourself, what will they be to your family without you?

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

WANTED

BASSWOOD LUMBER, BY CAR OR CARGO. Offers invited. Address "Basswood," care of CANADA LUMBERMAN.

LUMBER AND SHINGLE MILL FOR sale in the Village of Dundalk; this is good new 50-horse power mill; will run lumber and shingles at same time; plenty of stock can be bought in the locality for four or five years at a reasonable rate. Apply to **JOHN LEWIS,** Brampton, Ont.

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About three miles of 25 lb. T-Rail; 12 Logging Cars complete, and a Shay Locomotive

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Photographs, prices and full description mailed on application.
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ASH AND SOFT ELM DIMENSION STOCK cut to exact sizes. Apply for specification, prices, etc., to

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Ash and Soft Elm

MOSTLY ONE-INCH, SOME ONE-AND-A-quarter and one-and-a-half inch, strictly firsts and seconds; also common. Further are, Ash and Oak squares from one-and-a-half to four inches thick. Red Birch Lumber, 1 and 1 1/2, all thickness; also Red Birch Squares 5 x 5 and 6 x 6, ten feet and over long. Address all particulars as to dryness, quality, quantity on hand and price, to P.O. Box 2144, New York, N.Y.

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MT. PLEASANT, CLARE, REED CITY
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Write either of the undersigned for Folders, which contain Maps, Train Schedules and much 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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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 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 24 H.P. PORTABLE LOCO. FIRE BOX boilers, in good order.
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- ONE 12 x 16 SLIDE-VALVE ENGINE, BECK-ett's make.
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- ONE 14 H.P. LEONARD MAKE ENGINE, nearly new.
- ONE 12 H.P. HORIZONTAL PORTABLE EN-gine and boiler on skids; Ames & Co., makers, Oswego, N.Y.

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EASTMAN LUMBER CO.

WHAT?

WHY

CHATHAM, ONT.,
August 25th, 1893.

A. G. MORTIMER, Esq.,
Manager Dominion Dry Kiln Co.,
Toronto, Ont.

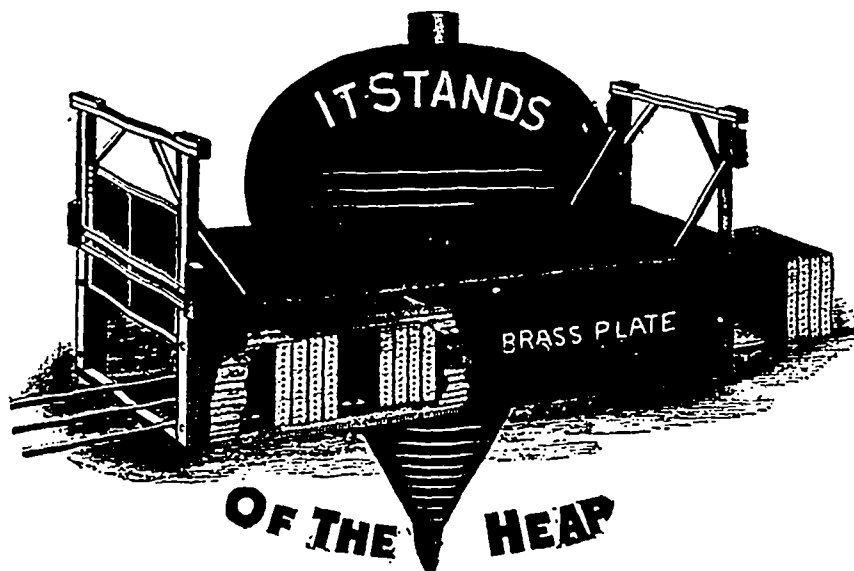
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The "Andrews" dry kiln, which I purchased from you has now been in operation over a month, and is so perfectly satisfactory that I cannot say enough in its favor.

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(Signed) N. H. STEVENS

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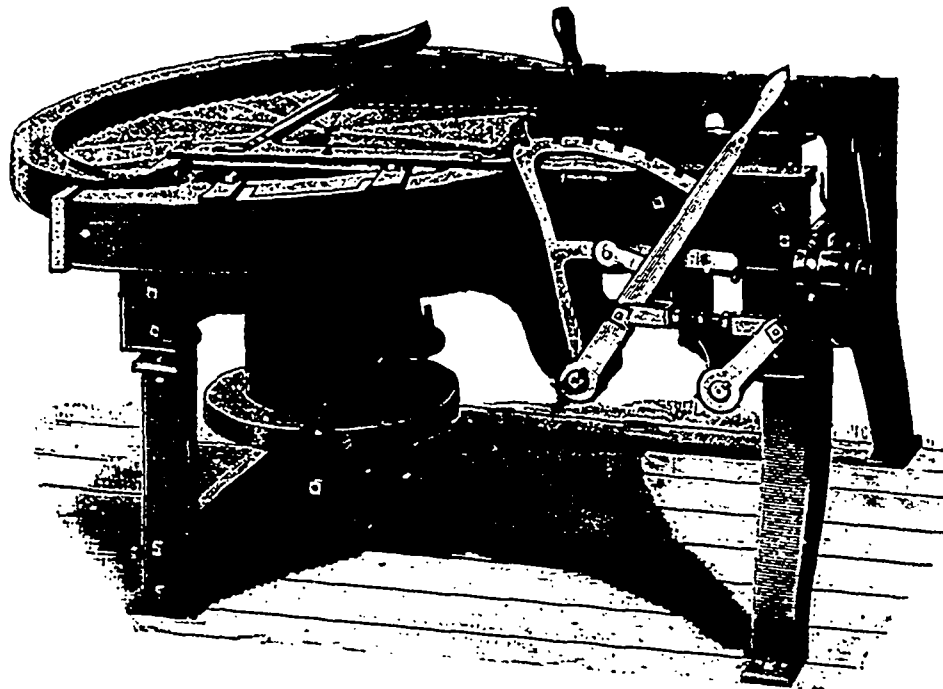
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CANADIAN

LUMBERMAN'S DIRECTORY

AND INDEX TO THE PLANING MILLS AND SASH AND DOOR FACTORIES OF CANADA.

THE Publisher is now open to receive subscriptions for the above Directory of the lumber trades. No effort is being spared to make this publication thoroughly complete and reliable in every detail, and it is hoped that all LUMBERMAN subscribers interested will fill in the following subscription blank and return to this office at as early a date as possible.

TO THE PUBLISHER OF
THE LUMBERMAN'S DIRECTORY
AND INDEX TO THE PLANING MILLS AND SASH AND DOOR FACTORIES OF CANADA: 1893

Please supply.....with.....copies of the above Directory as soon as issued, for which.....agree to pay Two Dollars per copy.

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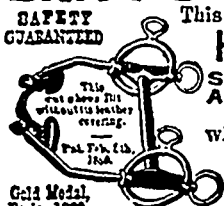
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" " 4..... 1/4 " "	" " 12..... 7-64 " scant.
" " 5..... 7-32 "	" " 13..... 3-32 "
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