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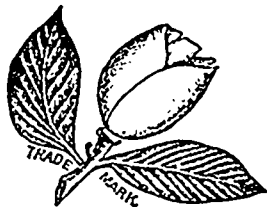
VOLUME XIII.
NUMBER 1.

TORONTO, ONT., JANUARY, 1892

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Yours truly, H. G. TORREY.

NOTE.—Mr. Torrey is U.S. Assayer, and has been in U.S. Mint service at New York for 30 years.

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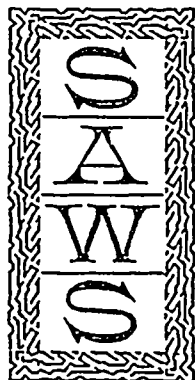
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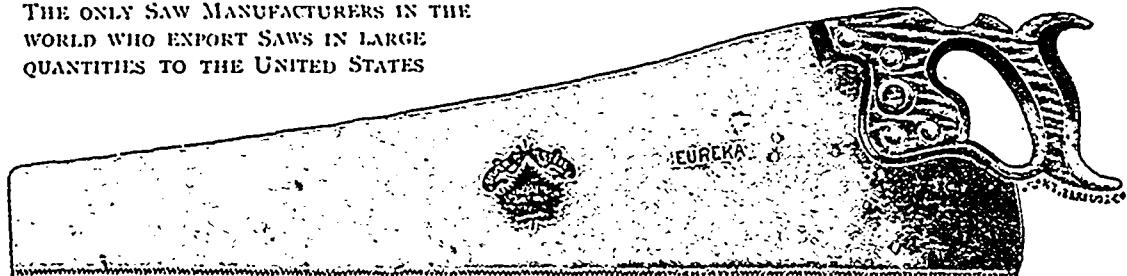
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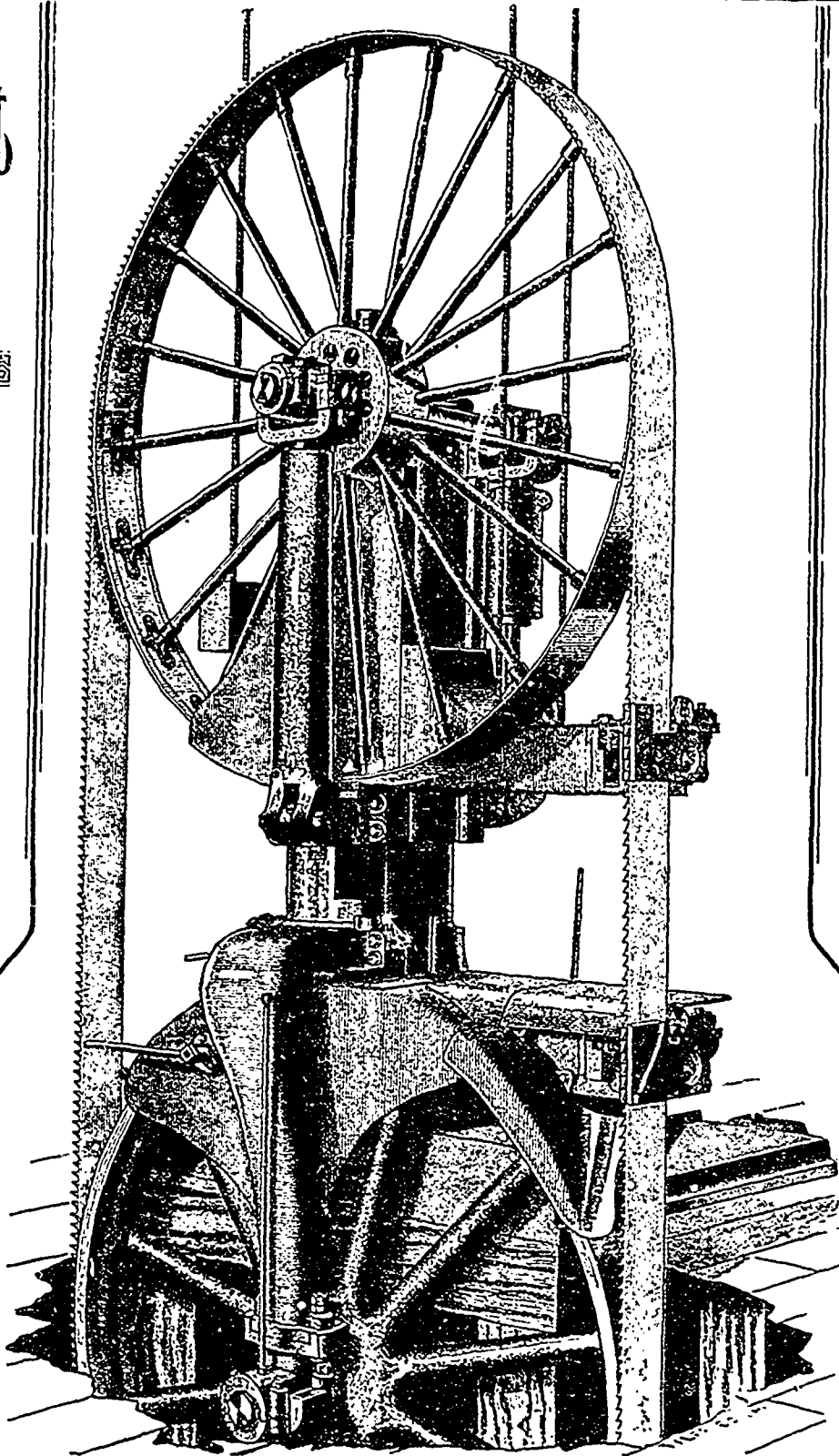
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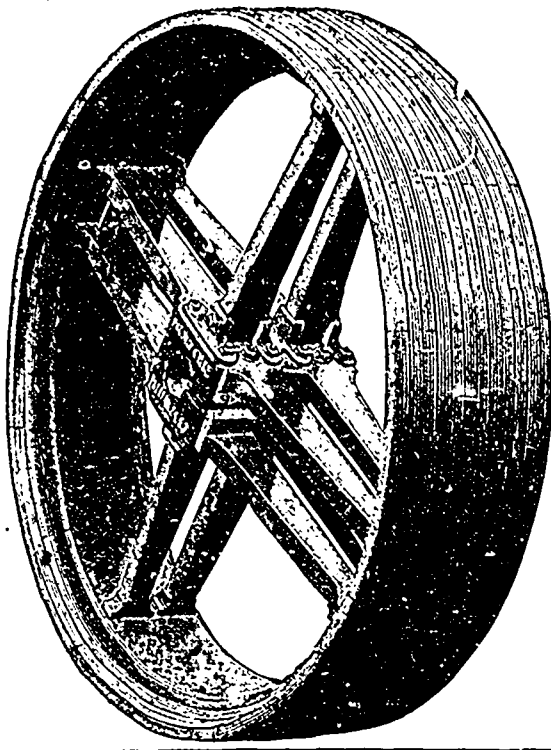
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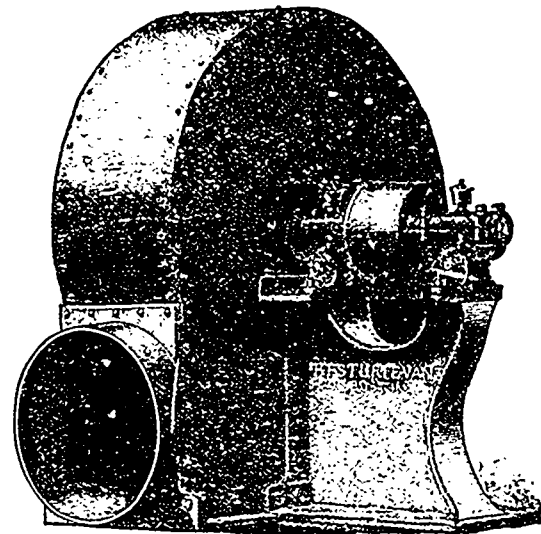
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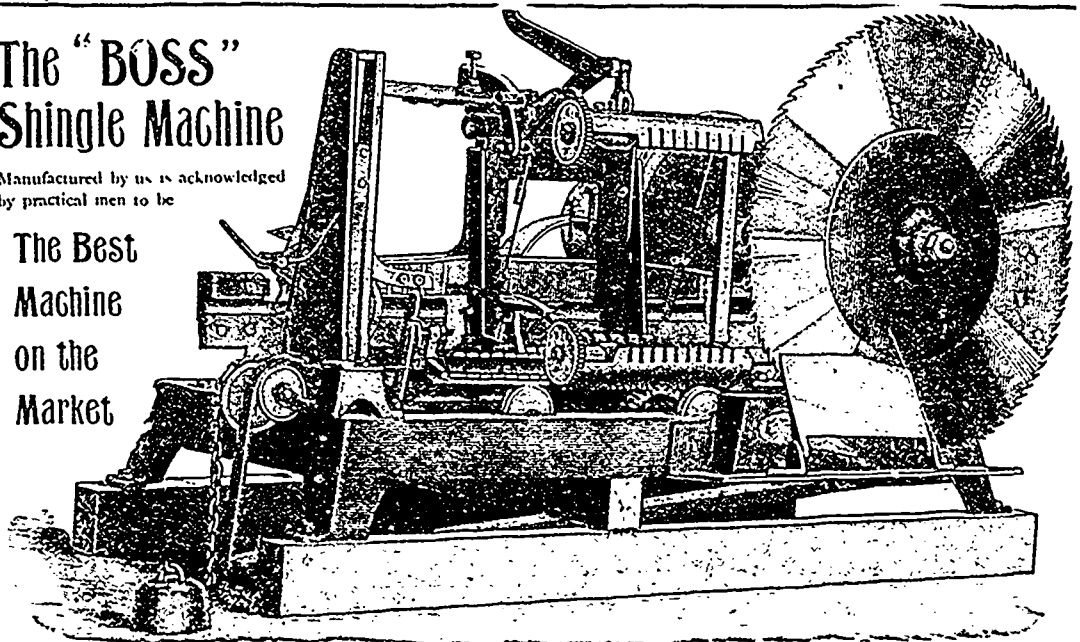
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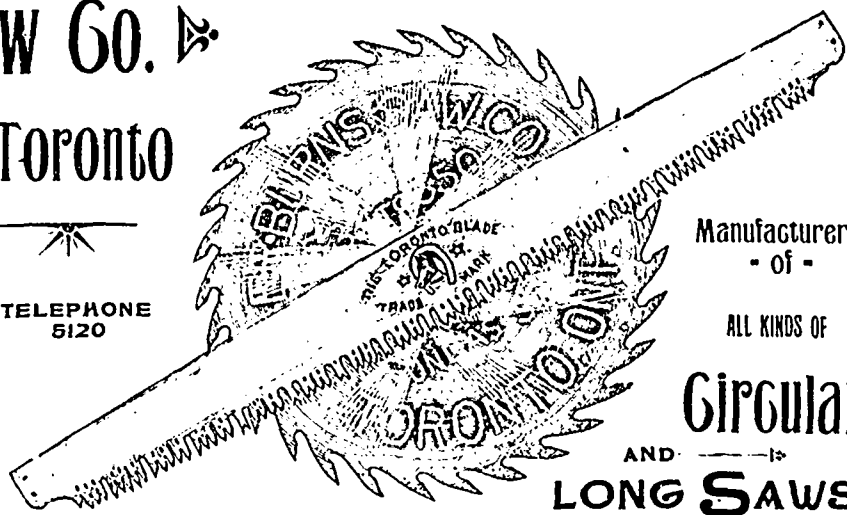
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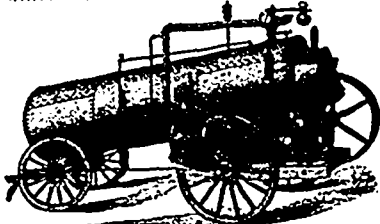
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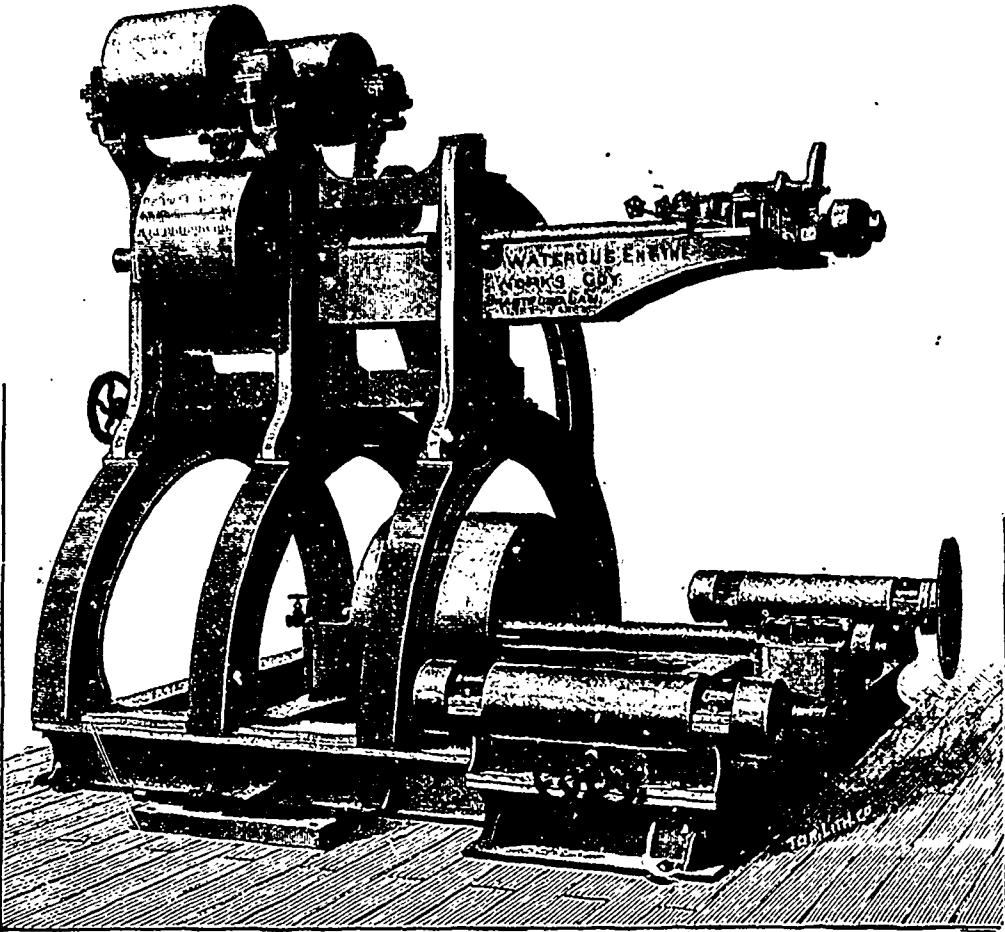
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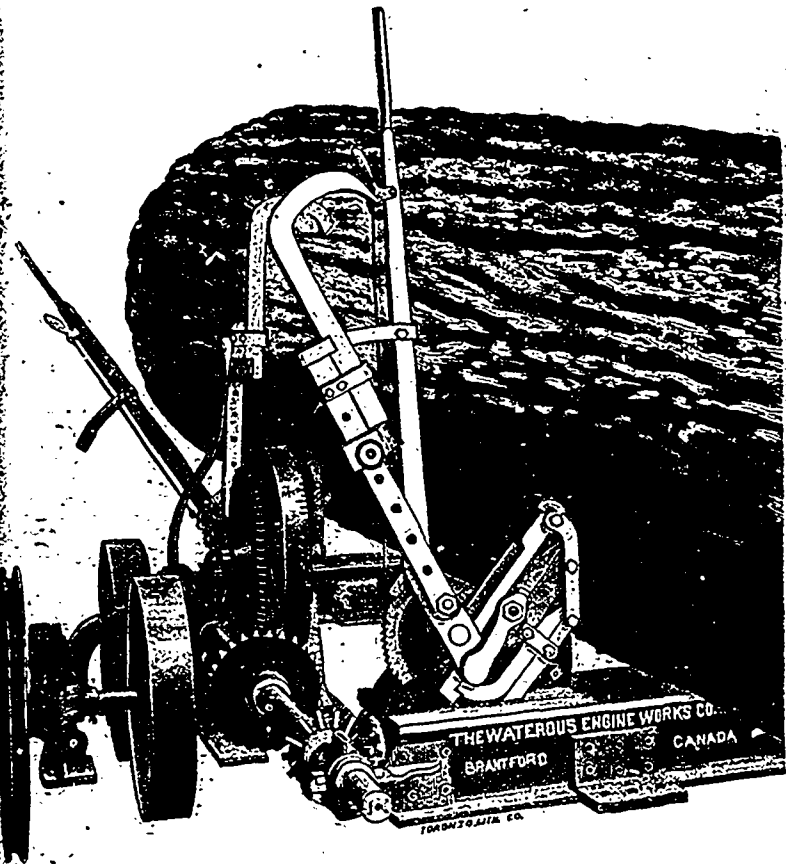
The Mandrel is of forged steel 5 inch in diameter, and runs in long hollow air-space boxes; has an in a hole bored through it lengthwise to permit of cooling or lubricating liquid being forced on the saw. Pulley 36 in. by 21 in. face, webbed centre.

Top Saw Attachment is supported on arched brackets resting on cross braces of frame. Mandrel is 4½ in. forged steel, and has a great range of adjustment to lower saw. Pulley 30 in. x 17 in., webbed centre. Adjusting screws at each end of mandrel are worked simultaneously by one hand wheel, ensuring perfectly parallel adjustment.

Tightner Frame Pulleys 18 in. by 17 in. face. The Frame admits a 2 in. lower and 72 in. upper Saw. It has no carriage feed attachment, being designed for steam feed.

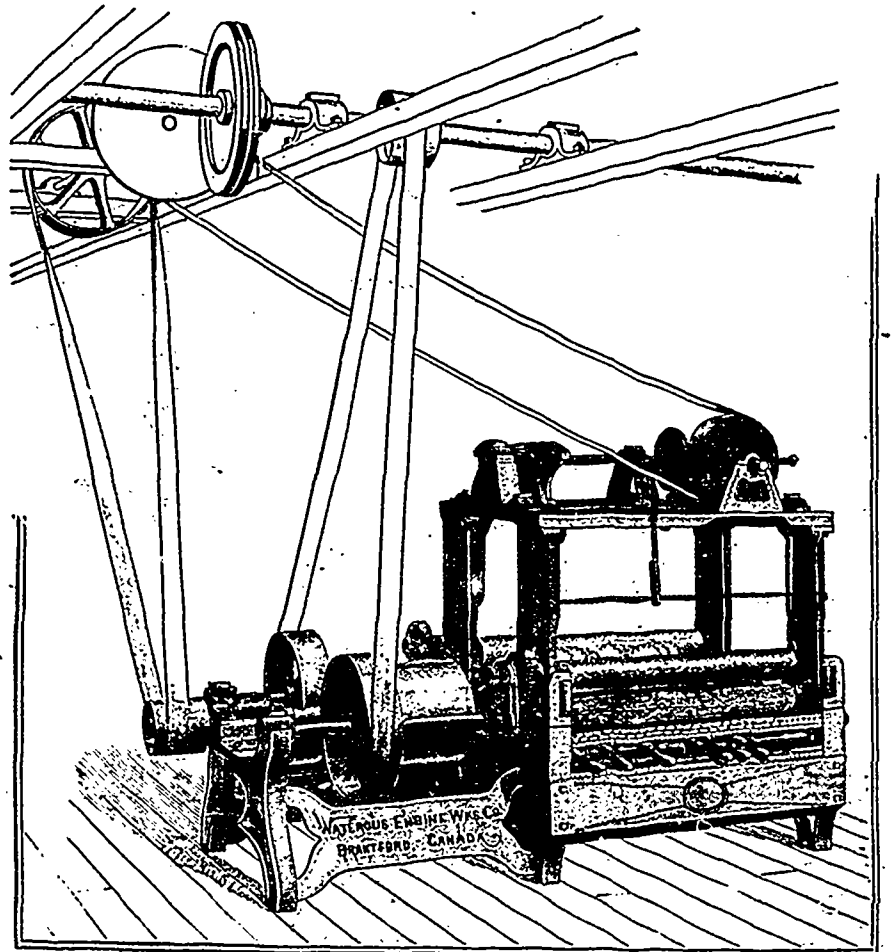
Space occupied, 9 ft. 2 in. by 9 ft.; weight about 7 tons.

Correspondence solicited from parties contemplating the erection of new mills or alterations to existing plants.



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Made to open 66, 72 and 84 inches from saw. Carriage is made entirely of rolled, forged and cast steel, furnished with powerful lever set or power cable set as shown. Double spud dogs shown are specially adapted for handling large timber.



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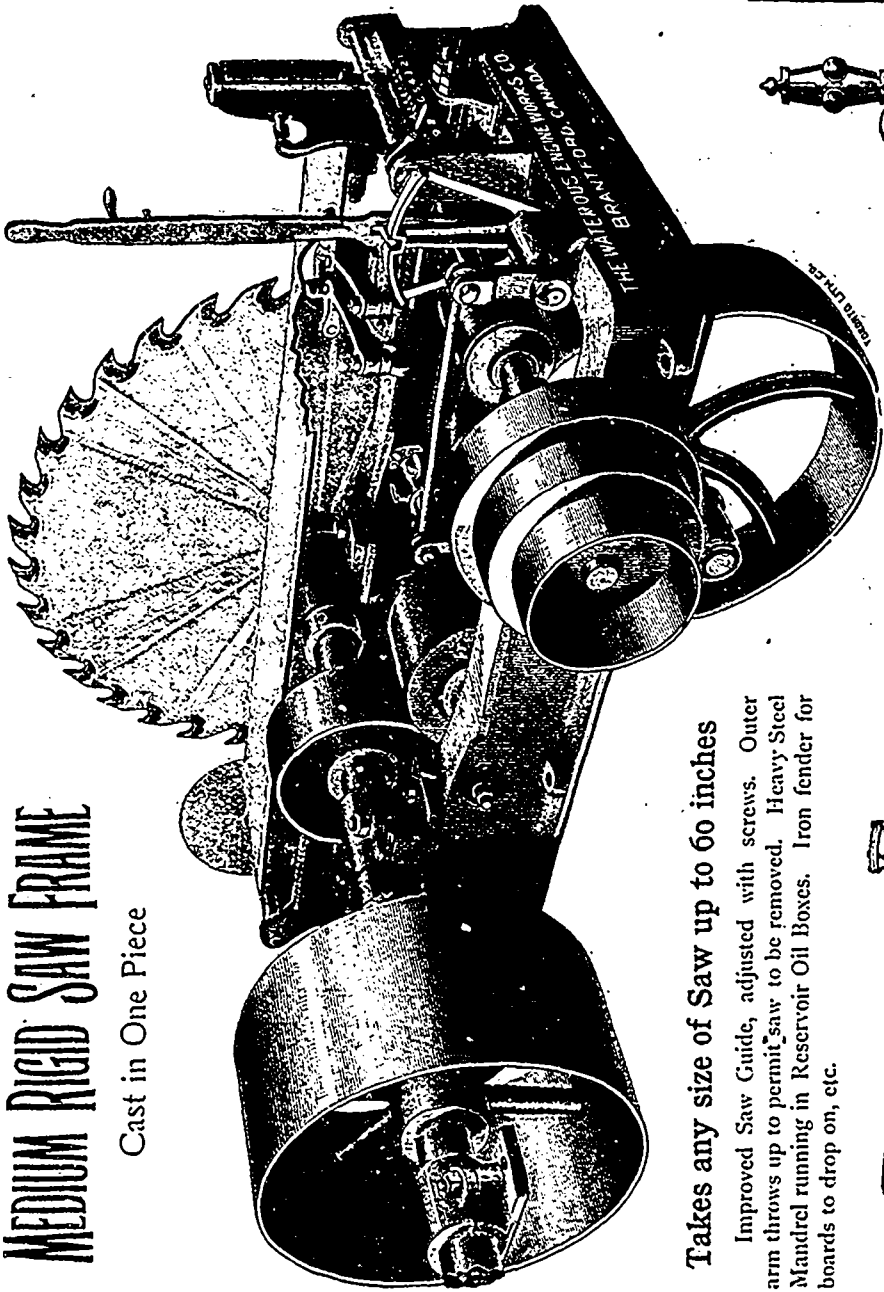
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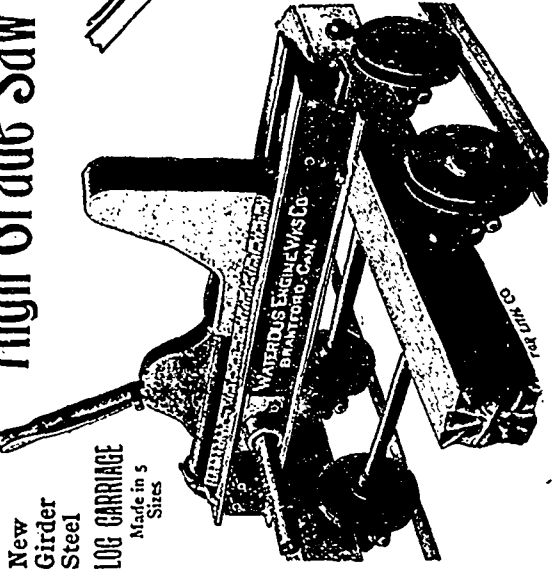
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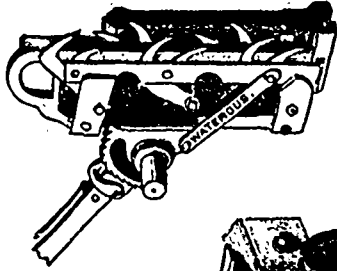
Takes any size of Saw up to 60 inches

Improved Saw Guide, adjusted with screws. Outer arm throws up to permit saw to be removed. Heavy Steel Mandrel running in Reservoir Oil Boxes. Iron fender for boards to drop on, etc.

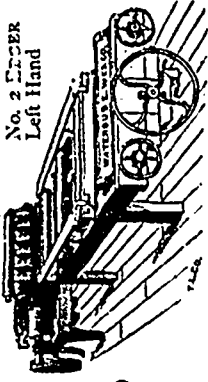
High Grade Saw Mill Machinery



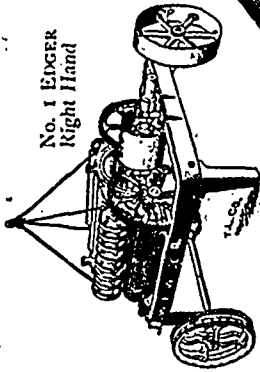
New Girder Steel LOG CARRIAGE Made in 5 Sizes



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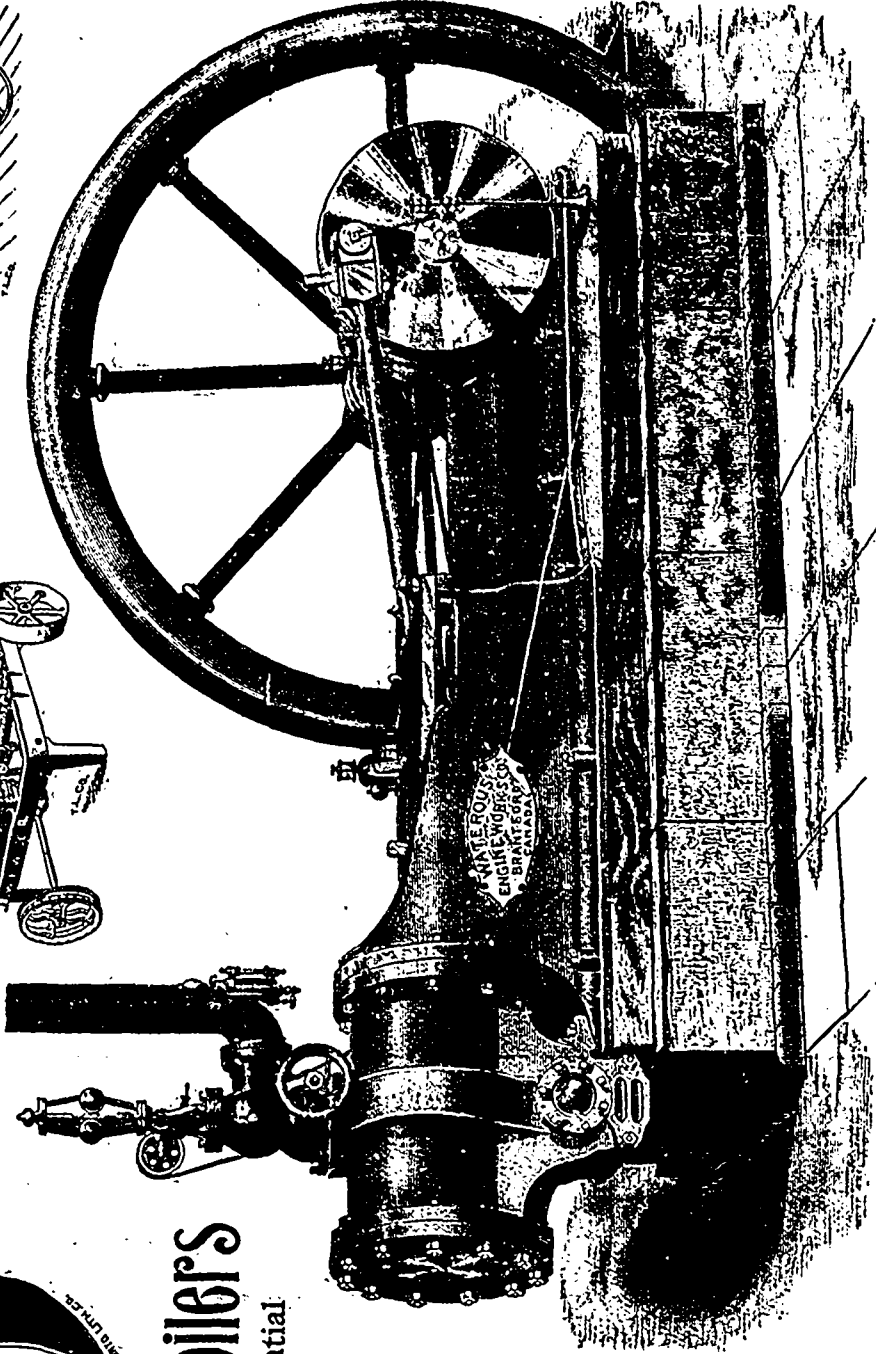


No. 2 Edger Left Hand



No. 1 Edger Right Hand

GANG EDGERS using 3 or more Saws

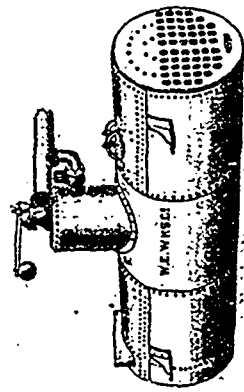
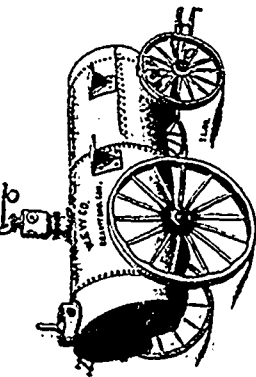
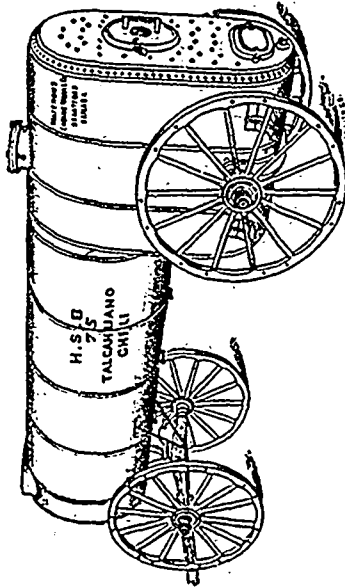


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THE CANADA LUMBERMAN

VOLUME XIII.
NUMBER I.

TORONTO, ONT., JANUARY, 1892

TERMS, \$1.00 PER YEAR
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DICKENS IN CAMP.

HOVE the pines the moon was slowly drifting,
The river sang below;
The dim Sierras far beyond uplifting
Their minarets of snow.
The roaring camp-fire, with rude humor, painted
The ruddy tints of health
On haggard face and form that drooped and fainted
In the fierce race for wealth.
Till one arose, and from his pack's scant treasure
A hoarded volume drew.
And cards were dropped from hands of listless leisure
To hear the tale anew.
And then, while round them shadows gathered faster,
And as the firelight fell,
He read aloud the book wherein the Master
Had writ of "Little Nell."
Perhaps 'twas boyish fancy—for the reader
Was youngest of them all—
But, as he read, from clustering pine and cedar
A silence seemed to fall;
The fir-trees, gathering closer in the shadows,
Listened in every spray,
While the whole camp with "Nell" on English meadows,
Wandered and lost their way.
And so in mountain solitudes overtaken
As by some spell divine—
Their cares dropped from them like the needles shaken
From out the gusty pine.
Lost in that camp, and wasted all its fire.
And he who wrought that spell—
Ah, towering pine, and stately Kentish spire,
Ye have one tale to tell!
And on that grave, where English oak and holly
And laurel wreaths entwine,
Deem it not all a too presumptuous folly,
This spray of Western pine!

—BERT HARTZ.

MODERN WOOD-BENDING.

THE primitive idea of wood-bending was to conquer a stick when green, and hold it in position, as illustrated in the making of bows. New applications of the underlying principle, and discoveries incident thereto, are constantly being made, and bending for all purposes is readily done by the aid of usually simple appliances and steaming processes. Where it is desired to have the piece to stay in place, the heart is kept outward, the tendency of wood being to bend outward. But where a corner piece or other difficult stuff is being bent, the heart is kept inside because admitting of more end pressure or upsetting without giving way or wrinkling. A bent piece increases in weight for its bulk according to the extent it is compressed, being much stiffer, also, than when in its natural and undisturbed state, which makes it especially desirable for carriage work. Tests that have been made with bent and sawed stuff under similar conditions have shown the former to be the stronger. By steaming wood, its stiffness is increased, without reference to the bending, and it is also rendered brittle, which is sometimes enough of a characteristic to be detrimental to its quality. One kind of hickory is better for spokes or whiffletrees after it has been steamed, while another kind becomes very stiff when air-dried. Kiln-drying and steaming cook the gum in resinous woods, and hence have a similar effect. Stiffness is the desirable quality in a spoke, felloe or whiffletree, and in hickory, it is always increased by steaming. It is difficult to splinter or tear a piece of bent wood. Its fibers have become interwoven, and without being particularly indicated on the outside, the interior becomes materially changed.

A NEW WOOD FOR PIANOS.

A MYRTLE log has been sent from Oregon to a piano manufacturing firm in Boston, and as the wood is susceptible of a high polish it is thought that this shipment is but the beginning of what will grow to be a flourishing industry.

A. H. CAMPBELL.

PRESIDENT MUSKOKA MILL AND LUMBER COMPANY

FREQUENT reference is made to the fact that a considerable number of the leading enterprises of the day are in the hands of young men. To no small extent it is true that this is a young men's age. Yet, what is more noticeable than the wonderful activity, in all walks of life, and often where the heaviest labor is called for, of so many old men—those who have, in not a few instances, passed the allotted three score years and ten? The bare mention of the name of Gladstone, or in our own country, of the two premiers, Abbott and Mowat, is suggestive of scores of others, and a multitude of interesting thoughts in this direction.

One of the largest lumber concerns in the province is the Muskoka Mill and Lumber Company, at the head of which is Mr. Archibald Hamilton Campbell, a gentleman in his 73rd year.

Mr. Campbell's has been an active, busy life, and no doubt here is the explanation of his activity to-day. He was born at Carbrook, in Shropshire, Scotland, in 1819, and a look at his features, shown in the cut accompanying this sketch, tells of that sturdiness of character and intellect, that is a predominant mark of those who hail from the land of mountain and crag. His father was John Campbell, a lawyer eminent at the Scottish



MR. A. H. CAMPBELL.

bar. A liberal education was given the son, who stood well in his classes, in both the Edinburgh Academy and University. On the completion of his studies he commenced banking, and later on, took up the study of law.

He had his eye fixed on the newer world, and the time came when he decided to embark for Canada. At all times when a boy, fond of out-door sports and athletic exercises, shortly after reaching this country he entered upon the rugged life of a miner, becoming interested in mining ventures on the shores of Lake Huron. No wealth was found in the undertaking, and Mr. Campbell, with Scottish shrewdness, quickly dropped the business, and in 1858 we find him connected with a lumber venture in Peterboro', and from that time on, without interruption, he has been engaged in the lumber business. His success is the success of the company of which he is president, which owns large limits in the Georgian Bay districts, and operates extensive mills there. In our ELI page we print a report of an interview with Mr. Campbell, in which he discusses matters of importance to the lumber trade generally. The business offices of the company are in Manning's Arcade, this city, where Mr. Campbell's third son is actively associated with him in the management of the business.

To educational matters Mr. Campbell has at all times

given considerable attention, and for some years, he was a member of the Board of Trustees of Toronto University and Upper Canada College. He is a member of the Masonic fraternity, and high up in the Order.

In religion he is an Anglican, an active member of both the Diocesan and Provincial Synods, and in the councils of these bodies no voice or opinion carries more influence than his. He is one of the founders of the Church Association organized for the purpose of checking ritualism, and one of the warmest and most active friends of Wycliffe College.

He has three sons and three daughters. The eldest son is a barrister in Toronto, the second a physician, the third we have already referred to as engaged with the father in the lumber business. All are graduates of Toronto University.

A NEW IDEA IN BOILERS.

THAT steam boilers are subjected to extremely destructive strains when the furnaces are first started for raising steam is due to the fact that those portions of the boiler surrounding the furnace become highly heated, while the more remote parts remain for a long time comparatively cool. Hence, there is uneven expansion of the metals, and the consequence is that strains are set up in the boiler, which shorten its life and are otherwise very prejudicial. To remedy this Mr. C. E. Hudson, a naval engineer of experience, has devised a simple, ingenious system, which has had a successful practical trial on board a merchant vessel. The arrangement consists in substituting for the present furnace fronts steam-heating chambers of the same strength as the boiler. These chambers, which do not interfere with the grate furnace, are at starting filled with water from the bottom of the boiler, or from any point of the boiler where there is no circulation. A small fire is lighted in the furnace at first, which heats the water in the chambers, and by degrees the remainder of the water in the boiler becomes heated, and the shell is gradually warmed, a uniform temperature being attained. During this period there is neither pressure nor steam used, and as soon as the circulation ceases by reason of the accumulation of temperature, the heaters become auxiliary boilers, assisting the larger one. As soon as the temperature has become uniform the fires are hurried and steam is raised to a working pressure. The primary work of the heaters being accomplished, the chambers are used as feed water heaters. The feed water, instead of going into the boiler direct, is diverted into the heaters and becomes heated to a temperature of 200° Fahrenheit. It will thus be seen that the arrangement is that of a combined automatic circulator and feed water heater, which not only does not rob the boiler of steam, but arrests and utilizes heat which would otherwise be wasted, or rather worse than wasted, as it radiates into the stock hole, and in some circumstances renders it unbearable. The steamship on which the system has been at work for nearly two years is the Cariganshire, a vessel of nearly 3,700 tons. The results of its application are stated by the engineer in charge to be entirely satisfactory. There has been no trouble whatever with it, and the temperature in the stoke hole is found to be reduced by 27°. A further important point is the fuel economy, a saving of 7 per cent. being shown on the average of five voyages.

A THREE CENT STAMP DOES IT.

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

STEAM; ITS INFLUENCE ON THE ARTS AND MANUFACTURES.

IN a series of most instructive articles on this subject, from the pen of the late Prof. F. A. P. Barnard, occurs the following admirably written eulogium of the services rendered by this mighty agent of civilization in the maintenance of the commercial and industrial supremacy of Great Britain, and a graphic picture of the slowness with which the revolutions caused by the introduction of steam were brought about, because of the lack of due appreciation of its enormous powers of usefulness. We quote from Prof. Barnard in what follows:

There remains to be mentioned one additional and most important consequence of the invention of the steam engine, which has impressed profoundly not merely the industrial but the political history of the world. If the cotton-gin has been responsible for much in controlling the political and social destinies of the Western continent, the steam engine has been for still more in fixing for England her place among the nations of the earth. At the time when this splendid invention made its appearance, England called herself mistress of the seas, and assumed to be the equal, if not the superior, of any military power upon the land. This place she still claims, perhaps justly, though her title to the exclusive dominion of the waves can no longer pass unchallenged. But without the steam engine, the power of England would have long since suffered a hopeless paralysis. It is from the depths of her mines that she has drawn the aliment which has sustained her manufactures and fed her boundless commerce and built up the enormous wealth which is the basis of her present strength.

Her iron and coal have made her a hundred times richer than she could possibly have been if she had possessed instead of them all the gold of California and all the diamonds of Brazil. But a century ago, just as Watt was turning over in his mind his first crude notions of the motor which was destined to transform the constructive industry of the world, many a thoughtful patriot and statesman of Great Britain must have been regarding with anxiety and alarm the stagnation which seemed to be gradually creeping over the mining industry of his country, and the danger which menaced with speedy total extinction this great source of her national wealth. As the mines were sunk deeper, the expense of lifting to the surface the mineral extracted, of course increased; but this was a trifling consideration compared with the vastly greater expense of withdrawing the water which flowed in, in constantly increasing abundance, and which had to be raised from a constantly-increasing depth. In many instances mining had almost ceased to be remunerative; in many others quite. One after another the mines were abandoned and the water was allowed to fill them up. What had already happened in many instances could not fail to happen at length in all. An early ruin plainly impended over the mining industry of Great Britain, which could not fail to bring with it, and with the consequent failure of her fuel, an equal ruin to her manufactures, the commerce, the wealth and the political power of the British empire.

It was at this critical juncture that the new motor appeared. For some time after its appearance, it was only for the drainage of mines that its immense powers of usefulness seem to have been recognized; so imperfect at that time was the state of advancement of the mechanic arts! But applied to this purpose, then of paramount importance, it adverted at once the imminent danger which menaced British industry, and restored to Britain the commercial scepter just as it was about to fall from her grasp. The greatness of the British empire to-day is, therefore, clearly due to her early possession of the steam-engine. Without it she must inevitably and speedily have sunk to a level of comparative insignificance.

It is remarkable that, vast as was the revolution which the steam-engine was destined to effect in the industrial world, the steps by which this was accomplished did not succeed each other with great rapidity. The first impression which the invention produced was in the relief it brought to mining. Its influence was next most distinctly felt in the development that it gave to textile manufactures. Then metallurgy yielded to its transforming power, and by degrees the same influence extended itself into every branch of mechanic art. But the application of the new power to locomotion upon the water and upon the land, applications which were destined to infuse into commerce a life and activity which it had never known before, and so to react upon production indirectly no less effectually than the same cause had already done directly, came at long intervals, and required the greater portion of a century for their full realization. It is interesting to observe how, in the infancy of a great invention, conceptions which are perfectly just, struggle painfully and often for a long time abortively, to embody themselves into form; and it is sad as well as interesting to observe what chilling lack of sympathy usually attends their announcement; what obstinate prejudices rise up to oppose their introduc-

tion; what ridicule labors to dishearten their authors; and what contemptuous refusal of substantial aid operates to paralyze effort. The practicability of applying steam to river navigation was repeatedly demonstrated before the close of the 18th century; but it was only after the lapse of forty years from the invention of the engine, that Fulton, in presence of a great multitude, assembled chiefly in the hope of finding amusement in his discomfiture, made at length the decisive experiment which was to force this truth upon the convictions of men beyond the possibility of further question.

Twenty years more elapsed before it was clearly seen in what way the same power might be made subservient to the uses of locomotion on the land; and ten more still before the problem which had been so long completely solved for inland waters was admitted to be so likewise for the ocean. We stand at the end of the first quarter of a century since the Atlantic was bridged by steam; and within that brief period the entire naval and almost the entire commercial marine of the world has undergone a complete transformation. The tonnage of vessels has been doubled, the duration of voyages has been diminished more than half, and the interchange of wealth between nations has increased no less in quantity than in rapidity. The effect of all this upon productive industry everywhere is too vast to be computed.

WOOD PULP FROM SWEDEN.

SWEDEN finds the exportation of wood pulp a profitable business, as is indicated by a regular increase of about twenty per cent. yearly. There is no reason why this growth should not be constant, for the Swedish manufacturers recognize the necessity of keeping alive the goose that lays the golden egg, and in consequence, they cultivate their forests instead of destroying them. The demand for wood pulp is constantly increasing, both for making paper and for the many other uses to which it is found to be adapted. In reality the industry is in its infancy, and it is bound to grow to proportions that will surprise even those now in the trade, and there is no reason why the vast forest lands of North America should not compete with those of Northern Europe in supplying the markets of the world. To do this successfully the woodlands will have to be cultivated according to the most approved rules in forestry, and owners of such lands, who observe these rules now, will find as the years go on that they have not only made a good profit on sales, but that the value of their lands have largely increased. [Wood Pulp News.]

LOGGING A MILL.

BY J. H. MINER.

THE cutting of logs into lumber after they have been delivered to the mill is a minor item when we take into consideration the dangers and hindrances which attend the "logging." In a rolling section the mill should be set in a valley, so that the haul will be as much down hill as possible. It being much cheaper to put the lumber up the hill than the logs. The timber-wheels or carry-logs should be of the lever hoist and "bobtail" pattern, which allows more room to make shorter turns. Log-wagons are in general use to haul on the logging road to mill or station.

Various appliances are now in use for conveying and handling logs, but all these, to work successfully, require thickly grown timber, as scattered timbers require the old method with the use of teams. Logs should be sawed instead of cut, as two feet out of every ten are consumed during the cutting. And two men with a good saw will do more in one day than four men armed with axes.

If possible crooked trees should be cut in the crook, so that the logs be as straight as possible. Crooked logs is the result of sprung timber, besides they cause waste in sawing every time. In felling a tree, cut it, if possible, so that it will fall fairly, or it will be broken in many cases and not detected until the saw gets it. A leaning tree should not be felled the way it leans if it can be avoided. Of course the most convenient way of getting the log out must be considered. Where it cannot be avoided the tree must be felled the way it leans; cutting the heart nearly through, leaving only the edges to break. If the outside is cut and the centre left to break, the log will be greatly damaged by splinters pulling out, and which are often seen four to six feet long.

Do not rush a team in warm weather; likewise early in the morning. Do not hire "harum-scarum" drivers who abuse and balk the teams. A first-class man will

take care of his teams and put in logs while the average man will let his teams run down, constantly breaking his wagons, and resulting in the mill waiting more or less for logs. A good man is cheaper at high wages than a team killer working for nothing. A log hauls much easier butt end foremost, and saws much better the same way, and it will not pinch the saw.

A great quantity of timber is left in the woods which should come out; and if convenient to get at a small log, do not leave it as oftentimes more time is lost in getting a large log than would go to making the difference in profit between the two.

In the snowy districts logs are skidded in various ways, but mostly by teams to certain points. Heavy logs are capped with a cone-shaped binder which keeps the log up, avoids stumps and other obstacles, and skids much easier.

DRY ROT IN TIMBER.

NO wood which is liable to damp, or has at any time absorbed moisture, and is in contact with stagnant air, so that the moisture cannot evaporate, can be considered safe from the attack of dry rot. Any impervious substance applied to wood, which is not thoroughly dry, tends to engender decay; floors covered with kamptulican and laid over brick arching before the latter was dry; cement dado to wood partition, the water expelled from dado in setting, and absorbed by the wood, had no means of evaporation. Woodwork coated with paint or tar before thoroughly dry and well seasoned, is liable to decay, as the moisture is imprisoned. Skirtings and wall paneling very subject to dry rot, and especially window backs, for the space between woodwork and the wall is occupied by stagnant air; the former absorbs moisture from the wall (especially if it has been fixed before the wall was dry after building), and the paint or varnish prevents the moisture from evaporating into the room. Skirting, etc., thus form excellent channels for the spread of the fungus. Plaster seems to be sufficiently porous to allow the evaporation of water through it; hence, probably, the space between ceiling and floor is not so frequently attacked, if also the floor boards do not fit very accurately and no oilcloth covers the floor. Plowed and tongue floors are disadvantageous in certain circumstances, as when placed over a space occupied by damp air, as they allow no air to pass between the boards, and so dry them. Beams may appear sound externally and be rotten within, for the outside, being in contact with the air, becomes dryer than the interior. It is well, therefore, to saw and reverse all large scantling. The ends of all timber, and especially of large beams, should be free (for it is through the ends that moisture chiefly evaporates). They should on no account be imbedded in mortar. Inferior and ill-seasoned timber is evidently to be avoided. Whatever insures dampness and lack of evaporation is conducive to dry-rot; that is to say, dampness arising from the soil; dampness arising from walls, especially if the damp-proof course has been omitted; dampness arising from use of salt sand; dampness arising from drying of mortar and cement. Stagnation of air resulting from air grids getting blocked with dirt or being purposely blocked through ignorance. Stagnation may exist under a floor although there are grids in the opposite walls, for it is difficult to induce the air to move in a horizontal direction without some special means of suction. Corners of stagnant air are to be guarded against. Darkness assists the development of fungus; whatever increases the temperature of the wood and stagnant air (within limits) also assists.

EVAPORATING SALT.

AN officer of the Canadian Pacific railway is reported to have inspected the new patent vacuum pan process of evaporating salt from the brine, invented by Thomas Craney, an inventor of Bay City, Mich. The new process has been in use on the St. Clair river, and is also worked in connection with the caustic soda plant of McGraw Bros., of Bay City. The process it is anticipated will be an important factor in salt production both in Canada and the United States. It is stated that the officer in question was greatly impressed with the experiment and held out inducements to Mr. Craney, to come to Canada and introduce the process. It is thought he will come.

FRICION GRIP PULLEYS.

THE accompanying cut illustrates quite fully some of the operations of the celebrated Friction Grip pulleys. These are worthy of a close study by all sawmill men and workers in machinery.

No 1 is a grip driver on the main shaft, which drives the cross shaft 3 by the mule pulley stand at 2-2, and the cross shaft 3 is stopped and started by simply throwing the grip pulley 1 in or out of grip; when 3 is started pulleys 4 and 5 can be started at will to run either the planer or the saw. The 4th grip pulley No. 8 drives on to counter shaft 10, driving with a cross belt at 10 to a borer at 9. Were it not for the grip pulley at 8 the counter shaft 10 would run continually, and a tight and loose pulley would have to run from 10 to the borer, the same to planer and saw.

An important feature of these Grip pulleys is expressed in the words that have now been adopted as a motto by the manufacturers, "Grips always motionless when out of clutch." A prominent electrician has explained that this is a most important feature and one he had not seen in any other grip pulley. It permits any pulley on the shaft to be stopped and the grips adjusted without interfering whatever with the shaft.

The Grip pulley might, in the broadest use of the term, be called an "all round pulley," so completely have the manufacturers combined in it the strongest essential features necessary to the perfect working of

any pulley, and added to these are the special and valuable features exclusive to this grip pulley. We find that this pulley when not in grip is stationery, and this feature applies both to the driven and driving grip pulleys. The ease of adjustment of these pulleys will be appreciated by every workman; every portion of grip from collar or shaft to grips on friction rim in plain sight and reach. The adjustment is as simple as one would wish to see it; there is but one set screw to each grip to adjust friction shoes; when worn out they are readily replaced, being hard maple with end wood to wear; a short, quick movement of slight force, engages or disengages grips, or a slower movement if desired.

These pulleys to-day are in use in all classes of mills and manufactories throughout the Dominion, and the fact that the Waterous Engine Works Co., Brantford, who are the manufacturers, are constantly in receipt of additional orders from the firms having them already in use, is about as satisfactory commendation of their real merits as the most practical business man is likely to want.

BELT HOLDERS AND LOOSE PULLEYS.

BY J. L. O.

THE proper care of loose pulleys and idlers is a very important consideration in a large wood-working mill or factory where there is a large amount of oil and babbitt metal used to keep up these parts of the running gear of the mill; that is, to keep them in good condition. What is more disagreeable than to go into a mill and hear one or two loose pulleys rattling and jarring away at a fearful rate and doing great damage to the shaft, which in the end will be cut up and worn so badly that the shaft has to be taken to the machine shop and trued up. This can be done once or twice, and then the shaft is too small for further use unless the worn piece is cut off and a new piece welded on and trued up. I have often seen this done on account of the shaft being so badly cut up; the only resort was to weld a piece on and true up. I have seen pulleys reversed; that is, the tight changed over to the other side of the loose pulley on account of the shaft being so worn.

Some of the troubles mill men have to contend with in loose pulleys, are too small oil holes for oiling, the

metal wearing and closing up the oil holes. When this happens, the pulley soon cuts out. Sometimes a loose pulley wears out on one end more than the other; this causes the belt to run crooked on the pulley. I have seen a belt worn out from rubbing on its edges before the face was a little bit worn. I have seen rods and sticks driven in the ground to keep the belt on the pulley when the machine was standing idle, from the loose pulley being worn oblong and one-sided. If loose pulleys could be discarded it would be a great blessing to men who have charge of such work in a planing mill, and a great saving of money in a year's time. On large flooring machines and surfacers, the driving-belt is generally six or eight inches wide; if it is rubber, it is four-ply, or, if it is leather, sometimes it is double thick. Both kinds are very heavy and have a hard pull on a pulley, and a pulley generally lasts eight months before it is required to be filled. In winter time great care has to be exercised to keep them well oiled, on account of the small space for oil, and the oil becomes chilled before it reaches its destination, hence the trouble-rattling pulleys. I would prefer to work all night or any Sunday filling loose pulleys, than to hear loose pulleys rattling and jarring all day long.

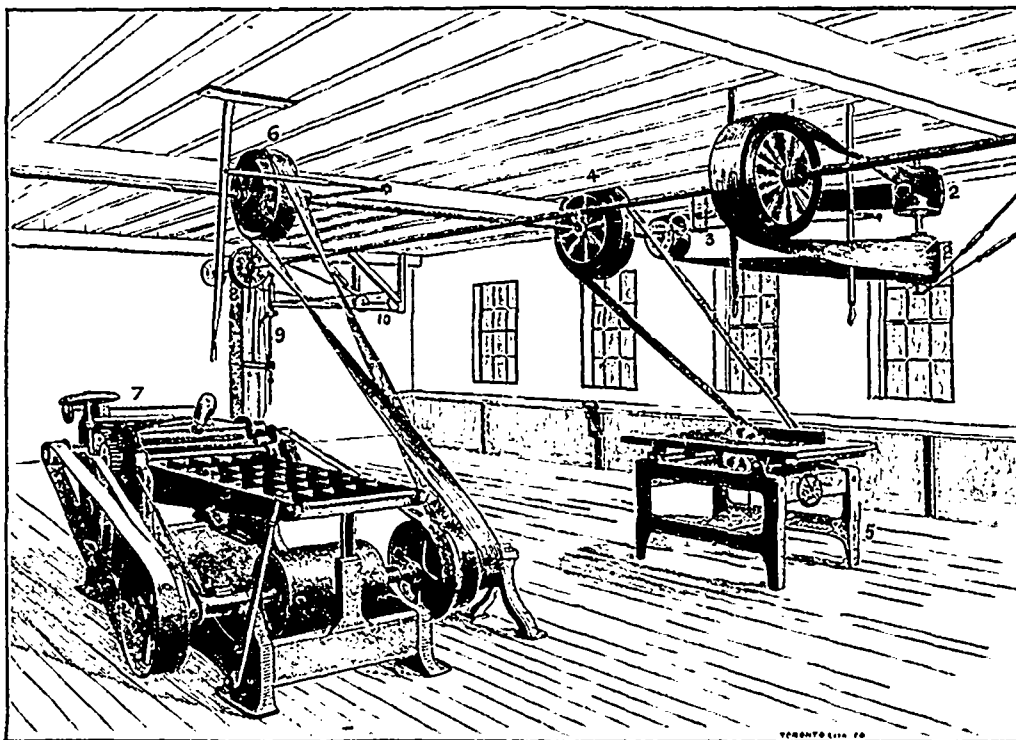
The object of these remarks is to advocate something that will be an improvement upon the old methods as far as loose pulleys are concerned. I consider the Wellington belt holder a great improvement in this line

it works successfully. There is a countershaft under the floor where the saw frame stands, driven by belt from the main shaft. On one end of the countershaft, next to the pulley which carries the belt from the main shaft, is a driving pulley which carries the belt up through the floor to the small driven pulley on the saw arbor. An iron-flanged pulley, eight inches in diameter, in a well-arranged lever-handle, secured to small yet strong wooden hangers, is placed at a suitable distance from the driving pulley on the countershaft. Two strong cords, 5-16-inch diameter, such as used for weighed window sash, are connected to this lever handle, passing through sash pulleys such as are used in window frames for raising sash. One cord is placed in one direction and the other one in another direction; pulling on one cord brings the binder pulley against the belt and starts the saw; pulling on the other, stops the saw at once. The flanges on the binder pulley (which runs as an idler on a shaft running through the binder frame) prevents the belt from running off the pulley when stopping the saw or releasing the belt when it is running at full speed. In fact, the arrangement works successfully. It is on the principle of a feed binder on a flooring machine. The whole arrangement interested me very much. It originated from a studious thoughtful and painstaking mechanic. It is simple, yet durable, out of the way entirely, and finished up in a workmanlike manner. Any one contemplating erecting a rip saw of this kind, would do well to give the arrangement described above a careful study, as I am sure it will prove profitable in the end. A great nuisance is dispensed with; that is, too many loose pulleys, which require much time in looking after and keeping them in running order.

THE FLYING SPARKS.

AT the last session of the Ontario Legislature the Mutual Fire Underwriters' Association of this province endeavored to secure an enactment making it compulsory that all steam engines be placed at least 100 feet away from farmers' barns and stacks while threshing. It was claimed that a large percentage of the fires in rural sections could be traced directly to the spark from the fire-engine. The measure did not become law, though it is not unlikely that it will come before the House again at some future time. The portable fire-engines give trouble to

lumbermen as well as farmers. One of the annoyances of sawmill men using portable boilers and engines is the shower of sparks and cinders from the smoke-stack, endangering adjacent lumber, timber and sheds. By reason of this fountain of fire from the stack, it is often impossible to get a team to stand near it during loading or unloading. A southern lumberman proposes to get over this trouble by an ingenious yet simple device for arresting sparks before they are forced up the stack by the exhaust. It consists of a simple annex or extension of the boiler, at or beyond its intersection with the stack. The extension is about twenty-six inches beyond the stack, and to this is affixed an iron adjustable drum, which can be removed for cleaning out ashes. This receptacle catches all the sparks forced rearward by the exhaust, the artificial vacuum creating an eddy in the current of air at the rear of the boiler, forcing them back and the specific gravity causes them to settle in the drum, as the smoke goes off through the stack. The spark arrester in this method is at the bottom, instead of at the top of the stack. The principle is that of the locomotive boilers, which are all extended beyond the stack, without return flue, and is, therefore, not new, but in its application to sawmill boilers it should be worthy of some consideration.



OPERATIONS OF THE FRICION GRIP PULLEYS.

wherever it can be used. We will take for example, a weatherboard resaw. The belt holder is placed in proper position next to the driving pulley on the line shaft. The belt can be shifted off and on to the driving pulley at will. When the saw is not in use, the belt is shifted to the belt holder and stands idle. This saves the belt and a loose pulley is dispensed with—no loose pulley to look after. Small edging saws and self-feed rip-saws can be operated in the same manner, without loose pulleys, by having belt holders attached.

Patent friction clutches have been largely introduced into mills of all kinds because they fill a want long felt. I know of a place in this vicinity where the friction clutch is used to a great advantage by stopping in a moment a length of shafting when not in use, and the same works successfully. I know of a mill where there is in full operation several saws, run entirely without loose pulleys, the belt holder taking their place in every instance, giving entire satisfaction. The belt holder can be used on a flooring and ceiling machine in conjunction with a loose pulley, to advantage. When the machine is standing idle for a short space of time, and sometimes longer, the belt can be shifted over on the belt holder. This is a saving to the belt and loose pulley.

A very ingenious contrivance and a saving, is a small saw which I have seen put up, and is now in use, dispensing entirely with a loose pulley or belt holder, and

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

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

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

Advertisers will receive careful attention and liberal treatment. We need not point out that for many the CANADA LUMBERMAN, with its special class of readers, is not only an exceptionally good medium for securing publicity, but is indispensable for those who would bring themselves before the notice of that class. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which will be inserted in a conspicuous position at the uniform price of 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.

OURSELVES.

LUMBERMEN are modest kind of folk, not much given to tooting their own horn, and it is becoming their representative, the CANADA LUMBERMAN, to preserve a like demeanor.

We prefer at any time that our work shall speak our worth, and this is about the way we are prepared to let matters rest just now. Let it be remarked, however, that this is our birthday, the thirteenth anniversary of the first issue of the CANADA LUMBERMAN. Steadily, regularly and promptly each month, during the twelve years now closed, through good report and ill, fair weather and foul, we have endeavored, faithfully and intelligently, to represent the vast lumber and kindred industries of this Dominion.

Twelve years is not a long time in the life of man, but it represents in trade journalism in Canada a record that tells of a measure of success, a degree of solidity, of which we need not be abashed.

We celebrate our birthday by appearing before our readers in new clothes. The type founders have been working on us for some time, and it is due them to say that they have done their work well, and that the new dress in which we appear to day is just about as pretty as they make them. Don't you think so? We do not wish to excite envy in the breast of our fellow journalists, but if there is a handsomer printed trade journal in Canada than the CANADA LUMBERMAN we want to see it. Everything about the journal is new, the type from which the paper is printed from cover to cover, new and finer paper, a new cover and new heading, and the best of press work, and each particular part made, as it were, to nicely dovetail one into the other.

But the showing is not all outside. The effort of the proprietor of the LUMBERMAN has been above all else to keep this journal in perfect touch with every interest of the lumber trade, capable, well informed, reliable and thoroughly impartial in its treatment of every lumber issue. From the many kind words that we are con-

stantly receiving from leading lumbermen in all parts of the Dominion for in no sense is the LUMBERMAN sectional in its character we are led to believe that they appreciate the various improvements that have been made in the editorial management of the paper within the past year. We may only say that these several special features will be part of the general make-up of the LUMBERMAN for the new year. ELI will talk to you as of old, our special letters from leading lumber centres at home and abroad will come along promptly every month, the news columns will be made replete with the latest news, in the editorial pages topics directly pertinent to the lumber industries will be discussed from a standpoint having only in view the interests of the lumber trade as a whole; articles of purely practical and technical character will have ample space placed at their disposal. In addition to these and other features, which we believe are rightly valued by our readers, we shall introduce throughout 1891 a number of new features. The ELI page will contain not only chats with prominent lumbermen, but it will be graced from month to month with the names of not a few of the men who help to make lumber opinion. A character sketch, with portrait, of leaders in the trade will also appear each issue. This month opens with Mr. A. H. Campbell, the well-known president of the Muskoka Mill and Lumber Company.

Technical articles will from time to time be illustrated, not to say anything further of other improvements, all tending to make the CANADA LUMBERMAN still more valuable to the trade generally.

LUMBER AND RECIPROCITY.

THE principles of reciprocity continue to find favor with the American Government. Under a reciprocity agreement recently concluded with Germany, duties on forest products are reduced as follows:—"Lumber and timber: 1. Raw or merely rough hewn with axe or saw, with or without bark, oaken barrel staves, unchanged. 2. Marked in the direction of the longitudinal axis, or prepared or cut otherwise than by rough hewing; barrel staves not included under No. 1; unpeeled osiers and hoops; hubs, felloes and spokes, 25 per cent. 3. Sawed in the direction of the longitudinal axis; unplanned boards, sawed cantle woods and other articles, sawn or hewn, 20 per cent." Some day there will be a conference between the statesmen of Canada and the neighboring republic, and it may be that then lumber conditions between the two countries will undergo other changes.

In the meantime the subject continues to provoke increased discussion in both political and trade circles in both countries. One can seldom take up a United States lumber exchange without finding reference, less or more, to the question, and lumbermen on the other side of the border are divided on the question just as they are here.

The Northwestern Lumberman, of Chicago, continues its discussion of the subject of "American Markets for American Lumber," following the letter of Mr. Huyett, which opened the discussion, and to which reference was made in these columns last month, by letters and special articles from lumbermen in different parts of the United States. The majority of opinion expressed by these correspondents is favorable to the exclusion of Canadian lumber, but, as the Mississippi Valley Lumberman points out, the discussion shows that the subject is largely local. All depends on whose ox is gored. The contributors to the literature on this subject are almost without exception eastern men. "A reciprocity treaty with Canada would widen the field of the lumber producers in Minnesota, who, despite the present restrictive tariff, succeed in shipping lumber into Manitoba and the Northwestern provinces." In some of the letters published there is little logic or reason, while there is a good deal of the hurrah style of logic that is common to the man who supposes that around his particular ism is centered the wisdom of the universe. One writer tells us that a national convention of lumbermen is not only "imperative but inevitable. The lumber manufacturers have been outgeneralled through the Dominion Parliament, and it is time to appeal to our national legislature."

The Northwestern Lumberman itself remains only an onlooker. Colorably it is with Mr. Huyett and his friends in this agitation, but is shrewd enough to let them

do the talking. At the same time, in an editorial paragraph replying to the Montreal Journal of Commerce on the saw log duty a summary of the article appears among "Views and Interviews" in the LUMBERMAN—our Chicago contemporary tell us, in deprecating tones, that after all the volume of logs towed over the border from Canada this year is not more than 1 per cent. as much as has been sawed in Michigan, Wisconsin and Minnesota in a year, and the quantity of lumber brought over is only two or three times more than this. To Mr. Huyett the worry is that, if present conditions prevail in 1892, this quantity will be raised to 125,000,000 or 150,000,000 ft. Matters, he thinks, are bad enough now; they will be worse then. But suppose the quantity does go up to the last figure, it would only be about 2 per cent. of the cut of the three pine states named, and even when the importation of lumber is added to the logs, according to the Northwestern, the whole thing would not be more than a drop in the bucket to the American lumber trade. Then why all this ado over the question? Where this terrible competing monster, who has already shaken the lumber trade of the United States from Maine to Texas and from Washington to Florida? We have a shrewd suspicion that the Northwestern Lumberman, when it started this discussion, was after an agitation that would boom itself in certain lumber sections; and it has been astute enough to let other folks do the booming without committing itself too emphatically one way or the other.

A DEFECT OF WOOD PULP PAPER.

A COMBINATION of circumstances of late years has led to the manufacture of printing paper in large quantities from certain kinds of woods, chiefly spruce and poplars. It is in the memory of many of us, when the rag bag of the home was a valuable asset in the providing of pin money for the little woman of the house, or sufficient to keep the small children in boots and shoes. Everything in the way of rags, and paper made from rags, was carefully preserved, and found a ready road to the paper mill there to go through the various processes needed to make a good sheet of white paper, which, after the printer and binder had done their work, would come to us as a handsome volume of Tennyson, Longfellow or Shakespeare. This day has gone. The everlasting reaching out for cheapness, the curse of the competition of the age in every department of business, set ingenuity moving for some other commodity from which to make paper at a less cost than rags. The outbreak of the American civil war served in a degree to stimulate this ingenuity. In 1862 the price of cotton ran so high, that common book paper rose to twenty-two cents a pound, a price altogether too high for profitable book-publishing. Straw, which had long been used for coarse wrapping paper, was mixed with rags. Then wood was tried—the softer kinds—and the pulp produced from it was mixed with the cotton pulp, until to-day paper is almost entirely composed of it. This is a good thing for the wood pulp men, but a recent examination of some of the early books printed on the wood pulp paper has revealed a condition of affairs that to book men is rather alarming. Many are the jests that have been made at the expense of the literature of the present and past ages, and plausible arguments have been produced to prove that the world would really lose nothing by the burning of our most valuable libraries. Few, however, will treat this style of argument with any measure of seriousness. We all know that the thoughts of the world's great thinkers are too important to be consigned to oblivion in this fashion. But if wood pulp is to be used extensively in the production of paper for book-making, we can have no permanency given to the thoughts that will be printed on its pages. A writer who has been investigating this matter tells us that books printed on paper made from cotton retain in after years all their natural whiteness of surface, but books printed from wood pulp paper in only a few years assume an ugly yellowish appearance and become quite brittle. "Let me," says this writer, "take down a few fairly typical books from my own shelves. Here is a copy of Henry Mackenzie's works, published in New York in 1836. It was a comparatively cheap edition, containing in one volume the three volumes of the

original English edition. But it was printed on paper made entirely of cotton, and every page to-day has a clean, pure white surface, and every letter is as distinct as when it came from the press of the Harpers. Contrast it with any volume of this set of the elder Disraeli's works, which was printed in New York in 1863, and is therefore just half as old as the Mackenzie. The leaves are all yellowed at the edges as if every page were set in an old-gold frame, and even in the centre they are noticeably brittle; or take an edition of Lamb's 'Essays of Elia' (1860) so of a pretty edition of Irving's 'Tales of a Traveller' (1865), so of numberless others. One of the most flagrant instances is furnished by a beautiful holiday book of permanent value, perhaps the finest that was issued in the season of 1882. The drawing and cutting of the illustrations alone cost \$5,000, and copies of the book in the ordinary binding sold for \$10. It is not yet nine years old, but it is already marked for destruction. You can fix the periods of the successive changes in the composition of paper by looking at books and observing the dates on their title pages." To the world of letters, however, it may strike the manufacturer, the matter is of no ordinary moment.

AMERICAN LUMBER OPERATIONS IN CANADA.

ONTARIO is not the only province in the Dominion into which United States lumbermen are extending their operations. It is well known that many of the largest operators in this province are Americans, largely interested in the working up of pine, and hailing from the pine state of Michigan. We now have Maine lumbermen casting a wistful eye at the spruce of New Brunswick. They see more than spruce. The lumbermen of New Brunswick have devoted their attention chiefly to the production of deal logs for the English market; this has called for logs of a large size, and in securing these smaller trees have been neglected by the log haulers. Recently a tract of rather more than 50,000 acres, about 25 miles distant from Fredricton, which had been well cut over for deal logs, was placed on the market, and a syndicate of Maine operators, among who are Messrs. F. Gilman, of Bangor, and Bennett, of Danforth, have become the purchasers. A portion of this land runs close to the railway, and it contains, it is claimed, large quantities of birch and maple, which can be marketed by rail without difficulty. The same parties, associated with others, have also lately become the purchasers of 64,000 acres of spruce land of excellent quality, on the Miramichi river. A Bangor syndicate, in addition to the transactions here named, have bought a tract of 10,000 acres of sapling pine lands, situated on the Tracadie river, which discharges into the Gulf of the St. Lawrence. The indications are that these Americans will become owners of mill property in New Brunswick, as well as the timber, and if this be the case, the lumber trades of the Maritime provinces should experience a revival, which is certainly much needed, as a result of this fresh influx of capital and business energy.

APPROPRIATING LOGS.

ABOUT six months ago the United States Government appointed two special agents, DeLambert and Stout, to investigate the stories of trespassing on Government lands, on the boundary lines of northern Minnesota. These men have now been four months at the work, in fact they had not been heard from for so long a time that fears were entertained in Washington for the safety of the party. The Washington Government are satisfied from the report that has been presented to them, although only a portion of the streams and waterways on the boundary lines were examined, that extensive trespassing on Government lands has been going on for some time. The expedition travelled 1,500 miles, mostly by canoe. It is anticipated that the report, which is in preparation, will recommend the establishment of a Government post at the mouth of the Rainy River. It is probable that the party will return in the spring and examine the country in the Red Lake reservation, which is entirely drained by rivers flowing north. Most flagrant lumber depredations it is alleged have been committed all through this country, the logs being floated off to Rat Portage.

EDITORIAL NOTES

A HAPPY NEW YEAR.

WE may remark parenthetically that this is the month for renewal subscriptions. Has your subscription to the CANADA LUMBERMAN expired? A glance at the wrapper will give this information. It has cost some money to produce a journal as well gotten up as the LUMBERMAN, and you may remit your subscription as promptly as you like you will not cause offence by being too prompt.

DECEMBER marks the retirement from the Albany lumber market of H. W. Sage & Co., who have conducted a branch at this point since 1867. Headquarters of the firm are at Ithaca, N.Y. The firm were large handlers of Michigan pine of their own manufacture. "The Albany market," says the New York Lumber Trade Journal, "will never recover from the loss of so large an interest, and their place will never be filled."

WE are in receipt of a letter of considerable length from William Little, of Montreal, a close student of lumber problems, and whose contributions to these pages in the early part of 1891, will be remembered by our readers. In the present letter he discusses in his own vigorous fashion the effect of the abolition of the export duty on logs on the lumber trade of Canada, making a strong plea for its renewal. The crowded condition of our columns prevents inserting the letter this month. In the February issue our readers will hear from Mr. Little.

DIFFERENT countries, and different methods of doing business; not without good reason our local lumbermen have found fault with the system of selling lumber to country dealers on three months time, which has frequently meant three months renewal for at least part of the purchase represented in the amount. But in Sweden, in her export trade with Great Britain, lumbermen have been accustomed to sell on six month's credit. A movement, however, is now being made, and will likely be successfully carried out, to make the time four in place of six months.

DULUTH is a point that has experienced quite a boom in lumbering the past season. The cut of the saw mills of this district show 253,300,000 feet, against 215,000,000 feet in 1890, and that of the city mills 127,300,000 feet, against 70,000,000 feet last year, the gain being entirely in the mills in Duluth. In the district there were also manufactured 53,111,000 lath and 74,552,000 shingles. Next season it is expected that nearly 100,000,000 feet will be shipped East from Duluth. Many new lumber firms have come from Saginaw this year, and six mills have been built in Duluth, adding 150,000,000 feet annual capacity. Two of these mills have a capacity of 50,000,000 feet each. "The output of city mills next year will run up to 200,000,000 feet, and that of the district to 350,000,000. If two or three mills are built, as is expected, it will be much more."

A FEW months ago we had occasion to refer to the disposition of United States lumbermen to seek fresh fields of purchase and to get away from the middleman as far as possible. We judge that this spirit of change is operating against the trade of not a few lumber points, where the trade was supposed to be solid and safe. We learn within the past month that over 50,000,000 feet of lumber have passed by Saginaw and Bay City, Mich., from Menominee, en route to Buffalo and Tonawanda, N.Y., which markets have formerly been considered as belonging especially to the Saginaw River mills. Michigan lumbermen, in making up their balance sheets and finding a shrinkage in trade, are disposed to charge it to the volume of Canadian lumber that is reaching their side of the lines; they may also take cognizance of facts like that connected with Menominee which we have here stated, as having some relation to Michigan trade.

SOME curious make-shifts in the way of building, on account of the high price of materials, have to be resorted to in Mexico. Take the matter of nails, for instance. These cost from 16 to 25 cents a pound, and they are so expensive that a great part of the building is done with ropes, instead of nails. Within a stone's throw of the Iturbide Hotel an immense building is being erected. The scaffolding is tied together with ropes, the rafters being spliced in this way. Many of the huts have roofs of thatch tied to rafters with ropes, and some of these huts have not a nail in them. Few wooden buildings are known. The average house has neither cellar nor garret, and the fastenings which we make with nails are ingeniously constructed with brick and mortar. All classes of building material are costly here. You have to pay \$35 or \$40 a thousand for flooring, and glass is very high.

A LUMBER salesman scores one for the lumber trade journal of his section. He tells how he read a four-line item, that a certain concern in Ohio had obtained a contract requiring over 1,000,000 feet of lumber. He had never dealt with the concern, but wrote it, and later on made a price; result, he has sold the firm 250,000 feet, obtained from reading that four-line item. And yet there are lumbermen, who say "a lumber paper ain't no use nohow." The lumberman who knows his business best and keeps in the front of the procession, reads his lumber paper carefully from cover to cover. Such men know how infinitesimal is the subscription price of one dollar a year, which is the annual subscription of the CANADA LUMBERMAN, compared with the valuable news items, useful hints, pointers and information, which they obtain from each number, and that pays a dividend largely in excess of any other investment.

THE Timberman of Chicago, commenting on the saw log question, remarks "that the present condition of affairs has been brought about by the adoption of an exactly similar line of policy by the United States as that inaugurated by Canada in 1879 under the name of the "National Policy." The watchword throughout Canada at that time was and still remains "Canada for the Canadians," and the United States cannot be blamed for attempting to work out her destiny upon the same lines." This is refreshingly fresh. Our good brother does not propose surely to credit this country with leading the United States in a restrictive trade policy. We have a dim recollection of a neighbouring country erecting a high tariff wall some time back of 1879, and of a well-known journalist, Greely by name, who made some claim to being one of the fathers of the policy. Oh, no, brother, this country, we opine, caught the protection fever from her cousins to the south.

EXPORTERS say the only disagreeable feature of South American trade is the uncertainty of getting paid. This truly is a disagreeable feature, which is sufficient to keep them from attempting to secure any trade in that direction. -Chicago Lumber Trade Journal.

UNFORTUNATELY South America is not the only place where this uncertainty exists, and if we read our Chicago contemporary right, lumbermen know something of this species of trouble nearer home than South America. We have an experience of the business in Canada, and in Toronto. But the lessons learned from time to time from this experience are like the admonitions we give to the small boy of the family; the naughty action is repeated over and over again. Trade may be dull and business rendered unprofitable because of this; in the heat of competition prices are no doubt cut, and profits become hardly perceptible even to the microscope; but the story of every balance sheet, that most correctly explains the unsatisfactory and unpleasant features of the year's business, not any one year, but every year, is the column marked "bad and doubtful accounts." We are constantly placing business where there is an "uncertainty of getting paid, and where it is known uncertainty most certainly exists. Were one year's record of losses from this one cause placed together and held up before the lumbermen of this country, and every country, it would produce a shock that is yet unobtainable from any electric battery that has emanated from the wizard of Melno Park.

YOU cannot afford to be without the CANADA LUMBERMAN. Yearly subscription \$1.00.

THE NEWS.

ONTARIO.

—Loggers are looking for snow.
 —Send the news of your district.
 —John Fownes, saw mill, Elgin, has failed.
 —Isaac Newlands, builder, Kingston, is dead.
 —Wm. Phillips, of Young Ireland, Ont., jammed his leg while logging.
 —January is the month for renewal subscriptions. The LUMBERMAN is \$1.00 a year.
 —T. G. Wigg, of Thessalon, has become scaler for the Spanish River Lumber Company.
 —The lumber and shingle mills of Mr. Hubble at Markdale, are doing a good business this fall.
 —H. W. Petrie, of Toronto, is making large shipments of sawmill machinery to British Columbia.
 —Moffat & Co., of Carleton Place, whose planing mill was burned a month ago, are rebuilding rapidly.
 —The new Buill, Orr, Hurdman & Co. mill at Ottawa, when completed, will have a capacity of 37,000,000 feet.
 —A load of logs, the first of the season, were brought in on sleighs a week ago for G. W. Green & Son's mill, Kingston.
 —An Ottawa butcher made a Xmas showing of a monster black bear, which some of the "boys" killed up the Gatineau.
 —Mr. T. H. DeCew, of Essex, is said to own over 1,600 acres of fine timber land in Oregon, which he thinks will yield not less than 100,000,000 feet of lumber.
 —An extra gang of men have been sent to the Upper Ottawa shanties from Lower Town, to be employed chiefly as road-makers and general purpose hands.
 —The Ottawa Lumber Company's concern near Calumet have closed down for the winter. They have re-engaged all their mill hands for their shanties on the Rouge.
 —Lumbering operations in the Lake of the Woods are reported quite active, though three of the Rat Portage mills have sufficient logs on hand to keep their mills running next summer.
 —E. Paradis, of Ottawa, has assigned. He is a mill foreman himself, and his wife has been running a grocery for him. During the strike his customers' accounts piled up, and he ran behind, until now the creditors' patience is exhausted.
 —J. R. Booth, of Ottawa, who put thirteen hand saws in his new mill, has decided to take out five of them. The original number is in excess of his requirements. Buill, Orr, Hurdman & Co., who are enlarging their mill, will secure three of them.
 —A proclamation is published forbidding the movement of saw logs or parcels of timber, in booms of over 5,000 pieces, in the main navigable channel of the Trent Valley Canal system between Pigeon Lake and Young's point, under severe penalties.
 —The Elmwood Lumber & Furniture Company, of Elmwood, gives notice of an application to the legislature for incorporation, for the purpose of carrying on a lumber business and for the manufacture of furniture, etc., the capital stock of the company being placed at \$20,000.
 —Gillies Bros. have recently purchased M. L. Russell's limits on the Bonnechere at Round Lake and Pine River, sixty miles from Renfrew; and estimate to cut 200,000 logs on it this season. Mr. Russell is said to have sold well and Messrs. Gillies to have secured a good bargain.
 —W. H. Simpson, hotelkeeper, and Paul and Alf. O'Neil, have secured a timber limit containing about 19,000,000 feet at Bescoating, on the Spanish River, and propose working it for "all they are worth." A gang of about 30 men in charge of Alfred Edgar, of Bobcaygeon, as foreman, will do the work.
 —Martin Armstrong, a young man living at Nassau, near Peterboro, was instantly killed while working in the woods on the limits of the Lakefield Lumber Co. The deceased was working near a tree which had, in falling, lodged against another. The fallen tree, becoming released, crashed to the ground, and one of its limbs struck Armstrong.
 The R. H. Smith Company, of St. Catharines, report that with 1891 they closed one of the busiest years in the history of their firm. The demand for their "Leader" cross-cut saw has been exceptionally large, and what has been most encouraging, these saws have given complete satisfaction to the purchasers. The same firm are sole manufacturers of the Simond's circular saw, which is pronounced the most uniform in temper of any saw made.
 —The master-in-ordinary has given an important judgment in the case of the Bloor Street Lumber Co., whose troubles have before been referred to in these columns. This was an applica-

tion made to have Stephen Wilcox, H. Mullen and T. J. Hammill declared as contributors to the stock of the company to the extent of \$3,000 each. The defendants owned the premises and stock, which, on the formation of the company, they handed over and accepted \$3,000 each in paid-up stock in payment. The plaintiffs claimed that the stock was not paid up by this means; that the defendants should rank as creditors the amount of property they turned over, and as debtors to the amount of their stock, which was claimed to be unpaid. The master held that there was no liability upon the shares held by the defendants, and that the shares were fully paid.

—The Parkin Shingle Company is applying for a charter to manufacture shingles in the town of Lindsay, with a capital of \$15,000. The company intends running its shingle mill all winter, as it has sufficient stock on hand. It has two shanties getting out timber for next season's cut—one in Somerville, on Mud Turtle Lake, and the other a few miles from Bobcaygeon, where the company recently purchased the standing timber on 300 acres of land belonging to the Bick estate. About 3,000 logs have been cut on this limit up to date, and drawing to water will begin as soon as there is sufficient snow. The firm has a market in sight in the New England states for 20,000,000 shingles for next season, and will run night and day to supply the demand.

QUEBEC.

—Copping Bros., lumber, Quebec, have dissolved.
 —F. Tremblay, sash and door factory, Montreal, is offering to compromise.

NEW BRUNSWICK AND NOVA SCOTIA.

—C. S. Stephen, Fall River, N.S., has assigned.
 —J. & J. Parker, saw mill, Pollett River, N.B., are insolvent.
 —Gibson's new shingle mill at Marysville, N.B., when completed, and running at its full capacity, will, it is said, provide shingles enough, four inches to the weather, to cover a farm of a hundred acres in little more than a year.

—All saw mills along the line of the Canadian Pacific Railway in New Brunswick have been shut down for the winter, and only a few men are now engaged on the wharves clearing up and covering the lumber piled there. This stoppage occurs about a month earlier than last year. Nearly all the wharf men have gone to the woods.

—Owing to depression in the lumber business, Mr. Hickson, of Newcastle, N.B., has made up his mind to go out of the business of sawing lumber for the deal trade. At present he has a number of men employed changing his sawmill from a gang to a shingle mill. It is his intention to run ten shingle machines. These machines, when in proper working order, he estimates will turn out about 140,000 shingles a day.

—Operators in Nova Scotia, it is claimed, are enlarging the volume of their business considerable this season. Huntley & Epps have thirty men in the woods at Lakeland, and have already got out about 3,000 logs, and have commenced sawing. Young Bros. & Co. have sixty men in the woods at Newville and about an equal number at River Herbert. The Newville gang already yarded 18,000 logs, and are getting out about 800 logs every working-day. The operations of Young Bros. & Co., will be larger this winter than ever before, and they will probably employ fully 200 men during the winter.

—Nova Scotia has taken a new departure in the construction of timber carrying ships. The bark Argentina, built for the South American lumber trade, is the pioneer vessel, with a registered capacity of 583 tons; she carries an immense deck load of lumber, without any ballast whatever. Allowing ten days to clear the river and gulf, she expects to make the balance of the run from Montreal to Monte Video in forty days, making the time for the whole run fifty days or thereabouts. The average time for an ordinary sailing vessel from Montreal to the River Platte is about seventy days.

—The Fredericton Gleaner, estimates the season's cut of shingles for New Brunswick at about 100,000,000. Of this about 65 millions will come over the Grand Falls. Of this latter quantity 15,000,000 will be cedar, from which John Morrison will make about 50,000,000 shingles; Stetson, of St. John, 30,000,000; Miller and Woodman, St. John, 40,000,000; John McMullin about 10,000,000, and other manufacturers smaller quantities. For the cedar cut which will not come over the Grand Falls, James Murchie & Sons will make about 25,000,000 shingles. The new company of Americans which has purchased the Sears mill property, on Fish River, will make between 30 and 40 millions to be shipped by the Temiscouata Railway. The new mill being fitted up at St. Francis, on the American side, by Messrs. Wheelock & Anderson, with four machines, will cut about 10,000,000 shingles. This cedar will be got out on the St. Francis River, and will also be shipped by the Temiscouata Railway. The Van Buren

mills will make about 30,000,000 this year, secured largely on Grand River. The Salmon River mill, owned and operated by Hiram Stevens & Sons, of Maine, will manufacture between 12 and 15 millions.

MANITOBA AND NORTHWEST.

—J. H. McConnell has opened out in the lumber business at Hamiota.

—A. J. Hughes, late of the firm of Hughes & Atkinson, lumber merchants, Winnipeg, has opened out business on his own account.

—Henry Roberts, of Strathclair, who now sells groceries and lumber, is adding a general stock of merchandise to the present stock of tea and timber.

BRITISH COLUMBIA.

—Housely & Co., planing mill, Vancouver, are out of business, and succeeded by Robertson & Hackets.

—The first shingle mill ever started on Vancouver Island has just commenced operations in Victoria, the owner of it being Mr. W. E. Loser.

—Shipments to Valparaiso have continued throughout the month. The "Athol" left the Hastings mills, New Westminster, a few days ago.

—The saw mill at Golden is engaged in cutting timbers for a new vessel to be built this winter or early next spring by the Upper Columbian Navigation Co.

—Robertson & Hackett, sash and door factory, Vancouver, have made considerable addition to the factory since it came into their hands.

—The British ship Athlon, 1,371 tons, is chartered to load lumber at the Hastings mills, for Adelaide. This vessel loaded at Moodyville about nine years ago.

Application has been made to the British Columbia legislature by E. H. Post, John Reid and J. C. Scott for incorporation as the Pacific Coast Lumber Company, limited liability, capital stock \$100,000 in \$100 shares, chief place of business, New Westminster.

—In towing a boom of logs from the upper end of Kootenay Lake to the saw mill at Pilot Bay the machinery of the "Surprise" got out of order, and as a consequence of this and a storm that blew up about the same time, which broke the boom fastenings, logs are scattered for miles up and down the lake.

—The MacLaren-Ross Lumber Co. are about to begin a survey for a line of railway from the Fraser River near Chilliwack to their extensive timber limits in the rear part of the municipality. The line will be built early next year and will be used only for getting out the logs from the limits to the river.

—C. M. Beecher, of the British Columbia Timber & Trading Company, Vancouver, reports local business exceptionally active at this season of year. Large shipments have been made to Manitoba, and a considerable trade is being developed with Ontario and Quebec. Recently an order was received from the Harbor Commissioner, Montreal, for some very large pieces of timber to be used in the construction of a dredge.

UNITED STATES.

—Extensive forest fires are raging in the Peekskill mountains, N. Y.

—The long drought that has prevailed in Maine will prove a serious loss to lumberman of that state.

—W. R. Ackley, of Chippewa Falls, has begun his contract to bank 1,000,000 feet of timber on Thornapple River.

—The Owen-Hutchinson Lumber Company, at Saginaw, Mich., wants to settle with its creditors for 45 cents on the dollar.

—The preparations for logging in Northern Michigan and Wisconsin are on an enlarged scale, the cut being largely increased.

—McDonald Bros., lumbermen and steamboat owners of Lacrosse, Wis., have assigned, \$280,000 liabilities; assets, \$300,000.

—Two years ago the Lumberman's Association of Illinois started with a charter membership of thirteen. To-day it has a membership of 213.

—To show the growth made in the industry of furnishing kindling wood, a single factory in Pennsylvania turns out 5,000,000 bundles a month.

—Murphy & Dorr have sold 650,000 feet of lumber on their dock at Bay City, Mich., to Ohio parties at \$16 straight, and 1,000,000 feet for spring delivery at \$17.50.

—Parker, Cook & Co., a big Michigan lumber firm have purchased fifteen thousand acres of timber land in Oregon, and also a controlling interest in one of the largest saw mill properties of the state.

—The estimated log cut in Wisconsin shows a considerable increase over last year, and lumber manufacturing in the state next season, will, it is expected, be without precedent.

—About 12,000 trees, chiefly spruce and fir, were shipped from Maine to New York, to be used for Xmas trees. This makes a novel and lucrative early winter business for Maine.

—Out in California they are using a steam logging scow to clean up the logs along several streams, and 15,000,000 feet are reported to have recently been taken out of the Toutle and Cowlitz rivers, that otherwise would have been hung up on the sand bars for a long time.

—Merchant & Co., of Philadelphia, have sent us a handsome little book modelled after the style of Palmer Cox's popular "Brownies," supposed to be an account of the several exhibits that this firm will make at the forthcoming World's Fair. From an artistic standpoint the book is well deserving of complimentary mention.

GENERAL.

—George Rogers, lumber, McGregor, has sold out to Logan & Co.

—The Edmondson saw mill at Uptoff was scorched on the 27th ult., to the extent of \$3,500.

—L. Russell will remove his mill from Benton, Isabella county, Michigan, to Crooked Lake, where he has 8,000,000 feet of pine.

—The favorite wood for paving purposes in Australia, is the jarrah; it is also considered best in London, England, because of its lasting qualities.

—A meteorite, found recently in the rotten roots of a willow tree at Lysabild, Denmark, was seen by the finder to fall into the tree in August, 1843.

—McLachlan Bros., of Arnprior, have closed a most successful season's business, having cut upwards of 80,000,000 feet of lumber. This is perhaps the largest cut of any firm in America.

—The growing importance of Buffalo as a lumber market is evidenced by the opening of an office here by Messrs. W. R. Creed & Co., of New York, who handle upwards of 100,000,000 feet of hemlock lumber each year.

—Diphtheria is reported to have broken out in the shanties at Little Current. Several deaths have occurred, and others are suffering from the effects. Dr. Robillard, medical health officer, says it is a very bad type of the disease.

—The large furniture manufacturing and lumber business of Henry Herrmann, of London, Eng., and Evansville, Ind., has been purchased by a syndicate of English capitalists. The timber trade done is almost exclusively in hardwood.

—Some writer has figured that the annual production of sawed lumber in the United States would load a train of cars 25,000 miles long. Adding the timber for railways, fencing, mining and export, the train would be 72,000 miles long.

—J. R. Hall, of Michigan, the veteran shingle maker, and inventor of the celebrated Hall shingle machine, has satisfied himself that the days of the circular saw shingle machine are numbered, and has invented and secured letters patent on a hand saw shingle machine to supersede his other machine, which has always been considered one of the best in use.

—Alexander Beaty, aged 20, whilst working in the Frank's Bay lumber camp, for J. B. Smith & Sons, of Strachan Avenue, Toronto, was accidentally shot in the calf of the leg by a companion. The bullet went through the leg. The sufferer had to go 20 miles over water and 15 by land before a doctor could be reached and his leg dressed. He was brought to the Toronto General Hospital.

—A wealthy timber merchant, named Appelbaum, and all the members of his family, to the number of twelve, have been found murdered by blows from hatchets in a forester's house in the Government of Grodno, Russia. After securing a considerable sum of money the murderers set the house on fire. The gendarmes have arrested six persons who are suspected of the crime, but the band is said to have numbered at least twenty.

—The Master-in-Ordinary gave an important judgment on Saturday morning in the case of the Bloor Street Lumber Co., of Toronto. This was an application made to have Stephen Wilcox, H. Mullen and T. J. Hammill declared as contributors to the stock of the company to the extent of \$3,000 each. The defendants owned the premises and stock, which on the formation of the company they handed over and accepted \$3,000 each in paid-up stock in payment. The plaintiffs claimed that the stock was not paid up by this means, that the defendants should rank as creditors to the amount of property they turned over and as debtors to the amount of their stock, which was claimed to be unpaid. The master held that there was no liability upon the shares held by the defendants, and that the shares were fully paid.



—Among visitors at the LUMBERMAN office during December, were J. B. Barr, of Medonte, Ont., and R. Cruickshank, of Hamilton.

Hon. Senator Snowball, of New Brunswick, succeeds Mr. Gibson, the well-known lumber king, as one of the managers of the Canada Eastern Railway.

—The death is chronicled of W. J. Macdonald, crown timber agent of the Ontario Government at Ottawa. Deceased was 55 years of age; la grippe was the cause of death.

George E. Blake, a well-known American lumberman, a representative of the Kentucky Union Lumber Co., died on Dec. 2, as a result of a disease caused from a fall from a ladder.

—John MacBeth, for some time assistant inspector of Dominion land agencies, has been assistant crown timber agent for the Winnipeg district. The appointment is popular in Manitoba, where Mr. MacBeth is well known.

—Mr. D. Hazard, of the Clark & Hazard Manufacturing Co., of Marquette, Mich., paid the LUMBERMAN a visit a few days ago. Mr. Hazard is endeavoring to place with manufacturers here, an important patent for saw mill machinery.

—After a short illness William R. Thistle, the widely-known lumberman, died at his residence, Ottawa, Ont., on Tuesday, the 5th inst. Deceased was a director of the Keewatin Lumber Co. and the Hawkesbury Lumber Co., a member of the firm of Thistle, Carswell & Co., and of Carswell, Thistle & McKay. He has been a resident of the Ottawa section for the past 30 years, part of the time in Aylmer, and latterly in Ottawa. He was married to a daughter of the late John Egan, three daughters being left to mourn his demise. He was noted for his extensive acts of private benevolence.

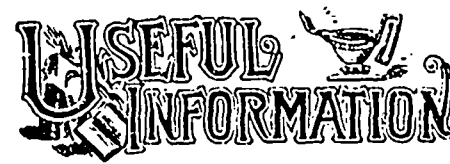
There died in Brockville, Ont., in December, after a lingering illness, Lt.-Col. David Wylie, one of the best known newspaper men in Canada, his long connection with various journals of the Dominion having earned for him the title "Father of the Canadian Press." Col. Wylie was born in Scotland in 1811, and after being connected with several Scottish journals came to Canada in 1845 to take charge of the printing office of John C. Beckett in Montreal. In 1849 he accepted a position as parliamentary reporter on the Montreal Herald. He continued reporting till the burning of the parliament buildings, when he arranged to go to Brockville and take charge of the Recorder. One bit of work in Montreal Mr. Wylie always felt proud of: After the buildings were burned a "call of the Upper House" was made. The report occupied eighteen columns of the Herald, all written by Mr. Wylie with the exception of one short speech furnished by a French member. At the close of the session the house voted Mr. Wylie \$50 as a mark of their appreciation of his services.

PUBLICATIONS.

A very good idea of the amount of money it costs to successfully conduct one of the magazines of to-day is aptly illustrated in some figures regarding the editorial cost of The Ladies' Home Journal of Philadelphia. The Journal is edited by Mr. Edward Bok. For shaping the thoughts of his 750,000 women readers each month Mr. Bok is paid \$10,000 per year, and has an interest in the business besides which nets him fully twice his salary. He has a staff of sixteen salaried editors, which includes men and women like Rev. Dr. Talmage, Robert J. Burdette, Palmer Cox, Margaret Bottome, Isabel Mallon and Maria Parloa. The combined salaries of these editors exceed \$20,000 a year. The Journal spends each month \$2,000, or about \$25,000 per year on miscellaneous matter not contributed by its regular editors, and the working force in the editorial department means at least \$6,000 more in salaries, making over \$60,000 a year, and this represents but a single department of the magazine; and it is a question whether any periodical is conducted on a more business-like and economical basis than is the Journal. No wonder that J. B. Lippincott, when asked by a friend why he did not keep a yacht, replied: "A man can only sustain one luxury—I publish a magazine!"

A THREE CENT STAMP DOES IT.

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



The width of a key should be one-quarter of an inch for each inch of diameter of the shaft.

Papier-mache oil cans, which are now being made, are very durable and impervious to any spirit or oil likely to be used in a machine room.

In building your chimney, don't forget to leave a door at its base by which it may be entered; nor to leave climbing irons by which it may be ascended for inspection or repairs.

Whatever kind of a chimney you have, see that it is smooth inside. The rougher it is inside, the less the draught will be. A round section costs rather more to build, but is a trifle the better shape.

The practice of running steam boilers with only one safety appliance, that of the safety valve, is an unsafe method that should be condemned by every competent engineer who finds such methods in practice. Safety valves are not infallible in their action, even those of the most improved construction, and the possibility of accident is always in existence when running by the safety valve alone is attempted. Even with every safety appliance yet invented absolute safety cannot be assured except with the most skilful attendance to be obtained. Do not, therefore, neglect one of the means that may secure safety.

The practice of expressing the economy of a steam engine in so many pounds of coal per horse power per hour has been almost universal in the past, and though some few engine-builders are using a different standard, the former may still be considered the prevailing method. Certainly nothing could be more fallacious than to speak of the consumption of fuel by the engine, which consumes steam only, or should if proper conditions exist. An improved automatic cut-off engine is sold under a guaranty of say 3 pounds of coal per horse power per hour. How does the maker arrive at this figure, not knowing the economy of the steam generator? With an average boiler performance the quantity of steam supplied to the engine on the above rating will be that due to the evaporation of about seven pounds of water evaporated per pound, or 21 pounds of water per three pounds, from and at 212° Fahr. Therefore the economy of the engine should be rated as 21 pounds of water per horse power per hour, instead of three pounds of coal.

On the first day of any month in the year any one may make the cold-blooded statement that during the month to come at least 18 or 20 boilers will explode, anywhere from 12 to 30 lives will be lost, and thousands of dollars worth of valuable property destroyed, to say nothing of the suffering and distress of those whose injuries are less than fatal or whose loved ones and bread-winners are thus cut off; and be, in 99 cases out of 100, within the truth when the month is ended. Just as certainly as two times two are four is it certain that an iron structure will not give way without being subjected to a pressure greater than the inherent resistance of the construction to rupture. No boiler explosion ever occurred in which either the pressure was not allowed by carelessness or ignorance to exceed the normal strength of the boiler, or in which the normal strength of the boiler was not impaired until it was insufficient to withstand the pressure to which the structure was subjected. Both of these contingencies can be eternally and positively prevented by careful and intelligent supervision. The steam boiler is an absolute necessity in the present industrial age. It is furnishing to-day a power equal to double that of the total working force of the world's population. Intellectually used it is as safe as a kitchen stove, and in the interests of humanity and of industrial progress, it behooves all who are interested in the manufacturing arts to assist in removing this eternal blot which exists upon the otherwise beneficent service which steam has rendered to mankind; a service exceeding that of any other agent of ancient or modern times, without which our present civilization and our future progress would be alike impossible.

TRADE REVIEW.

Office of CANADA LUMBERMAN, }
Dec. 31, 1891. }

THE GENERAL SURVEY.

THE LUMBERMAN for February will, we expect, be largely a statistical number. We hope to be able to lay before our readers at that time special reports of the lumber business of the year at all leading lumber points, and from the data that will be in our hands at that time to give a succinct, and, at the same time, comprehensive review of the lumber situation. The present number of the LUMBERMAN goes to press too early to enable us to secure, as completely as we are planning, all the needed information for this purpose.

The immediate situation, writing these words on the closing days of the old year, is aptly described in the lines of a familiar hymn, that tells of the "parting and the meeting." Trade for the moment, everywhere, is in statu quo. Dealers are aiming to get at what has been done for the year. While doing this very little present trade is doing, nor have they reached the time when they are giving much thought to plans of the future. They are to-day at the cross-roads.

Trade of the month; in this city it continues dull, and the conditions are aggravated by another batch of failures for the month. The cause of these, as a whole, does not differ from the causes that have before been given in these columns, as explaining the failures of October and November—the reaction of the real estate boom. Particulars of the cases referred to will be found in our news columns.

The mild weather of the month has helped business in the country to some extent, but after all no large volume of business will be done before spring, when it is reasonable to expect quite a stimulus in building in many of the smaller towns and rural sections. To a fair extent this will be the case in Ontario; reports from Manitoba and the Northwest would indicate that building operations in these provinces will be more than brisk for the spring and summer of '92.

Canadian trade with the neighbouring republic holds its own, and in some respects becomes enlarged and more prosperous.

Denny, Mott & Dickson, of London, Eng., in their circular of this month say of Canada timber: "The demand for first-class Waney Yellow Pine has been so good that the stock is already unduly small and cannot be sufficient to supply the ordinary winter demand. Square timber has not been enquired for, but is also short in stock and should command a full price. Oak and elm are also dull, but the fact must be recognized that pine as well as elm and oak have been under-imported this year and are sure of a good market sooner or later."

NEW BRUNSWICK.

The last month of the year closes with a slightly better feeling. Spruce is looking up, and the impression prevails that an increased export trade will be done in the near future. In the review of New Brunswick trade last month the figures were given of the Miramichi shipments for 1891 compared with those for 1890 and other periods. Following is the Miramichi shipments for 1891 more in detail, showing who have been the chief shippers for the year.

Shipper	Vls.	Tons	Deak	Scgs., &c.
J. B. Snowball	25	17,914	15,889,028	
W. M. McKay	19	15,146	14,137,678	
Wm. Richards	22	15,308	13,344,999	
D. and J. Ritchie and Co.	18	10,142	9,920,784	
N. B. Trading Co.	12	8,907	5,591,443	
E. Hutchison	10	6,803	6,134,878	
Geo. Burchill and Sons	6	4,348	4,042,000	
James Aiton	1	754	22,140	
	113	79,412	72,082,950	

Palings, staves and spool wood were shipped as follows, the figures representing pieces:—

Shippers	Palings	Staves	Spool Squares
J. B. Snowball	1,086,315		
E. Hutchison	9,600	472,200	
D. and J. Ritchie and Co.	95,650		
N. B. Trading Co.	28,725		
Wm. Richards	20,275		
Geo. Burchill and Sons	5,025		
James Aiton			556,441
Totals	1,245,590	472,200	556,441

Timber was shipped as follows: J. B. Snowball, 180 tons birch, 14 tons ash, 28 tons pine and 119 tons hemlock. Shipments from Bathurst to trans-Atlantic ports during the season of 1891: St. Lawrence Lumber Company (Limited), 15 vessels, 7,698 tons, 7,175,000 superficial feet of deals, boards, ends, etc., 268 tons birch timber.

QUEBEC.

It cannot be said that this province has experienced a prosperous lumber year. Rather the reverse has been the case. The export trade from Montreal to South America has apparently taken to itself wings, and gone no man knoweth where. During this year only one vessel, carrying 507,000 feet, departed for Buenos Ayres. Last year five cargoes containing in all 3,860,000 feet were shipped South, while in the previous year thirty vessels took 23,000,000 feet to South America. Very little square timber has been shipped from Quebec this year. When stock has changed hands the owners have preferred that it remain where it is, than to wait customers across the Atlantic. Eight million feet were wintered at Quebec last fall and of this there is only 1,500,000 that has not changed hands.

MANITOBA.

With this province no activity is to be expected during the winter months. Building necessarily ceases, even though the weather this year is exceptionally mild for Manitoba. The planing mills are kept fairly busy in anticipation of the building boom, which all hands agreed is a sure article for the spring.

BRITISH COLUMBIA.

Somebody in describing the situation here has said it is as "dull as ditch water." Perhaps things are not as bad as they seem, but it is true that the lumber trade is slow. A little is being done locally, rather more than might be expected at this season of the year, but a greater business than this is needed to keep moving the means, method and machinery that have a place in the lumber world of the Pacific coast. Dependence for a large part of the output rests on the export trade with Australia and South America, and this trade is nowhere these days. A glimmer of hope hangs around the trade of the Argentine Republic. It is believed matters are looking up, but no immediate effects are yet realized on the coast. In Australia, conditions could hardly be worse. The Commercial News, of Winnipeg, is authority for the statement "that a cargo of lumber from the Sound was sold, ex-wharf, Melbourne, at £3 2s. 6d., which is about the freight rate secured by the vessel carrying it; so that the lumber is practically given away by the exporters. Such business as that will soon check further exports in that direction." Conditions are such that shippers are looking for fresh fields, and several charters have recently been made for hitherto untried markets. Lumber freights remain almost without change. Rates are decidedly steadier. An advance has been established for Shanghai. A rather unusual charter has been effected for Redwood lumber from San Francisco to Liverpool at 60s. Quotations are as follows for cargo lots for foreign shipment, being the prices of the Pacific Pine Lumber Association; rough merchantable, ordinary sizes, in lengths to 40 feet, inclusive, \$9 per M feet; rough deck plank, average length 35 feet, \$19; dressed flooring, \$17; pickets, \$9; laths, 4 feet, \$2. For local trade, the Rock Bay Saw Mill quotes: Rough lumber, per M, \$10; laths, per M, \$2.50; shingles, per M, \$2.25.

UNITED STATES.

If we except the northwest, where considerable lumber business is being done, it cannot be said that trade elsewhere is possessed of much buoyancy. This is not disappointing, for the time of the year has come when lumbermen expect to rest on their oars, holidaying some, as other people do, and spending the needed time in wisely taking an account of the season's work, with a not unfrequent peep into the future. The somewhat active trade in the North-West is due to the good crop of that section. Money is more plentiful in rural parts and farmers are engaged in building operations. East, this revival is expected in the spring. Prosperity in business at these points depends upon the activity of general business and the condition of real estate, and these immediate effects of the abundant harvest have not been felt. Cotton is down, and in sympathy with this leading product of the south, lumber trade in the south is quiet.

The spruce trade is reported to be improving. A Portland paper says that "the lumber trade with the Argentine Republic, which has been almost stagnant for the past two years because of the financial crisis in that country has begun to revive somewhat, and the great lumber sheds on the Portland wharves, which have been so quiet and deserted, with their piles of nicely-sorted boards, joists, etc., untouched, are once more the scenes of life and activity. One firm has sent three cargoes since July, and a large four-masted schooner is now loading at their shed." Viewing the year's business as a whole the summing up of a lumber contemporary, usually well informed on American trade conditions, is given in these words: "While the lumber trade has met reverses and disasters here and there, it has weathered the financial gales of 1891 most nobly, probably better than any one other great department of trade, and that while margins have been narrow and gains small, there has, on the whole, been a manifest and decided advance, and the lumber trade to-day is in stronger hands and stands upon a firmer basis than it did a year ago, and at the same time the outlook for the immediate future is incomparably brighter."

FOREIGN.

English timber trade is putting on a brighter face in conspicuous contrast to the long period of dullness that has prevailed in this market. A degree of activity, quite unusual at the end of the year, prevails in the London market, and an increased demand for certain classes of stock, notably pitch pine, have enabled holders to obtain improved prices. The Scottish market is quite active. Shipbuilding on the Clyde is fair, and an encouraging outlook exists in this branch of trade. The first wood-laden cargo has entered the new Manchester canal; this consisted of a load of spruce deals. It is expected that the opening of this means of water communication will lead to an increased trade with Canada. Business in Australia is very depressed, and recent heavy arrivals of Norwegian and Scotch dressed flooring, lining and weather boards, as well as Oregon undressed timber, it is said, have tended to unsettle prices, and in the present state of the market holders are said to be accepting all kinds of prices in order to effect sales. Australia is just now experiencing the reaction that seldom fails to follow too big a building boom. They have had the boom; now they are enjoying the sequel.

TORONTO, ONT.

TORONTO, Dec. 31, 1891.

CAR OR CARGO LOTS.

1 1/4 in. cut up and better	32 00	33 00
1x10 and 12 dressing and better	18 00	20 00
1x10 and 12 mill run	13 00	14 00
1x10 and 12 dressing	14 00	15 00
1x10 and 12 common	12 00	13 00
1x10 and 12 spruce culls	10 00	11 00
1x10 and 12 mill culls		9 00
1 inch clear and picks	24 00	25 00
1 inch dressing and better	18 00	20 00
1 inch siding mill run	14 00	15 00
1 inch siding common	11 00	12 00
1 inch siding ship culls	10 00	11 00
1 inch siding mill culls	8 00	9 00
Cullscantling	8 00	9 00
1 1/2 and thicker cutting up plank	22 00	25 00
1 inch strips 4 in. to 8 in. mill run	14 00	15 00
1 inch strips, common	11 00	12 00
1 1/4 inch flooring	14 00	15 00
1 1/2 inch flooring	14 00	15 00
XXX shingles, 16 inch	2 30	2 40
XX shingles 16 inch	1 30	1 40
Lath, No. 1	1 90	1 90
Lath, No. 2		1 70

YARD QUOTATIONS.

	P. M.	F. M.
Mill cull boards and scantling \$10 00		
Shipping cull boards, promiss	1 1/2-in. flooring, dressed	25 00 30 00
cuors widths 13 00	" " " " rough	18 00 22 00
stocks 14 00	" " " " dressed	23 00 28 00
Scantling and joist, up to 16 ft 13 50	1 1/4 in. flooring, undressed, n.v.	16 00 18 00
" " " " 18 ft 15 00	1 1/4-in. flooring, dressed	18 00 20 00
" " " " 20 ft 16 00	" " " " undressed	12 00 15 00
" " " " 22 ft 17 00	Beaded sheeting, dressed	
" " " " 24 ft 19 00	" " " " sed	20 00 35 00
" " " " 26 ft 20 00	Clapboarding, dressed	12 00
" " " " 28 ft 22 00	XXX sawn shingles	
" " " " 30 ft 24 00	per M.	2 60 2 70
" " " " 32 ft 27 00	Sawn lath	1 90 2 00
" " " " 34 ft 29 50	Red Oak	30 00 40 00
" " " " 36 ft 31 00	White "	37 00 45 00
" " " " 38 ft 33 00	Basswood, No. 1 and 2	28 00 30 00
" " " " 40 to 44 ft 37 00	Cherry, No. 1 and 2	50 00 60 00
Cutting up planks, 1 and thicker, dry	White ash, 1 and 2	24 00 35 00
board 18 00 24 00	Black ash, 1 and 2	20 00 30 00
Dressing blocks 16 00 20 00		
Picks Am. inspection 30 00		

MONTREAL, QUE.

MONTREAL, Dec. 31, 1891.

Pine, 1st qual., per M \$35	40 00	Oak	40 00
Pine, 2nd	22 00	Walnut	60 00
Pine, shipping culls	13 00	Cherry	60 00
Pine, 4th qual., deals	10 00	Butternut	22 00
Pine, mill culls	8 00	Birch	15 00
Spruce	10 00	Spruce timber	13 00
Hemlock lumber	8 00	Hard maple	20 00
Hemlock timber	9 00	Lath	1 80
Ash	13 00	Shingles	1 50
Basswood	12 00	Shingles, cedar	1 50

ST. JOHN, N.B.

St. John, Dec. 31, 1891.

Table listing lumber prices in St. John, N.B., including Spruce deals, Pine, Deal ends, Scantling, Shingles, Clapboards, Flooring, Dressed, and Miscellaneous items.

OTTAWA, ONT.

Ottawa, Dec. 31, 1891.

Table listing lumber prices in Ottawa, Ont., including Pine, 1st qual., Pine 2nd, and Pine shipping culls.

BOSTON, MASS.

BOSTON, MASS., DEC. 31.—The lumber market at this point is perfectly lifeless. No business worth naming is being done, and dealers will be joyfully surprised if any important change shows itself before spring.

WESTERN PINE—BY CAR LOAD.

Table listing Western Pine prices by car load, including Uppers, Selects, Moulding boards, and Fine common.

EASTERN PINE—CARGO OR CAR LOAD.

Table listing Eastern Pine prices for cargo or car load, including Nos. 1 and 2, Ship's bds, and West'n pine clapboards.

SPRUCE—BY CARGO.

Table listing Spruce prices by cargo, including Scantling and random cargoes, Yard orders, and Clear floor boards.

LATH.

Table listing Lath prices, including Spruce by cargo.

SHINGLES.

Table listing Shingles prices, including Cedar, sawed, extra, Clear, and Cypress.

OSWEGO, N.Y.

OSWEGO, N.Y., DEC. 31.—A fair trade is being done, without indications of things being anyways lively throughout the winter. Navigation is of course closed.

WHITE PINE.

Table listing White Pine prices, including Three uppers, Pickings, and No. 1 cutting up.

SIDING.

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

1X12 INCH.

Table listing 1x12 inch lumber prices, including 12 and 16 feet, mill run, and 12 and 16 feet, No. 1 and 2, barn boards.

1X10 INCH.

Table listing 1x10 inch lumber prices, including 12 and 13 feet, mill run, mill cull out, and 12 and 13 feet, dressing and better.

1X8 INCH.

Table listing 1x8 inch lumber prices, including 12 and 13 feet, No. 1 culls, and 12 and 13 feet, No. 2 culls.

1X6 INCH.

Table listing 1x6 inch lumber prices, including Mill run, mill cull out, and Dressing and better.

SHINGLES.

Table listing Shingles prices, including XXX, 18 in. cedar, Clear butt, 18 in. cedar, and Stock cedar.

LATH.

Table listing Lath prices, including No. 1, 1 1/2, and No. 2, 1 1/2.

BUFFALO AND TONAWANDA, N.Y.

TONAWANDA, N.Y., DEC. 31.—Lumbermen are in fine feather. Trade has been good throughout the month, some dealers claiming that they never had a better December. Stocks are badly broken, and the dealer who has anything approaching a well-assorted stock is in luck.

WHITE PINE.

Table listing White Pine prices, including Uppers, Selects, Fine common, and various sizes of lumber.

BOX.

Table listing Box prices, including Narrow and various sizes.

SHINGLES.

Table listing Shingles prices, including 18 in. XXX, clear, and 18 in. XX, 6 in. clear.

LATH.

Table listing Lath prices, including No. 1 and No. 2.

ALBANY, N.Y.

ALBANY, N.Y., DEC. 31.—This month marks, as it always does, the removal of Albany dealers from the lumber district to their winter offices "up town." The canal closed business for the season on the 5th inst., and navigation, though in a sense open, is practically closed.

WHITE PINE.

Table listing White Pine prices in Albany, including 1 to 2 in. good, 1 to 2 in. 4ths, and 1 to 2 in. select.

THIRTEEN FOOT STOCK BOARDS AND FLANK.

Table listing Thirteen Foot Stock Boards and Flank prices, including 1X10 in. up dressing, 1X10 in. common, and 1X12 in. dressing.

SHINGLES AND LATH.

Table listing Shingles and Lath prices, including Shingles, shaved pine, and quality, and Lath, pine.

SAGINAW, MICH.

SAGINAW, MICH., DEC. 31.—The month is a holiday month and Michigan lumbermen are prepared evidently to fall in with the common custom. Between times they amuse themselves taking a retrospect of the past, and discussing possibilities for the future.

learned from the following figures for the season commencing April 11th and closing Dec. 1st, about 7 1/2 months. For this period there were 721 arrivals and 803 clearances of vessels engaged in the lumber carrying trade.

FINISHING LUMBER—ROUGH.

Table listing Finishing Lumber—Rough prices, including Uppers, Selects, and various sizes.

SIDING.

Table listing Siding prices, including Clear, 1/2 in., 3/4 in., and 1 in.

TIMBER, JOIST AND SCANTLING.

Table listing Timber, Joist and Scantling prices, including 2x4 to 10x10, 12, 14 and 16 ft., and 18 ft.

SHINGLES.

Table listing Shingles prices, including XXX 18 in. Climax, XXX Saginaw, and XX Climax.

LATH.

Table listing Lath prices, including Lath, No. 1, white pine, and Lath, No. 2, W. pine, Norway.

NEW YORK CITY.

NEW YORK, DEC. 31.—The continued open weather has had a certain stimulating effect on the lumber trade. Contract building has been pushed ahead with energy, and deliveries of lumber for this purpose have continued longer than expected.

WHITE PINE—WESTERN GRADES.

Table listing White Pine—Western Grades prices, including Uppers, Selects, Fine common, and various sizes.

BUILDING TROUBLES IN TORONTO.

THE after effects of the real estate boom in Toronto are still being felt. Builders, small and large, are crippled financially, as a consequence. The following assignments are reported for December:—

Peter Kennedy, liabilities, \$1,100; assets, \$509. George Halford, liabilities, \$4,000; assets nominally the same. Webber & Ledrew, estate small. Saunders & Herod, estate small. Scott & Cross, Ontario Planing Mills, show a nominal surplus of \$12,000 over liabilities; assets mostly locked up in real estate.

A surprise to his friends is the crippled condition of the finances of Adam Armstrong, who was one of the best known builders in the city, and was supposed to be in good shape. He was a large holder of real estate and the present shrinkage in values is the cause of his troubles.

James Leighton, a west end builder, has assigned, with liabilities \$61,790 and assets \$81,900. Land poor, is again the explanation of the difficulty.



NEWS of the latest wonderful "find" comes this time from the town of Meaford, Ont. When chopping down a large elm tree, one of the landmarks of the town, a few days ago, to make room for the erection of a woolen factory, the choppers found, within a few inches of the heart of the tree, an old axe cut and a wrought iron nail. The theory of the Meafordites is that the axe mark had been made in the tree over a century ago, as the growth marks would prove.

* * * *

The commercial journals of the United States, and in some respects the lumber trade journals in particular, are discussing the question of American shipbuilding. Uncle Sam looks back with longing eyes to the time when vessels of his own building held important sway in the carrying trade of the world. We can understand that he would like to see a return of those days, for, as one contemporary puts it, "every farmer, lumberman, miner and mechanic is interested." I had a conversation a few weeks ago with Isaac Warkup, of Oakville, a gentleman engaged in flour milling. He said: "It is all nonsense for the Americans to hope to regain the water carrying trade they once possessed. I know that our friends do not like to be told this, but with all their enterprise and energy the fates are against them. I came to this country in an American vessel in 1856. Then America was doing at least one-half of the carrying trade of the world. Shipbuilding in England was in a state of bankruptcy. Conditions were serious and in their desperation Englishmen set themselves thinking on this problem. The outcome was the happy thought, a thought at once put into action, to build iron vessels. It did not take long to prove the superiority of iron over wood for shipbuilding purposes. America quickly dropped out of sight in the competition and I do not think can ever regain her position. In England iron is at her very doors, all facilities are at the water's edge, coal is abundant and cheap, labor is cheap. Our good friend Uncle Sam may squeal as he may like he cannot square himself with these conditions."

* * * *

Is it necessary that ELL should say that he wishes the many readers of the LUMBERMAN every compliment that goes with the present holiday season? A Happy New Year to every one of you, and may business boom from start to finish of 1892. I cannot expect to meet in person very many, out of the large number of lumbermen, who read this journal each month, but I feel in any case that during the past year we have learned to know one another pretty well. I am anxious that this spirit should not only continue, but that the friendship should increase the longer we are acquainted. Realize that ELL is approachable under all conditions. Throw aside any diffidence that may perchance have taken possession of you. If you have something to say, say it. Never mind even if it hits ELL himself rather hard. He will take the blow good naturedly; and if he should hit back you will be just as good natured of course. My aim is to "get there," and in no way can this be more certainly accomplished than in a full ventilation of any subject under discussion. Did you ever know the real meaning of ELL? He is a hustler, a man who starts out to "get there," and does "get there" every time. Some one has said Newton would never have discovered the law of gravitation had he not been an ELL; Franklin's discoveries in electricity, and Edison's inventions in the same line are attributed to their wonderful ELL qualities. If Fulton had not been an ELL he had never conceived and carried out the idea of a steamboat. Talmage and Spurgeon in the pulpit, Tennyson and Longfellow in the realm of poetry, and Dickens and Thackeray in the field of fiction, reached the topmost rung in the ladder of fame, simply because they were born ELL's. The ability to be an ELL is not confined to those who wear a crown

or wield a sceptre, or those who can make the commerce of a country tremble with the scratch of a pen. The lumberman who conducts a successful business and "gets there" through twentieth century methods is as much of an ELL as he who controls a thousand miles of railway. To put it in a nutshell, the ELL is the man who succeeds in his chosen vocation, despite every discouragement and obstacle. There are hosts of ELL's in the lumber trade. Many of them have talked to you in this page in the year just gone. That you may the better know them we are going to adorn this page each month with portraits of a number of these ELL lumbermen. We shall ask you to look at the faces of several in the February LUMBERMAN.

* * * *

Canada's timber wealth, particularly in this province, consists so largely of pine, that I sometimes think we forget, that there is no inconsiderable supply of hardwood in the country. I was glad to have a chat the other day with Mr. John Inksetter, who hails from the county of Bruce, where a large trade is done in maple, birch and elm. His base of operations in lumber has been the town of Wiarton, where he has resided for many years, and where are located the well-known millmen, Jno. Ashcroft, R. Balstone, H. C. Biette, B. B. Miller, Jno. Kidd, Seamen and Newman, A. Jones and others. These firm's have done a satisfactory year's trade. A large portion of the hardwood cut of this section of country is handled by Toronto dealers. Though hardwoods probably lead in Bruce county, Mr. Inksetter informs me that there is considerable pine in the northern part of the peninsular. A large trade had been done in the shipping of telegraph and telephone poles to the States, but the McKinley Bill, which, as LUMBERMAN readers know, increased the duty on railroad ties, telegraph poles, posts, etc., has seriously affected this class of lumber operations. A fair trade, however, is still done in towing poles from the shores of Lake Huron to Cleveland, which can be done at a cost sufficiently low to partly at least offset the increased duty. Besides it enables those interested in the industry on the other side to secure a class of pole for which they have a preference. A very large consumer of the railway ties that are manufactured in Wiarton and vicinity is the Grand Trunk Railway. Mr. Inksetter tells me there is yet abundance of hardwood to cut in Bruce county.

* * * *

An interview with a "local lumber dealer," that has been somewhat largely copied, in whole or part, by United States lumber journals and other commercial newspapers, was published in the Toronto World about a fortnight ago. "Lumber dealer," whose name is not made known in the interview, is reported to have said that he had just returned from a business tour of the mills in the north, and that little or no lumber was being shipped from the mills. "This," says he, "is the best evidence you can get as to the state of the lumber trade; when there is no stuff leaving the mills you may be sure there is little or no demand." Then follows what has struck me as a qualification of the first statement. "In all the lumber points I visited, however, there was only one at which I found any really good lumber. The mill men had no trouble getting rid of that. In fact they could not turn out enough to supply the demand. The Americans will take every foot they can get. But the trouble is they have little need for the common lumber. Why, I know of mill men holding a good deal of last year's common cut and nearly all of this year's. Fact is, the American's don't want our coarse lumber. These conditions are attributed to the removal of the export duty on logs, something we are told that the lumbermen are sorry they asked for. One thousand men, it is alleged as a result of this policy, have gone to the States. Americans who had established mills on this side have removed the whole or part of their plant across to their own side. "What is more, the mill men at Midland, Penetang, Waubashene and other places now find it better to sell the logs to the Americans than manufacture them into lumber and run the risk of holding the stock for some time, and perhaps even then only being able to sell them the dressing and uppers. I know of some mill men who will not now sell good lumber to an American unless he also agrees to take the common. These are strong statements. The ink, however, had

only twenty four hours to dry when a reply appeared in the same journal from another lumberman, who makes this distinct statement. "It is a hard fact that since the United States duty on pine lumber has been reduced to \$1 per thousand feet a steady shipment of common and cull lumber has been going on to eastern and south-eastern United States points. The mill men who are holding a "good deal of last year's common cut and nearly all of this year's" must exist only in the imagination of your informant. They are not known to the trade. There has been a tremendous shrinkage in business in this city and in western Ontario, and it is the United States trade, fostered by the reduction in the duty, that has saved the lumber business from entire collapse. An examination of the lumber journals of the United States will show that Toronto dealers are complaining of the injury to their business from the car trade now going on from Canada," and this statement is supplemented with the expression of opinion, in which the writer is not alone, that if our Government reimpose the export duty on logs, the United States import duty will then be advanced to \$3 per thousand feet, which it is averred would mean ruination to the lumber trade. I am going to leave it to LUMBERMAN readers to draw their own conclusions as to the weight of the two different positions that are taken by these two lumbermen. I cannot omit saying this, however, that it is news to me to be told that millmen at any point are loaded up with lumber, either coarse or select. My work brings me constantly in contact with leading lumbermen of this city and other parts, who ought to know the lay of the land, and they all tell the one story, that our piling docks everywhere are singularly free of stocks of any kind.

* * * *

"One of the largest operators in the Ottawa district" remarked to me some time ago, said Mr. A. H. Campbell, the president of the Muskoka Mill and Lumber Company, "that previous to the reduction of duty on lumber going into the United States to one dollar a thousand, that he did not receive cost for 65 per cent. of his shipments of lumber across the border. This illustrates as clearly as one could wish the advantage that has come to Canadian lumbermen by a reduction in the duty. My regret is that we have not entire free trade in lumber, which I believe would be for the general benefit of the people of both countries. In no case can I imagine that any agitation will lead to a re-imposition of the old duty; and to accomplish this our own Government has only got to re-impose the export duty on logs. It is not improbable that should the log duty be re-imposed, that the United States would retaliate by increasing the duty on lumber to \$3 or even \$4. We cannot close our eyes to this one fact that the home consumption of lumber is so limited, that if we are to have a market for the products of our forests, we must go outside for it; and a natural market is that of the States. I have read lately a letter in one of the daily papers from some one who presumes to speak for the mill-owners of the Georgian Bay territories, telling a doleful tale of the havoc the export of logs is making in closing up large numbers of mills, depopulating villages and so on. This is all moonshine. We are sawmill men ourselves, and can speak from personal knowledge. There is no such distress existing as has been chronicled by these people. Another matter, the sawing of the logs, is after all a small part of the labor that has a place between the standing tree and the manufactured lumber, and in all the work of the woods and every step necessary to the getting of the logs actually to the mill it is the working-man that receives the benefit. Yes, I have read a number of the letters that have been published in American lumber journals urging that Canadian lumber be excluded from American markets. I have no idea that the United States legislators will move in this direction any more than Ottawa would take a step to re-impose the log duty. United States writers on this question say that the introduction of Canadian lumber on their markets has been the means of causing a reduction in the price of their own product. I have good reason to know that this is not the case. At the most the quantity of Canadian lumber that crosses the border is so small—the venest drop in the bucket—that it is laughable to hear these men talk of Canadian lumber affecting the conditions of the American market."

MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

REFERENCE was made in my letter of last month to the opinion entertained at least by some lumbermen that this erstwhile fertile pine state has seen its best days so far as lumbering operations are concerned. I do not say that those whose predictions run along these lines have all the facts and arguments with them, and yet, as the present season's work comes to a close, there are some conditions that give color to this view.

A number of our large operators are not only prospecting in other lumber territories, but they are making heavy investments, which must ere long draw off a measure of their attachment from this State, whilst several firms have closed business altogether and are planning operations for other fields another season.

LUMBER FIRMS MOVING OUT.

The firm of Merrill & King, who not long since were large holders of Canadian limits in the Georgian Bay district, closed down their mill here on 20th inst., and its machinery will be removed to Duluth, where the firm has erected a new mill. The old mill cut 18,000,000 feet of lumber the present season. The A. W. Wright Lumber Company, who have put in 30,000,000 in Gladwin county, Mich., this season, is another concern that will break camp in the spring and will make their way north. This company have about 1,000,000,000 feet of timber in Minnesota, near the Duluth & Winnipeg railroad. They will build, it is said, a road in connection with this road, and operations will commence next season. One of the oldest firms in Bay City, N. B. Bradley & Sons, have wound up their record as lumbermen. Their mill will be dismantled and the machinery removed to the upper Peninsula. This firm has been in business in Bay City since 1857, and have cut possibly 500,000,000 feet of lumber, to say nothing of the salt, shingles and lath which have been produced by the Bradley plant. A rumor is current that a sash and door factory will be built on the site of the old mill, which will be good news for Bay City if realized.

Another change, that removes from the field of active work one of the oldest lumber concerns in the state, is the closing out of the business of Ryerson, Hills & Co., whose mills on Muskegon Lake are among the historical landmarks of this section of country. By those who should know it is said that the mills of this firm have during their existence manufactured at least 1,000,000,000 feet of lumber. The members of the firm have undoubtedly amassed large fortunes as a result of their work on Muskegon Lake and have ever been highly esteemed by the community.

LOOKING TO CANADIAN PINE LANDS.

On the other hand, we find those who think the present exodus, if I may so term it, to new fields and pastures green, just a little premature. E. G. Stoddard, one of our best-known Michigan lumbermen, said in a recent interview: "I have been in the business in Saginaw now for twenty-eight years, and have seen the best period in the lumber trade. People are now looking around for other places to go to in view of the fact that the timber will soon be entirely gone. A great many are looking toward Oregon and Washington, but I don't think the time has come yet for the opening of the lumber trade in that region. My reason for thinking thus is that the market will be lacking for a long time to come. The Pacific slope is a young country, but on the whole it is pretty well equipped with build ings, and I don't think there will be much of a demand in that locality. Then, Australia is in the same condition, and the eastern market is rendered very hard of access on account of the immense distance and the mountain ranges lying between. If we had no timber it would be different, but even after Michigan and Wisconsin timber is used up we have the immense southern district besides the Canada pine lands which will surely be called into requisition."

THE WOOD FIBRE BUSINESS

is intimately connected with the lumber trades, and intelligent lumbermen are interested in a study of its several phases. Hon. I. M. Weston, of Grand Rapids, Mich., is a gentleman who is extensively interested in this business. He has a large financial concern in a company which controls the Misterlich patents for making chemical wood fibre in the United States and Canada.

He is very sanguine of the possibilities of this industry. There is in his opinion scarcely any limit to the variety of articles that may be made from wood fibre. "All that is needed," says Mr. Weston, "is a mould in which to press the fibre and sufficient pulp to hold it together and you will have a door that is one solid piece of wood, and which will be light, strong and will not decay or warp. Perhaps you do not know that if the resinous substances are extracted from wood you have gotten rid of all that causes decay, and the fibre left is like a piece of cotton in whiteness and stiffness? The uses to which this is put are many. For some time past a factory at Port Huron has been making underclothes from wood fiber, which equal in every respect those made of wool. It is made into hats, blankets, pails, washtubs, trunks, basins, pitchers, and a hundred other things which are indestructible unless you break them with an axe. Professor Misterlich is now taking out patent for machines which will weave and spin the wood fiber the same as cotton or wool.

PIECE STUFF.

McKeon and Glover, of Bay City, now have 30,000,000 of logs on the skidways in your country. They are logging about 17,000,000 feet on the Gladwin branch of the Michigan Central. This is another firm that closes their operations in Michigan with this winter. They have handled during the season about 80,000,000 feet of logs.

Muskegon has had in some respects a phenomenal season. Usually from 100,000,000 to 300,000,000 have been carried over till spring. For the first time in the history of that market there is no more stock on hand to-day than can be handled for the local demand.

The Chippewa Lumber Company's mill, near Chippewa Lake, Mich., has been sold to the Tallapoosa Manufacturing and Hardwood Company of Georgia. The mill has a capacity of 90,000 feet daily and cost \$50,000.

The Scribner failure, at Tonawanda, continues to excite unfavourable comment here. It struck some Saginaw and Bay City lumbermen pretty hard.

Charles H. Plummer, lumberman and pine land dealer, has given mortgages to Daniel Hardin, of Saginaw, for \$40,000, as security for paper endorsed by the latter.

SAGINAW, MICH., DEC. 26, 1891. PICA.

OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

DECEMBER may fitly be termed an off month in the lumber trade in this district. I could hardly have less to record in the line of lumber news. The mills are closed down; there is no mill news. Logging in the woods is active, but this is a class of work that is not productive of much interest for a newspaper correspondent. Shipping is quiet, as one would suppose, at a time when the shipping season is practically closed. In the offices of our several lumber concerns book-keepers and clerks are busy working towards the balancing of accounts for the year. A little later, when balance sheets have been prepared, we will learn with all necessary certainty just how the year's trade shows up.

We do know this to be the case, that the stock books will show very small quantities of lumber in the hands of any of our mill men, outside of what is already sold and is being held subject to shipping orders from purchasers. This is a factor that is expected to have a favorable influence on prices in the spring. Prices can hardly be otherwise than firm, with a strong tendency to an advance in nearly all lines.

Our exporters are looking forward to a revival of South American trade, where a fair market has usually been found for twelve-inch stock. The Export Lumber Company here is increasing its storage capacity for twelve-inch and other better grades by building a large addition to its sheds.

Mr. John Ferguson, M.P., who reached the city this week from the Madawaska district, and who holds a contract from J. R. Booth for the taking out of logs this winter, says that lumbering on the Madawaska this winter is humming. Mr. Ferguson's work is limited to the removal of logs that the fire passed through last summer. He reports that the bush fires had injured a large quantity of valuable timber. When he left the bush there was hardly any snow and very little frost. The large

lakes were still open and smaller ones were but slightly frozen over. The want of snow and ice to get the logs out was severely felt.

OTTAWA, DEC. 26, 1891.

SHAVINGS AND SAWDUST.

It is claimed that a chute in the logging camp at Clifton, Oregon, is the longest in the world, being three-quarters of a mile. Its track is shod with railroad iron, and this smoothness and the sharp pitch get the logs down in twenty seconds. We would rather not try to interview one of them while taking this little excursion.

The match-making women at Marselles, to the number of 650, have struck work. Their grievance is that the French wood employed by the State in this manufacture is inferior and difficult to handle, and that though the Government professes to have purchased a large stock in Russia, whence the supply was formerly derived, no promise is given them as to the date of its arrival.

The Lumber Worker, of Cincinnati, O., predicts an early return of walnut to its old time popularity, basing the prophecy upon the statement that many of the largest furniture making concerns of the country are quietly buying all the walnut stock they can get, 30 cars of walnut, for example, having recently passed through Cincinnati en route to Grand Rapids, Mich. The Lumber Worker regards walnut lumber as the best stock on sticks to-day.

A NOTE of warning to the loggers in the woods, not to be easily persuaded by the cheap jewellery pedlars, who like to play on their generosity, should not be without its effect. The money that the logger earns is well earned, and he does not need to throw it away for the first trumpety gew-gaw that is offered him by a glib-tongued notion pedlar who strikes the camp. The logger may make up his mind that these men are after him for the money they think they can make out of him. Loggers do not require any article that these men may offer them, while they are in the woods, and if it is important to procure anything of the kind, let them wait until they return to the city and patronize the store of a reliable merchant, where they will obtain value for their money.

P. O. BYRAM, of Victoria, N.B., whose opinions on lumber matters are not unknown to readers of this paper, is again after those Americans who insist on "slaughtering our forests and driving native labour and consumption out of our country." Replying to N. C. Dymont, of Barrie, who has expressed himself as approving of the removal of the log duty, because of the reduction of duty on lumber that this step carries with it, he says: "The greatest curse that can follow the settlement of our forests is to allow the product to be slaughtered and manufactured out of the country, instead of at home; and the only way to place ourselves on an equal footing with Americans is to make the export duty on logs equal to their import duty. If the American cannot compete on these terms, other and perhaps better outlets can be had for our manufactured lumber. If Canada is to be held for Canadians it is time her resources were protected from outsiders poaching on her territory."

A POINTER FOR MACHINERY MANUFACTURERS.

NOW comes the harvest of the machinery manufacturers. Mills will be overhauled, and alterations made. In some cases new machinery will take the place of old, and in others improved machinery will take the place of some not very old that has fallen below the requirements of the plant. The lumber manufacturer knows that improved machinery means greater profits, and is willing to go to the expense necessary to make the improvements. The cut this winter in Canada will undoubtedly be above the average. This means that our lumber manufacturers will be anxious to have their mills in tip top shape for the opening of trade in the spring. The time is opportune for the shrewd manufacturer of machinery to bring to the notice of saw mill men the facilities possessed for meeting the various needs of the lumber trade. It is hardly necessary to suggest that as the only journal in Canada devoted to the interests of lumber and saw mill men the CANADA LUMBERMAN is an exceptionally valuable medium to all manufacturers who contemplate business with this industry.

VIEWS AND INTERVIEWS.

Canada a
"Wooded" Country

Our contemporary, the Journal of Commerce, of Montreal, devotes considerable space in a recent number to a discussion of the saw-log question. It points out that this subject does not receive the attention it deserves, "considering the enormous interests involved." It attributes this indifference to the fact that lumbering operations are usually conducted away from the regular centres of commerce, and are consequently less in touch with general trade conditions. The common expression, "Canada is a 'wooden' country," is paraphrased to read, it is believed, with greater accuracy, "Canada is a 'wooded' country." These are the facts that support such a claim:—In 1889 the timber cut in Canada, on which dues were paid, was as follows, as given in the year book issued by the department of agriculture:

	Ontario and Quebec.	N. B. and Nova Scotia.	Other Pro- vinces.
Saw logs, B. M.	1,248,804,546	150,236,547	169,849,654
Square timber, cu. ft.	5,720,668	23,800	
Cedar, lineal feet.	104,059	4,063,549	

The provinces received \$2,211,127 dues on this timber, but these figures fall enormously below the total production of timber, as vast areas on which lumbering operations are carried on, all woods and forests, where no dues are paid, are not included in the official returns above quoted, as they ought to have been when compiled. The exports amounted to \$26,071,000 equal to 27 per cent of the total exports. It would be difficult to say how much capital is employed in the trade, or to how many of our people it finds sustenance, but the figures are large. In 1881 the mills used up \$21,134,000 worth of raw material and the output was valued at \$39,326,000. The men engaged in lumber industries are many scores of times greater in number than those in many minor manufactures, all combined. Simcoe County alone has 150 saw mills; three firms there cut an aggregate of 110,000,000 feet yearly, while at Ottawa and vicinity the cut is admittedly much over 500,000,000 feet. Taking these facts, as the bed ground for its argument, the Montreal journal goes on to show what all this means as an element in our national life, as an indication of active capital, and distributed wealth and maintaining an army of industry, closing with these words: "We are not so busy in our industries, nor are we so rich either, as to afford the sacrifice of large revenues derived by Canadian carriers by land and water, from lumber freights. Canada needs all possible employment for her people, and every dollar she can possibly retain, spent in her own borders. It is folly most gross to hand over such vast sources of wealth to a foreign nation. If not 'drawers of water' for our neighbours, the confining ourselves to the supplying them with saw-logs, certainly makes us 'hewers of wood' for their service and profit.

An Editor
Interviewed.

In another paragraph we have given the views of the editor of the Chicago Timberman on lumbermen's conventions. When at the mercy of the interviewer the editor also gave his opinions on the lumber trade of the United States, a subject not without interest to Canadian lumbermen. He said: A superficial view of the business situation with respect to lumbering during the eleven months of the current year that have elapsed, would lead to the conclusion that things have been in a uncommonly bad way. Complaints of dullness have been heard in all sections of the country, and in connection with all branches of trade, but in reality the southern lumber business has suffered the most. The traffic in 1890 was unprecedentedly large, and more than usually remunerative. The stocks of lumber, as fast as produced, went directly into consumption. There was no speculation nor forestalling. The trade was, by every rule of calculation, profitable. This year, with a slight demand from South American countries, and a general slack demand from abroad, the yellow pine producers have, especially for south manufacturers, aspired to get as much domestic business as possible. The competition has been so close and the demand from the agricultural sections so light, that prices were materially reduced. It is this condition of affairs that confronts the manufacturer at the beginning of the winter. In the west conditions were reported more favorable, and

these have been further enhanced by the rich grain harvests. In the south the big cotton crop now being moved has come in for a large share of the bankers' accommodation, while the lumbermen, who do business twelve months in the year, are set aside during the cotton season to a large extent, both in financial favors and transportation facilities. These features are embarrassing just now, but ye editor is hopeful of another era of strong prices and active markets for the yellow pine producers at an early day.

Why Not?

The lumber journals of the United States are well filled up for the past month with reports of lumbermen's conventions at different points. We make mention of this matter to ask the question, why not a lumberman's convention for Canada, or at least for this province? The season's business is about concluded and the time is opportune for our lumbermen to get together and talk over matters of mutual interest to all engaged in the lumber trade. Other branches of trade in Canada have their conventions, why not the lumbermen? This is not the first time that the matter has been referred to in these columns, but our lumber friends here have not got anywhere yet. Speaking of the advantages of these occasional gatherings, the editor of the Chicago Lumberman, interviewed at New Orleans by the daily press, during the convention of lumbermen held in that city the early part of the this month, said:—"The lumber organizations, such as meet here to-morrow, are valuable agencies. They serve to destroy foolish methods of competition; to mollify antagonistic elements in the business; to inform the world of the volume of this important branch of commerce, and give an exhibition of harmonious methods, after such legislating and planning as are required have perfected the machinery of the association." It will hardly be claimed that there are not like benefits to be secured as the result of a meeting of Canadian lumbermen. It is just a matter of getting the ball rolling. Who will start it?

"AMERICAN MARKETS FOR AMERICAN LUMBER."

A REPLY BY MR. J. BERTRAM, TORONTO.

THERE is a woeful ignorance of tariff conditions shown in the correspondence on Canadian lumber affairs that the Northwestern Lumberman, of Chicago, has been publishing for a few weeks past. If our contemporary would follow the advice it essayed on one occasion to give to another, and place before its readers a reprint of the McKinley Bill, we would hear less nonsense talked of the occult influence Canadian diplomats are alleged to have exerted over American statesmen when the lumber tariff was under consideration. In our editorial columns we have some further reference to the question. The subject is also touched in an interview with Mr. A. H. Campbell in our ELI page. Below we publish a letter from Mr. J. Bertram, of this city, whose views on various lumber matters we have on other occasions given in the columns of the CANADA LUMBERMAN. Mr. Bertram, with his thorough knowledge of the lumber question, points out plainly a few of the errors into which Mr. Huyett, in his article on "American Markets for American Lumber" has fallen. Mr. Bertram says:

Mr. Huyett opens with a declaration that "Canadian diplomats have secured for their manufacturers a market in the States for millions of dollars in value at the expense of thousands of our manufacturers and tens of thousands of our laborers."

Canadians would be glad to believe that their diplomats had the influence imputed to them, but the facts are against the supposition. Any increase in the exportation of Canadian lumber is presumed to be caused by the reduction in duty on lumber, and this was brought about by the passage of the McKinley tariff bill, which provided for a reduction on white pine from \$2 to \$1 a thousand, board measure, leaving spruce and red pine at the old rate, and increasing the duties on railroad ties, telegraph poles, posts, etc. Therefore, the only item in the list of exports given which need be considered, or which could in any way effect adversely American manufacturers or laborers, is "boards, planks, deals and other sawed lumber," of which, according to the figures given, Canada exported to the United States in 1890 \$7,744,454, and in 1891 \$8,412,842, a difference in 1891 over 1890 of only \$667,888, or a little less than the product of one of the Chaudiere mills at Ottawa, and this quantity (not enough to supply a good yard for one season) is represented as demoralizing and damning the whole lumber trade of the United States, and its influence is said to be felt from Maine to Texas and from Washington to Florida. It sounds absurd.

The reduction in duty of \$1 a thousand on white pine was

only made on condition that the Canadian government abolished its export duty of \$2 a thousand on logs, and in lumber circles here the opinion is held that the equivalent demanded for the reduction is far more valuable to American manufacturers than the \$1 a thousand is to Canadian mill owners, as it allows the former to obtain free logs from Canadian forests, enabling some Michigan mill owners to keep their mills running. So strongly is this view held by some parties here that repeated attempts have been made to get the export duty reimposed, their contention being that, to be fair, the United States duty should have been abolished altogether, or that at least the duty on spruce and red pine should also have been lowered.

It is not possible to verify here the figures given for 1891, as the trade returns have not been issued for this year, but the amount given under the heading, "unmanufactured not elsewhere specified," of \$5,275,144, duty free, is so large that some information on what is comprised under this head would be valuable.

The opinion is expressed by Mr. Huyett that Americans were tricked into lowering the duty on lumber, which shows a poor opinion either of the acumen or honesty of Washington representatives—an opinion that does not prevail here.

The charge is also made that "the spirit of the Canadian government was shown shortly after the enactment of the McKinley law by a trick that was played to prevent Americans from getting any advantage from a sale of timber limits located in the vicinity of Lake of the Woods," by inserting a clause in the sale that "lumber cut from the limits sold should be manufactured in the province of Ontario." This charge of trickery so lightly made could only arise through the writer's misunderstanding of the jurisdiction respectively of the dominion and provincial governments. The dominion government only can regulate export or import duties, and as all lands and timber not sold in Ontario belong to the province, the provincial government can impose any regulation it thinks fit in the sale of timber berths, so the dominion government must be held blameless. And so far as the provincial government is concerned, neither can it be charged with trickery. The McKinley tariff bill went into force on October 6, 1890. The timber berths in question were sold October 1, 1890, but the notice of sale, with the conditions attached, was issued July 2, 1890; and further, the obnoxious clause was not inserted at all in a sale of timber tributary to the Georgian bay which was made this fall.

It is claimed that Canadian mill owners immediately added the \$1 a thousand to the price of their lumber. As a matter of fact, they obtained no more for their lumber in 1891 than they did in 1890; and it seems to be overlooked that a large proportion of Canadian lumber which goes to the United States is for re-exportation to South America and the West Indies, leaving a profit on handling with United States merchants and carriers.

In discussing an international trade matter it is useless to bandy charges, impute motives or even inquire on whose side lies the advantage, as all trading must be considered for the advantage of both buyer and seller, or it would not occur. We here would be glad to cultivate more reasonable and friendly trade relations with our neighbours. The opinion seems to be held by some Americans that in trading with Canada the favor is all on one side, reasoning that they offer a market of 65,000,000 of people, and can only obtain in return a market of 5,000,000. That this idea is fallacious can be shown by examining the trade returns, the so-called balance of trade being largely in favor of the United States. For the year ending June 30, 1890, Canada sold to the United States \$40,522,810, and the same year purchased from the United States \$52,291,973, thus showing that we purchased \$11,769,163 more than was purchased from us. The favor, if favor it be, is on the side of the United States.

TRADE NOTES.

In our advertising pages will be found a list of second hand machinery offered for sale by the Waterous Engine Works Co., of Brantford. We direct special attention to this announcement as containing a number of machines that are useful to sawmill men. They also advertise a sawmill for sale.

A manufacturer whose lists of machinery should be in the possession of all sawmill men, is F. J. Drake, of Belleville, Ont. The newest invention of Mr. Drake's is the "Canadian" Saw-set, which has a number of features distinctive to this one machine. Mr. Drake is a man of strong inventive genius and has a thoroughly practical knowledge of the workings and manufacture of machinery.

In our November issue we gave a list of lumber firms that had purchased Brazel's patent snow plows from J. Muckleston & Co., of Kingston. Since then one of the firms there mentioned has placed an additional order, and orders and inquiries have been received from Michigan firms lumbering on Georgian Bay. Amongst the orders received are those from Nelson & Sons, Cheboygan, who are operating near Webbwood; Gillies Bros., Braeside, and others. This firm's "Red Top" line of peavies and cant dogs are also meeting with ready sale.

The Dodge Wood Split Pulley Co., of Toronto, have recently completed a very striking illustration of their rope transmission system at the new works of the Canadian Pacific Railway Company at Toronto Junction. The drive in this case is carried from the driving wheel on the engine over intermediate roofs and yards to the wood-working shops, a distance of 460 feet. The power is conveyed in a positive and noiseless manner, and to the complete and entire satisfaction of the railway company. All who are interested in the successful transmission of power to a distance, should see this job.

A SUCCESSFUL MANUFACTURING FIRM.

NINE years ago Mr. Bradley R. Mowry removed from the town of Lindsay to Gravenhurst, one of the progressive lumber towns of northern Ontario. There he formed a co-partnership with his two sons, Aldus and Bradley, under the firm name of B. R. Mowry & Sons. The beginnings of the business were on quite a limited scale, consisting principally in the repairing of machinery used in the many lumber and planing mills in that section of country. The business, however, grew, modestly, yet stronger and larger from year to year. In September of 1887, a terrible fire swept over Gravenhurst, laying almost the whole town in ashes, the Mowry works going down under the flames with the rest. This misfortune, however, was the stepping stone to greater things with this industrious and enterprising firm. In rebuilding they decided to do so on a much larger scale, the works to-day consisting of a two-storey machine shop 115 x 40, a pattern shop co-equal in size, and a large foundry in which casting is done daily; six engine lathes, two iron planers, two large drills, bull lathe and a large number of smaller machines are constantly at work in these shops, driven by a Baxter engine, and as it is generally necessary to work overtime, the whole works after dark are illuminated by electric light.

With the expansion of business a third son, Albert, has been added to the firm, which now consists of the father and three sons, who are the sole proprietors and manufacturers of the "Boss" shingle machine, "Boss" jointer, drag saw sapper, and knot saw machinery, and of House's patent filing machine for shingle and mill saws, as well as the manufacturers of all kinds of general mill machinery. All the partners are practical machinists, and orders entrusted to the firm can be relied upon to be executed in a satisfactory manner, while promptness in all their business affairs has ever been a feature of the house of B. R. Mowry & Sons.

TIGHT PLACES.

BY UNCLE PETER.

KIND reader, did you ever find yourself in a tight place? I think I can anticipate your answer, especially if you are a planing-mill foreman and your mill happens

to be located in the country, 10 or 15 miles from the nearest machine shop.

Suppose, on a cold morning in the winter, with the thermometer down to zero, you commence with the expectation of turning out a good day's work, but before starting you find it necessary to change the knives upon your cylinder, and one of the bolts snaps off; no matter how many spare ones you may have, the broken one must be got out. That is the first matter to deal with, and no matter how loose all the rest may be, this one is sure to be tight.

Sometimes you may be lucky enough to be able to coax it out with the corner of a cold chisel, if you work carefully; but if that does not succeed, then some other remedy must be resorted to. In the end, you may be obliged to drill it out. Here the ratchet drill, if you have one (and no mill should be without one, for there is no tool that is more useful in a mill than this), will help you out. But drilling out a cylinder bolt without spoiling the thread is a nice job, and should not be resorted to until all other methods have failed. This, if nothing else, is a strong argument in favor of slotted cylinders; but as there are hundreds of machines in use with the bolts tapped into the cylinder, we must get along without them.

The surest way to get out a bolt of this kind, without injuring the thread so as to necessitate tapping it out, and putting in a larger bolt, which is always objectionable, is, first, to use a drill about one-half the size of the

bolt and drill down carefully in the centre about one-quarter or three-eighths of an inch deep, then use another drill a trifle larger, ground the opposite way, so as to cut backwards, then with the ratchet reversed, as nearly all ratchets are reversible, by forcing the drill hard in the hole already drilled and working the ratchet backwards, in about nine cases out of ten the bolt will start. Then, by carefully easing away upon the ratchet, it may be screwed out. If this plan does not succeed, then drill the small hole to the end of the bolt and work out the shell that is left, carefully, with a narrow cape chisel.

Again, you may start with every indication of having a good day's run, but without any apparent cause one of the teeth of your driving gears may drop out. Something must be done and that quickly, for the chances are that you have not a duplicate on hand to supply its place; if not, you can not afford to stop the machine and lie idle for perhaps a week until a new one can be procured from the manufacturers, perhaps hundreds of miles distant, so you must improvise some way to insert a tooth, or something that will answer the purpose until a new one can be procured. Here the ratchet drill, if nothing better is at hand, comes again to your assistance.

The gear should be put in a vice that will hold it firmly, and a piece of something, with one end secured to the bench or side of the building, and a helper at the other, will answer the purpose of a press. Then, with a drill a trifle less in diameter than the thickness of the

work, they are found to serve well as straight driving belts of not less than five inches in width. Where they have been tested side by side with leather belts for strength and durability, they are alleged to have proved equally satisfactory, adhering very closely to the pulley, generating no electricity while running, being also flexible, and unaffected by temperature within ordinary limits.

FIRES AND CASUALTIES.

FIRES.

Wm. Atchinson & Son, saw and planing mill, Cornwall, Ont.; partly burned out.

Jacob Lawrence & Sons, Sarma, Ont.; planing mill burned; no insurance.

CASUALTIES.

William Deering was killed at Sutton, Ont., by a falling tree.

A Chaudiere mill hand, Ottawa, Ont., named Alfred Detourney, had his collar bone broken by falling off a pile of lumber.

A shantyman named Xavier Lapointe, who lives at Gatineau Point, Ont., is home from the Madawaska, a sufferer from a broken leg.

Malcolm Kippen, while at work in the bush near Kippen, Ont., was seriously injured on the skull by a detached limb falling on him.

Alexander McCool, a lumberman, of Mattawa, Ont. is missing. He has been traced to the water's edge and it is generally believed he was lost in a storm.

A riverman named Napoleon Legare, who lives in Hull, Que., and who was at work on the Pettawawa, is likely to lose his foot, which was crushed between two logs.

Alexander Dupois and Joseph Mirault, of Hull, Que., were both in the bush cutting wood, when the former's axe slipped from the handle and struck Mirault in the thigh, inflicting an ugly wound.

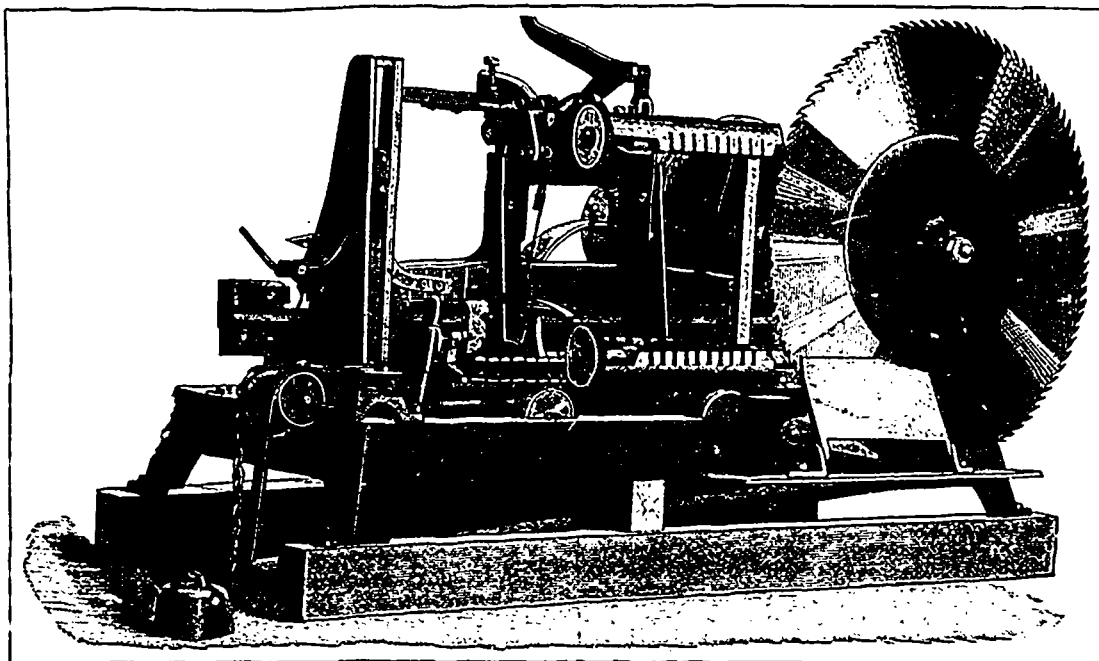
Wm. McLellan, a life-long resident of Bishop's Mills, Ont., driving from Virden, Man., to the home of his brother, thirty miles distant, in a lumber wagon, had both feet so badly frozen that it is likely both legs will have to be amputated.

As men were moving some lumber outside the dock at the cedar mill at Deseronto, Ont., a fortnight ago, the body of a man came to the surface. It was recognized as that of Michael Mannion, a mill hand, who had left them weeks before to visit relations at Tyendinago.

A teamster named Robert Saunders, working at Sapperton, B.C., was killed by falling off his wagon, loaded with wood. He leaves two young children, who are living with his father at Orillia, Ont.

OUR NEW DRESS.

IT would be shabby treatment to come before our readers in the new dress we have donned to-day and not tell them who made the stylish and well-fitting garments. The LUMBERMAN must give Miller & Richard, type foundry, of this city, credit for this handsome outfit. The body of the paper is printed from their extra hard metal Scotch type, which is known to printers in this country from the Atlantic to the Pacific. Those who are not practical printers will admire what in technical parlance printers speak of as a clean, open face type, while the printer himself knows the durability and perfectness that comes with this type, when it bears the well-known letters "M. & R." The new and handsome types that are shown in the advertising pages of the LUMBERMAN, and that give to these pages an attractiveness that will certainly be admired by our advertisers, comes also from the same firm, for as a matter of fact there is nothing necessary to the complete outfit of a printing office, small or large, that is beyond their capacity to furnish. Established as the leading type foundry of Great Britain for upwards of a century, they have for many years been well represented in Canada by Mr. R. L. Patterson, one of the most popular men among the printing fraternity throughout the wide Dominion.



THE "BOSS" SHINGLE MACHINE.

tooth at the pitch line, the drill may be used and a couple of holes drilled in the rim half an inch deep, if the thickness of the rim will admit, and two pieces of round iron, moderately tight, but not driven hard enough to endanger breaking of the rim, fitted in. Dress off the points so as to be the same length and as near the shape of the others as possible, using the calipers or dividers to get them central. A gear repaired in the manner, if carefully done, will take but little time and will frequently run for months without any trouble; but no time should be lost in ordering a new one from the factory, as no one can tell how soon the same thing may happen again.

It is an old proverb that "necessity is the mother of invention," and if such breakdowns as occur in almost every mill that is located a long distance from a machine shop, does not call out the inventive genius of the foreman at certain times, nothing else will.

PAPER BELTS.

IT is stated on no better authority than the New York Sun that one of the largest establishments in the States has for some time been turning out paper belts that have the reputation of being superior in many respects to those of leather; that these belts are made from pure linen stock, and are of any desired thickness, width or length, having also a driving power equal to any other from an equal surface, and while it is not claimed for them that they are adapted to all kinds of

OAK TANNED BELTING

TORONTO
20 FRONT ST EAST
TELEPHONE 475

THE J.C.McLAREN BELTING CO MONTREAL

WANTED AND FOR SALE

Advertisements will be inserted in this department at the rate of 15 cents per line each insertion. When four or more consecutive insertions are ordered a discount of 25 per cent. will be allowed. This notice shows the width of the line and is set in Nonparel type. Advertisements must be received not later than the 27th of each month to insure insertion in the following issue.

WANTED FOR CASH

HALF A MILLION FEET OF ASH, MOSTLY one inch, some one-and-a-quarter and one-and-a-half inch Canada Ash, strictly first and second - must be of uniform color; also commons and one inch 1, 1 and 2. State particulars as to stock on hand, dryness and lowest prices F.O.B. Montreal, Que.

Address all particulars to

P. O. BOX 2144,

NEW YORK,

N.Y.

WANTED TO CONTRACT

FOR 1 1/2 AND 1 1/4 IN. BASSWOOD, ALL 12 FT. long, quality 1st and 2nd, New York inspection, to be delivered here in canal boats next summer.

Only responsible parties need apply, stating price delivered.

WHITE, POTTER & PAIGE MFG. CO.,
415 Willoughby Ave.,
BROOKLYN, N.Y.

STEEL RAILS, ETC.

SEVERAL THOUSAND FEET "T" RAILS, 10 and 20 lbs. to the yard. A large quantity of flat strip rail for tramways, 20 pair wheels and axles, all in good second-hand condition, very cheap.

JOHN J. GARTSHORE,

49 Front Street West,

Toronto.

WANTED TO BUY

GOOD CANADIAN TIMBER LIMITS AND Georgian Bay saw logs. Address, BEN BIRD-SALL, Whitney Building, Detroit, Mich.

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

PARTNER WANTED

TO JOIN ADVERTISER IN MANUFACTURING mill machinery and patented specialties. Must have \$3,000 to \$5,000 cash. Experience not necessary if capable of keeping books and attending to office work. Address "D," care CANADA LUMBERMAN.

SAW LOG SLEIGHS FOR SALE

VERY CHEAP, FIFTY SETS ONE TEAM SAW log sleighs, new Ottawa pattern, steel shod, made of the best material throughout, good as new. MOS-SOM ROYD & CO., Hokenycon, Ont.

J. J. TURNER

.. Sail, Tent and Awning Maker ..

251 George St. and 154 King St.

PETERBOROUGH

Canoe, Yacht and Boat Sails made to order. Perfect Fits Guaranteed.

Every description of Lumber Supplies and Waterproof Clothing.

MACHINERY

SECOND HAND MACHINERY FOR SALE by the Canada Machinery and Supply Co., Brantford, Ont., Dealers in New and Second Hand Machinery and Mill Supplies:

1 12 x 16 WATEROUS DOUBLE CUT-OFF ENGINE with Pickering governors.

1 12 x 16 BECKETT SLIDE VALVE ENGINE with Judson governors.

1 9 x 15 BECKETT ENGINE, SLIDE VALVE.

1 7 1/2 x 10 NORTHEY ENGINE WITH PICKERING governors.

1 5 1/2 x 9 HORIZONTAL SLIDE VALVE ENGINE.

2 25 H.P. TUBULAR BOILERS TO BRICK IN.

2 16 H.P. TUBULAR BOILERS TO BRICK IN.

1 6 H.P. UPRIGHT LEONARD BOILER.

1 NORTHEY STEAM PUMP, 2 1/2 IN. SUCTION, 1 1/2 inch discharge.

1 WATEROUS SELF-ACTING SHINGLE MILL and Joiner.

1 UPRIGHT SWING SHINGLE MILL AND Joiner.

1 WATEROUS LATH MACHINE, THREE saws.

1 SET IRONS FOR TWO HEAD BLOCK SAW mill.

1 30 INCH J. T. NOVE MAKE, BUFFALO, burr portable Chopper with crane and picks.

1 POWER CORN SHELLER.

1 RE-SAW BAND SAW, 40 INCH WHEELS, with two 2 1/2 inch saws.

1 BLIND SLAT TENONER.

2 ONE-SIDE MOULDERS.

1 RIP-SAW TABLE.

1 CUT-OFF SAW TABLE.

SHAFTINGS, HANGERS, PULLEYS, BELTING, etc., all sizes.

WRITE FOR PRICES FOR ANYTHING IN the line of Machinery and supplies to the Canada Machinery and Supply Co., Brantford, Ont. Works, Warerooms and Office, opposite the Market.

SECOND HAND MACHINERY FOR SALE.

WORTHINGTON COMPOUND STEAM pump; steam cylinders 12 and 18 in. diameter, water 10 1/4, stroke 10 in.; capacity 5 to 900 gallons per minute, 1 1/2 steam, 3 1/2 exhaust, 8 in. suction, 7 in. discharge, capacity 4 to 6 good fire streams; has reversible counter, first-class condition in every respect; suitable for fire and domestic supply for any sized town up to 10,000 inhabitants.

ENGINE - Cylinder 22 x 30, shaft 8 feet long, 7 1/2 in. diameter, fly wheel pulley, Corliss pattern and slides, thorough order new Pickering governor, a 10 x 16 square bed circular valve engine also square bed slide valve 10 x 12.

BOILERS - One 52 x 14, with 44 3 1/2 inch tubes; one 52 x 13 feet 8, with 69 3 in. tubes; one 52 x 13 feet 6 with 52 3 in. tubes. These boilers have been thoroughly repaired.

SAW IRONS - Waterous make, right hand, cast frame, takes 60 in. saw, 3 block carriage, peel dogs, 1 set Paxton's make, cast frame, right hand, 7 block carriage with wooden frame, axles running clear across, V and flat track.

ONE SEWRY shingle machine, 40 in. saw, thorough order.

WATEROUS PORTABLE SAW MILL can be seen at Acton station - 25 h.p. engine, 30 h.p. locomotive boiler, water front, circular fire box; iron frame, friction feed and gig, 1 60 in. and 2 52 in. solid saws, 7 block carriage, 30 feet from centre to centre of first and last block, friction set, peel dogs, friction log turner, slab saw, single edger, saw dust carrier, counter shaft.

This mill is in first rate order and can be delivered immediately. Further particulars and prices of above machinery on application.

WATEROUS ENGINE WKS. CO., Ltd., Brantford.

SAW MILL BY AUCTION

THERE WILL BE SOLD AT IRONDALE, ON the Bancroft and Ottawa Railway, 10 miles from Kinnmount :-

One 40 h.p. stationary saw mill, manufactured by the Waterous Engine Works Co., Ltd, Brantford, in 1888, built in their best style. The mill consists of the following machinery :-

ENGINE - 12 x 14 straight line engine, with 5 in. steel shaft, fly wheel pulley;

BOILER - Boiler of best quality of steel, 52 in. diam., 14 feet long, lateral seams, double rivetted, tubes 3 1/2 in. in straight rows, beaded over at each end, 60 foot smoke stack, saw dust grates and all fittings and fixtures complete;

SAW IRONS - One iron saw frame, right hand, with 8 in. face, friction feed and gig works, Waterous timber gauge, 3 bearings under mandrel pulley, being outside of frame;

CARRIAGE - Consists of 6 log seats, 4 mains, with 3 wheels under each, the two front wheels run in brass boxes, on a V track; 2 intermediates with 2 wheels under each. These blocks are spaced so that the first and last blocks are 36 feet from centre to centre. The carriage can be uncoupled into short lengths for ordinary sawing, it is furnished with four peel dogs, and independent action to each knee for cutting taper stuff;

SAW - One 56 in. Emerson bit tooth saw.

BULL WHEEL - One No. 5 bull wheel, chain and car;

SUNDRY machinery in the mill, viz.: Single edger with counter shaft, slab saw running at right angles to large saw, rollers behind the saw, main driving belt, originally 15 inch wide, 4 ply heavy rubber belt.

This mill is in good running order; it is situated on the Black River at its junction with the Bancroft and Ottawa Railway that switches from the railway into the mill yard.

The machinery for this mill will be put up at auction as mentioned above on Wednesday, the 13th day of January, with a fixed upset price. The mill will be sold cheap, and will be a good investment for any one with a small capital.

For further particulars address

THE WATEROUS ENGINE WKS. CO., LTD., BRANTFORD

ROCHESTER BROS.

: : COMMISSION AGENTS

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

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

Communications confidential. References given.

36 Rochester St. Ottawa

WILLIAM FOSTER

Lumber and Commission Merchant

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LUMBER, LATH AND SHINGLES

... CORRESPONDENCE SOLICITED ...

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LUMBER TRUCK WHEELS

The Montreal Car Wheel Co.

... MANUFACTURERS OF ...

Charcoal Iron Chilled

RAILROAD WHEELS

OFFICES:

NEW YORK LIFE INSURANCE BUILDING, MONTREAL

WORKS: LACHINE, QUEBEC

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

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SCRIBNER'S LUMBER AND LOG ... BOOK ...

OVER ONE MILLION SOLD

Most complete book of its kind ever published. Give measurement of all kinds of Lumber, Logs, Planks, Scantling; cubical contents of square and round timber hints to lumber dealers; wood measure; speed of circular saws; care of saws; cordwood tables; felling trees; growth of trees; land measure; wages, rent, board, interest, stave and heading bolts, etc. Standard book throughout the United States and Canada. Get the new illustrated edition of 1882. Ask your bookseller for it. Sent post-paid for 35 cents.

GEO. W. FISHER

Box 238, ROCHESTER, N.Y.

or A. G. MORTIMER, Toronto, Can.

ELECTRIC LIGHT PLANTS

THE THOMSON-HOUSTON AND THOMSON SYSTEMS.

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Stocks
Strips
Siding
Bill Stuff
Hardwoods Shingles
Hemlock Lath
etc.



LUMBER

.. MILLICHAMP'S BUILDINGS ..

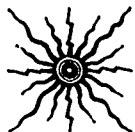
35 ADELAIDE STREET EAST
TORONTO

Yard: Northern Dock, Foot of Bathurst Street

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GEO. HASTINGS & Co.

Lumber Merchants



TRUST BUILDING CHAMBERS
COR. YONGE AND COLBORNE STS.

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ALL KINDS OF PINE AND
HARDWOOD LUMBER

BILL STUFF CUT TO ORDER
A SPECIALTY

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DEALERS IN

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FOR 1892

The regular subscription price of THE ARENA is the same as that of the other leading reviews, \$5.00. The price of our magnificent Art Portfolio of eminent personages is \$4.00. But we send THE ARENA \$9.00 and the Portfolio both for \$5.00 to all persons who subscribe for THE ARENA for 1892, and remit 20 cts. extra to help pay postage and packing on premium.

THE AMERICAN LUMBER YARD HAMBURG, GERMANY

OFFERS THE BEST FACILITIES FOR YARDING AND SELLING ALL KINDS OF

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ROSENBACHER & Co. Bankers, HAMBURG
ADDRESS: CARL GARTNER, Agent HAMBURG

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MANUFACTURERS OF

HYDRAULIC CEMENT

Particularly adapted for Dams, Smoke Stacks, Foundations, Culverts, Cisterns, Cellars, etc.

Endorsed by Leading Railways and Contractors

ROACH LIME

FOR BUILDING, PLASTERING, GAS PURIFYING, PAPER MAKING, ETC.

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MANUFACTURERS OF

TERRA COTTA FIRE-PROOFING

Endorsed by leading Architects
Absolutely Fire-proof Deadens Noise
Does not Crack on application of Heat or Water
About as Cheap as Wood or Brick
Weight one-third that of Brick

For use in Old and New Buildings
Gives Warmth in Winter; Coolness in Summer

The Casselman Lumber Co.

Successors to FLATT & BRADLEY

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Especial Good Facilities for Shipping

HEMLOCK BILL STUFF OF EXCELLENT QUALITY
Also Manufacturers of
PINE, SPRUCE, ASH, MAPLE and other HARDWOODS
CORRESPONDENCE SOLICITED

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

MAITLAND, RIXON & CO.

OWEN SOUND, ONT.

Saw Millers and Lumber Dealers

All kinds of Building Material kept in stock

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

The Rathbun Company

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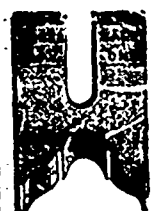
Doors, Sash, Blinds, Stairs

And all kinds of House-Finishing Materials

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GALT MACHINE KNIFE WORKS



MACHINE KNIVES
OF EVERY DESCRIPTION FOR
Planing, Moulding and Stave Cutting

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PETER HAY, GALT, ONT.

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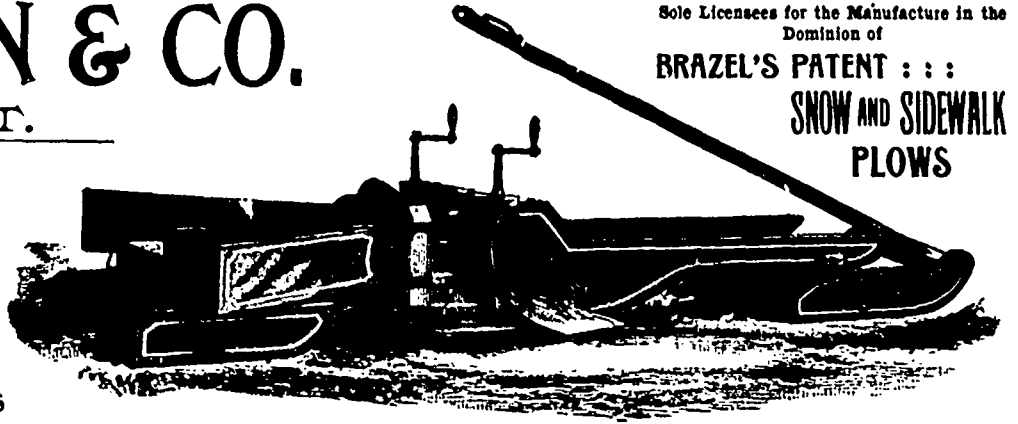
"RED TOP LINE"



Lumbermen's Tools

Gant Dogs
Peavles

Skidding Tongs, Pike Poles, Goldshuts, Lumber Bob Sleighs



Sole Licensees for the Manufacture in the Dominion of

**BRAZEL'S PATENT : : :
SNOW AND SIDEWALK
PLOWS**

WOOD-WORKING MACHINERY



The Gold Medal

London, 1883 | Toronto, 1883

For Door, Sash, Blind and Furniture Factories

PLANERS
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BAND SAW FILER

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BAND SAW SETTER
Etc., Etc.



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WRITE FOR CIRCULARS AND PRICES

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PARKER & EVANS

SOLE PROPRIETORS OF THE
FAMOUS INTERNATIONAL



BOILER FLUID COMPOUND

Patented 5th March, 1877

This Compound will Save its Cost many times in one year
... by Saving Fuel ...

It eradicates scale, and when the boiler is once clean a very small quantity keeps it clean and free from all incrustation. One-fourth the dose will prevent a new boiler from scaling so long as it is used regularly.

Contains no caustic Soda, and is the only matter yet known that will not injure metals in any way, and emits a clear, pure steam.

30 William St., Montreal

THOS. WHALEY, President

W. E. HUTCHINSON, Sec.-Treas.

The Whaley Lumber Co., Limited

of HUNTSVILLE, ONT.

Manufacturers of

White Pine Lumber, Bill Stuff, Lath and Shingles

Also HARDWOOD LUMBER

All Orders promptly attended to First-class facilities for Shipping
CORRESPONDENCE SOLICITED

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Real Estate, Fire and Life Insurance

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

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CORRESPONDENCE SOLICITED BOX 273

Important to LUMBERMEN and all who use

LEATHER BELTING

... You all use more or less Leather Belting, and are naturally interested in knowing where to get the very best article—that which will give you the least trouble either in stretching crooked or tearing at the lace holes.

F. E. Dixon & Co.'s Union Tanned Belting runs straight and easy on the pulleys, is thoroughly well stretched and cannot be surpassed for strength and durability. Send for discounts. Our hand-book on leather belting mailed free on application.

ROUND PLAITED BELTS FROM 3-8 INCH TO 1-2 INCH

LACE LEATHER
PATENT WIRE LACING
ETC.



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TORONTO AGENCY OF

The Rathbun Co.

Are open to Purchase

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

Manufacturers having such for sale are invited to communicate with

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SAW MILLS
.. IN ..

Little Belt and
Rocky Mountains

ALONG LINE OF

GREAT NORTHERN RAILWAY

For particulars write

J. M. HUCKINS

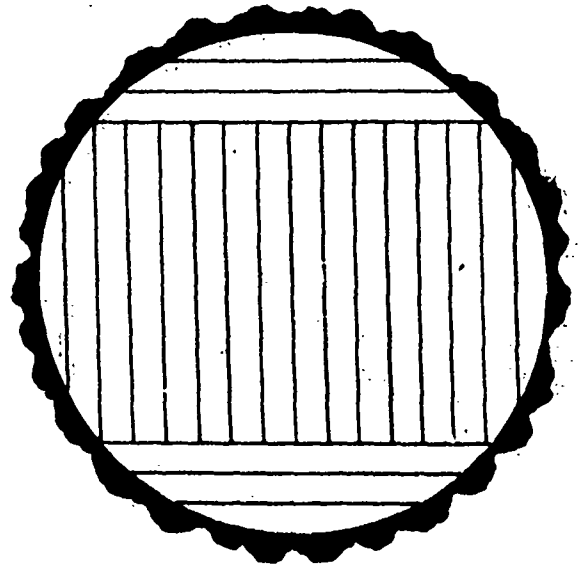
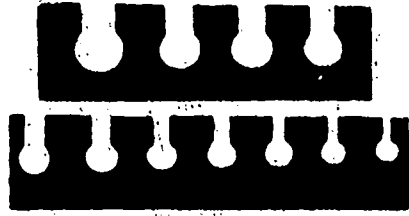
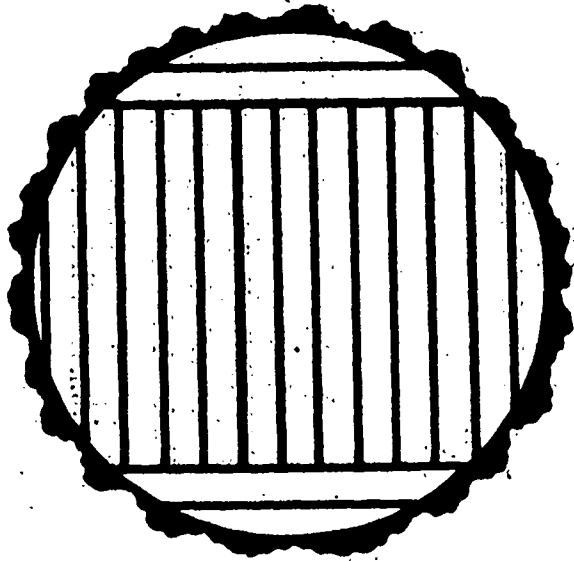
4 Palmer House Block, Toronto

or **E. J. WHITNEY**
Gen. Pass. Agent, St. Paul, Minn.

CIRCULAR SAW 7 GAUGE

BAND SAW 16 GAUGE

NOTE SAVING BY WIRE GAUGE



WHICH?

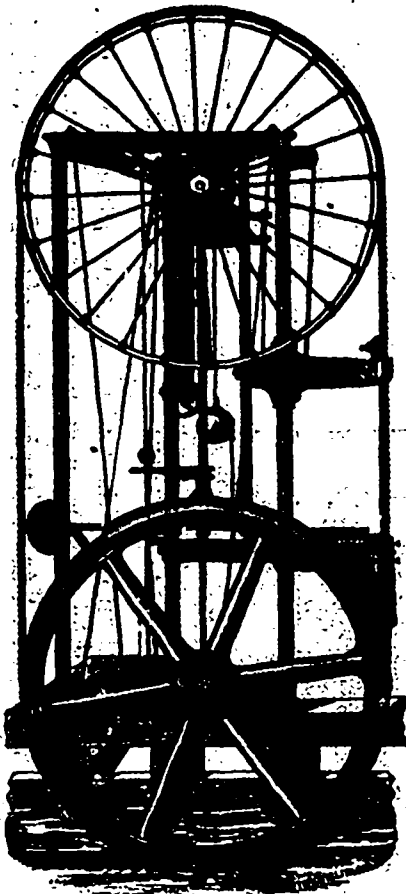
SEASON'S STUMPAGE THREE MILLIONS
COST:

Stumpage and Dues.....	\$2 50	
Cutting, Watering and Delivering at Mill.....	3 50	
Cutting and Piling.....	2 00	
Loading on Cars.....	25	
Interest on \$18,000 for 1 year at 7 per cent. \$1,260, costing per 1,000 feet on 3,000,000.....	40	
Wear and Tear of Machinery.....	35	
Three millions at.....	\$9 00	\$27,000
2,700,000 at..... \$11 00.....		\$29,700
450,000 Culls at..... 6 00.....		2,700
Profit.....		\$5,400

SEASON'S STUMPAGE THREE MILLIONS
COST:

Stumpage and Dues.....	\$2 50	
Cutting, Watering and Delivering at Mill.....	3 50	
Cutting and Piling.....	2 00	
Loading on Cars.....	25	
Interest and Expenses.....	75	
Three millions at.....	\$9 00	\$27,000
3,240,000 at..... \$11 00.....		\$35,640
540,000 at..... 6 00.....		3,240
Interest on Extra Cost of Mill, \$1,000.....		\$11,880
Profit.....		\$11,820

Loss or gain to you on season's cut is over \$6,000. Why continue to waste so-much yearly in sawdust?



**NO. 1 MEDIUM
BAND SAWMILL**

**THE BAND SAWMILL
HAS GONE TO STAY**

It will as surely supercede the Circular Mill as the Circular did the old-time Mulay Mill. It is as fast as the Circular; it can be run with one-eighth ($\frac{1}{8}$) inch saw kerf; the lumber cut is much smoother than with a Circular. Larger logs and wider lumber can be sawn than with a single Circular. The cut, being at right angles to the grain, and not with it, the kerf is cut out clean and not split or broken as with a Circular Saw. The roughest boxy spruce can be cut without splintering on the lower edges. No scoring of the face of the log with the rear edge of the saw, rendering less surfacing necessary, so that lumber can be cut nearer to size. These and many other points could be mentioned in its favor.

With the perfect Automatic Filer and other tools, the means and knowledge required to keep saws in order is brought within the reach of all. We have in our employ an expert whom we will send with each mill, and will permit him to teach any intelligent man how to use the band saw tools, and, with the rules furnished, a circular sawyer should soon become an expert band-sawman.

CORRESPONDENCE SOLICITED

Waterous Engine Works Co. : : Brantford, Canada

734 St. James St., Montreal 34 St. Paul St., Quebec Main St., Winnipeg

For Conveying and Handling all the Products of the Forest, Farm and Mine

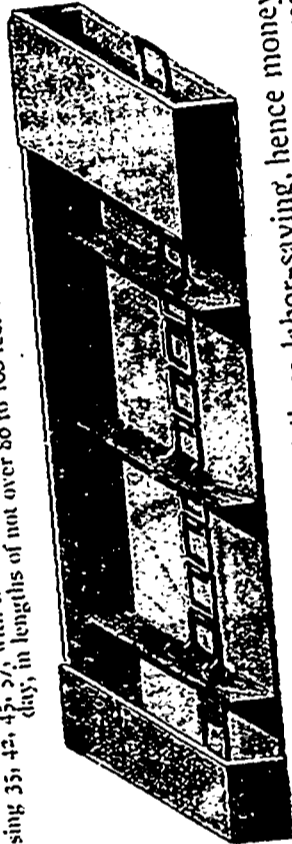
Patent Link Belt ^{plus} Steel Cable Conveyors



HEAVY REFUSE CONVEYOR
Using 66, 67, 77, 85, 103, 108, 600, 1200, for mills cutting 15 to 100 M. per day; 600 and 1200 will carry all refuse.

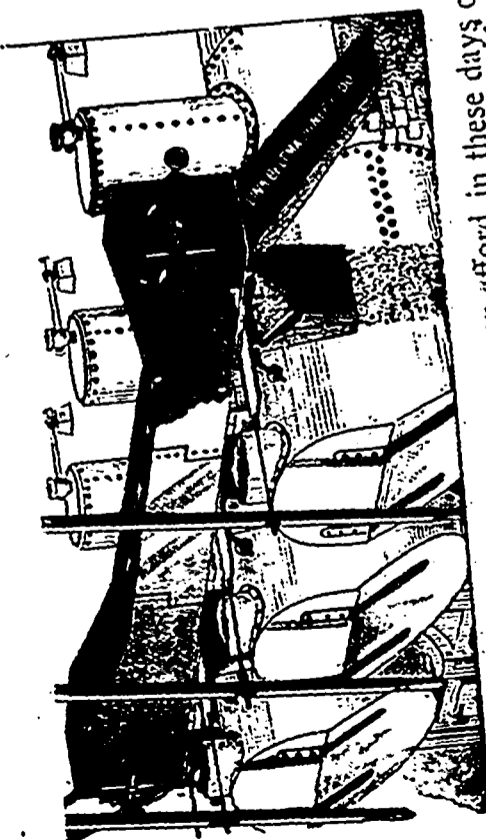


LIGHT SAWDUST CONVEYORS
Using 35, 42, 45, 57, with S attachment, suitable for Mills cutting from 5 to 15 M. per day, in lengths of not over 80 to 100 feet between centres.



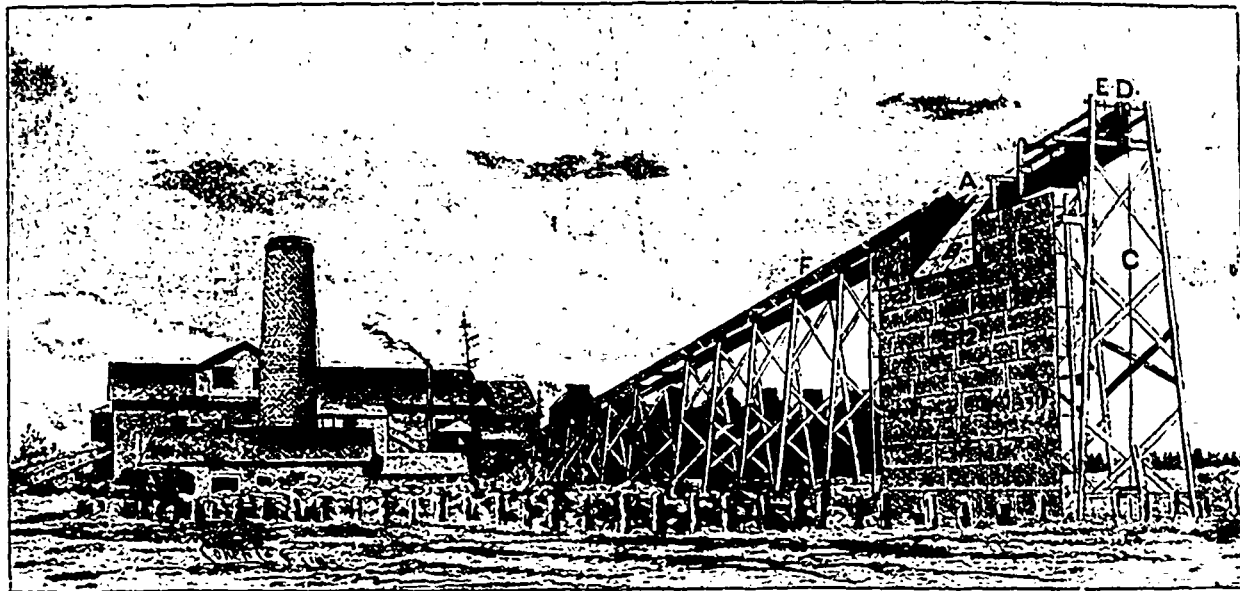
hence money-saving appliances, specially since the price estimates will be given promptly.

THE WATERLOUS ENGINE WORKS CO., BRANTFORD, CANADA



No progressive, live sawmill man can afford, in these days of close competition, to be without these labor-saving appliances, specially since the price estimates will be given promptly. Send us full description of your wants, giving distances between centres and bulk to be conveyed, and estimates will be given promptly.

Garland Patent Cable Conveyors



CONVEY

Logs .. Lumber
 Mill Refuse
 Sawdust
 Broken Stone
 Coal, etc.

Distance between centers no
 detriment to working of Cable
 up to 1,500 feet.

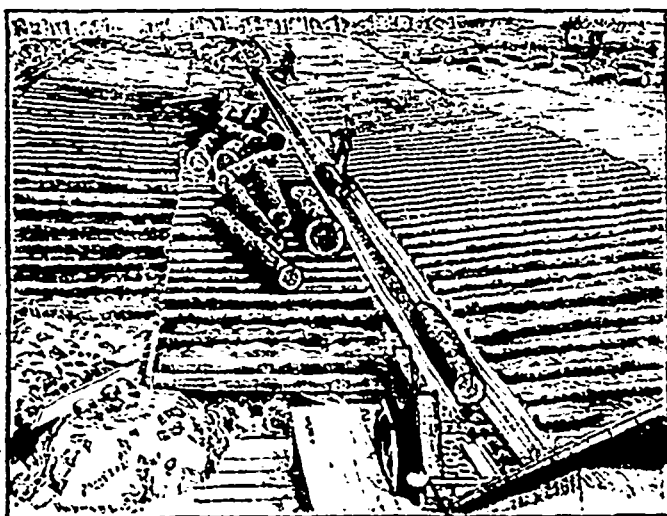
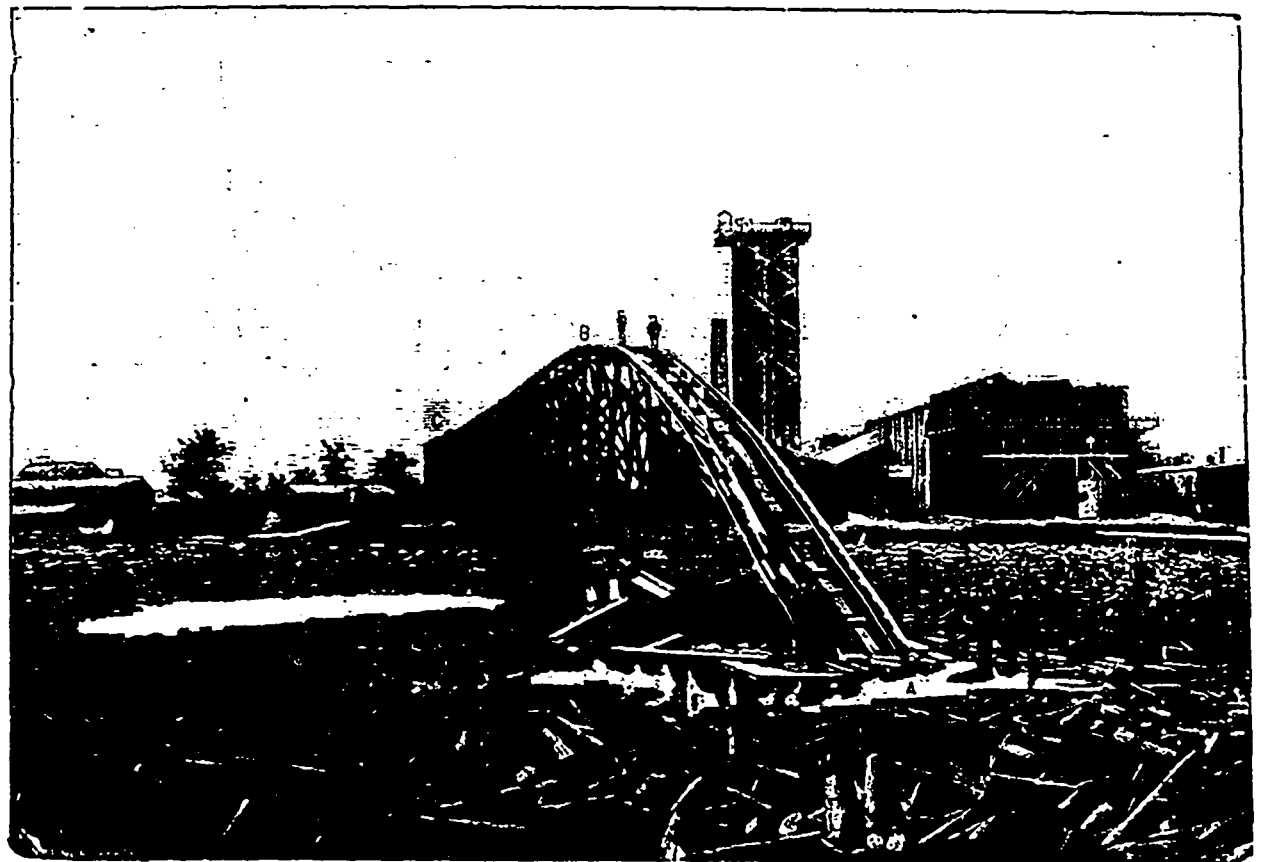
The Cast-iron Clamps

fastened to Cable take all the wear in trough, also on wheel, and do all the driving.

Driving Wheels

are gapped with the exactness of cut gear. No wear on Cable.

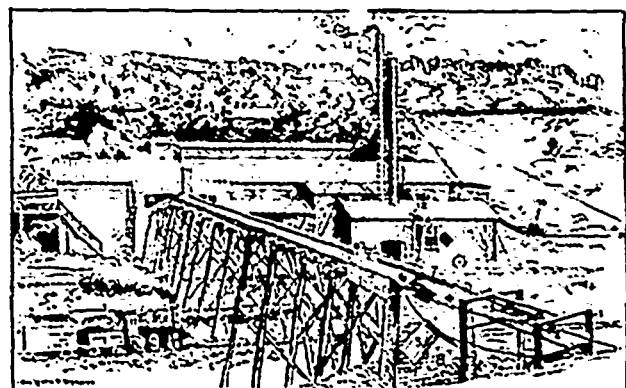
... We have examined Refuse Conveyors after 2 years' use, and the cable was not even brightened.



SEND FOR ESTIMATES and REFERENCES giving distance between centers and material to be handled

These Conveyors

have stood the test for four or five years in the States, where.. hundreds are in operation



. Sold
 . under
 . Full
 Guarantee

Waterous Engine Wks. Co., Brantford, Can.

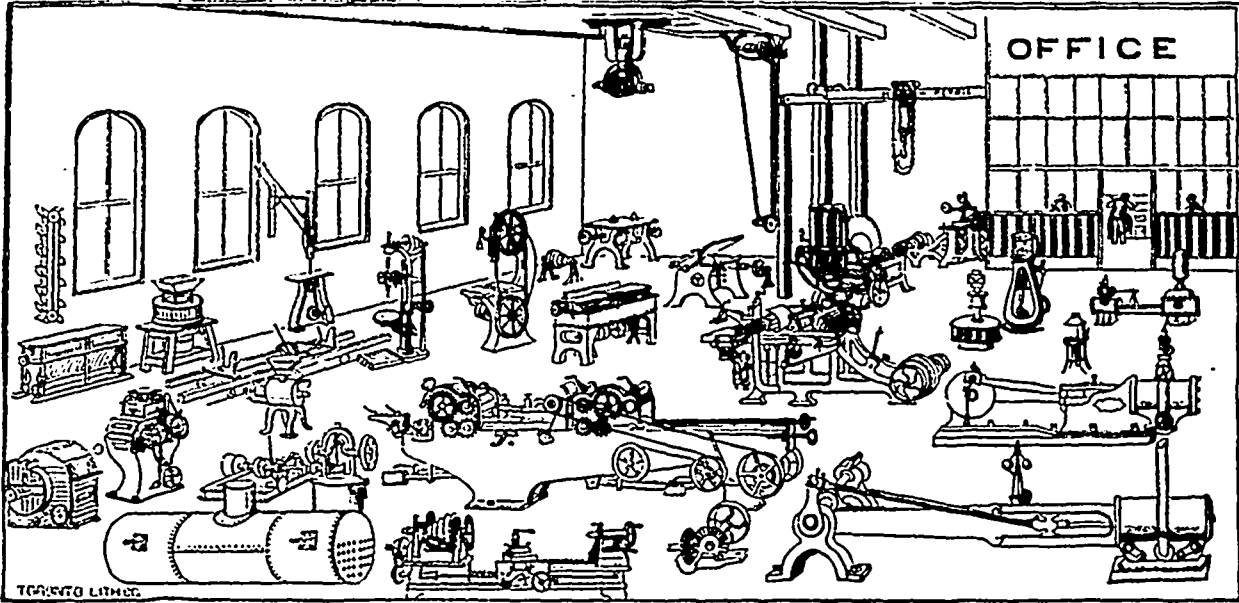
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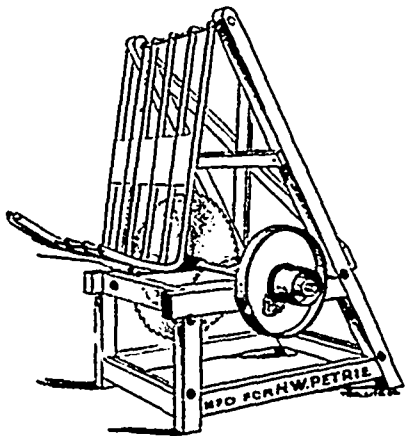
Wood Yard Machinery

— A SPECIALTY —

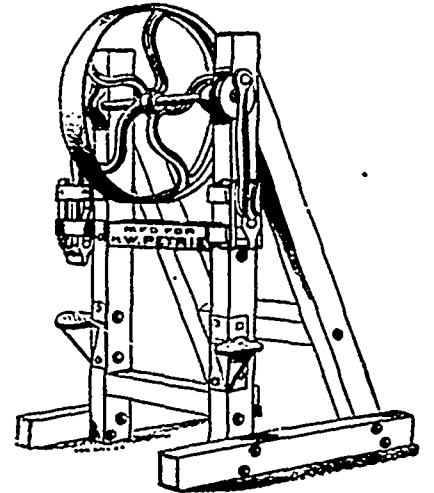
PLANING AND SAWMILL ... MACHINERY ...

Of All Kinds

.. See New Catalogue No. 16 ..



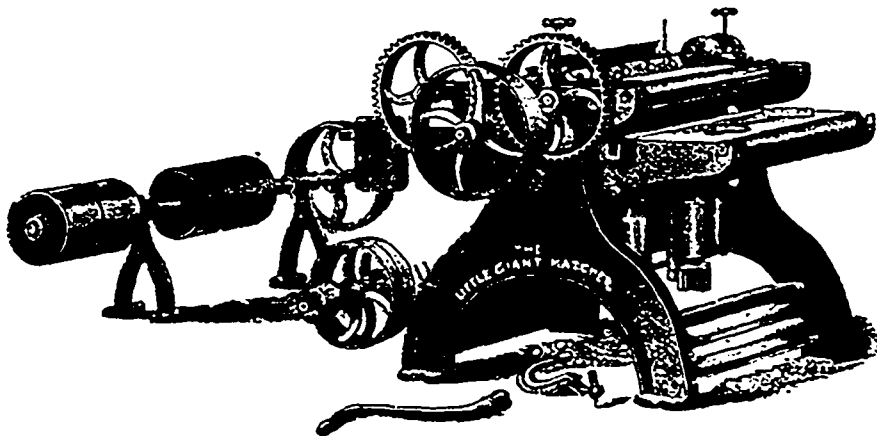
Wood and Shingle Bolt Saw



The Champion Wood Splitter


Catalogue No. 16
gives full description
of all our Machinery.

25,000
now ready for
distribution



THE IMPROVED
LITTLE GIANT
Planer
Matcher and
Moulder

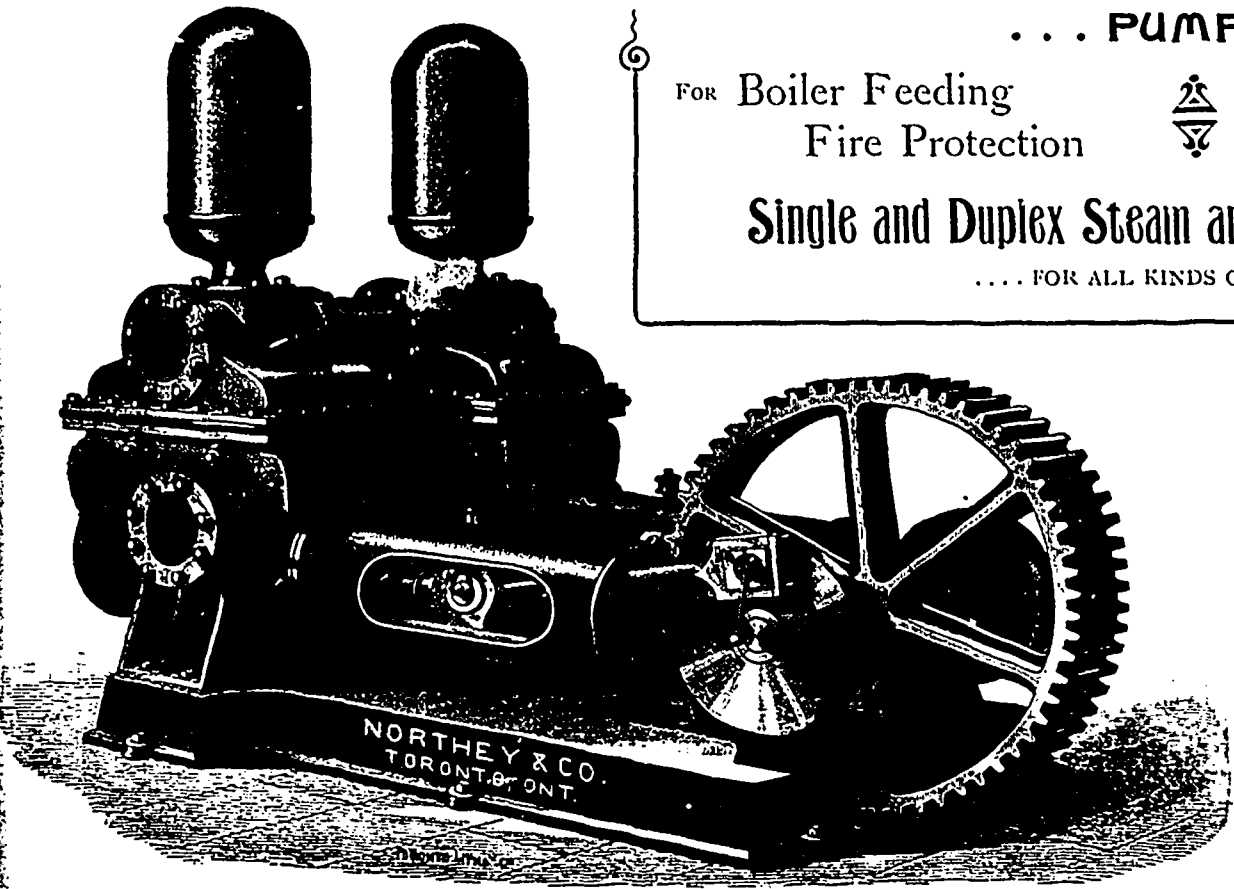




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Single and Duplex Steam and Water Power Pumps

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GREAT ECONOMY IN FUEL AND
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... PRICES AND PARTICULARS ON APPLICATION ...

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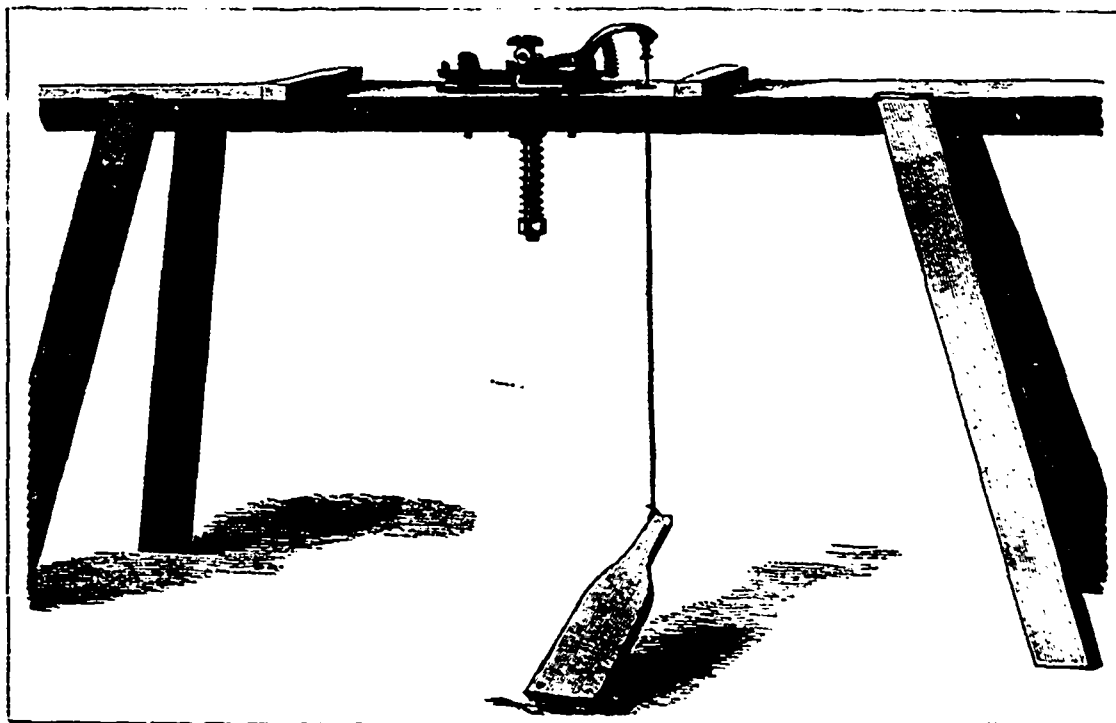
OFFICE: NO. 1 TORONTO STREET

WORKS: COR. FRONT AND PARLIAMENT STREETS

The "CANADIAN" SAW-SET

PATENTED NOVEMBER 18, 1891

It is made in different sizes. Size No. 2 is made specially for Cross-cut Saws, and is strong enough to set any saw up to No. 10 gauge. It should be placed in a vise or bolted on a plank, as shown in illustration, and worked with the foot.



It strikes a light or heavy blow, as desired, and every blow is the same. It is easily adjusted for any amount of set required, sets every tooth evenly alike, without any danger of breaking, thus making the saw run straight, cut easier and do more work.

PRICES

Size No. 1, for Shop use, \$2.00 each, \$21.50 per doz.

" 2, " Cross-cuts, 2.50 " 27.00 "



Made only by

F. J. DRAKE

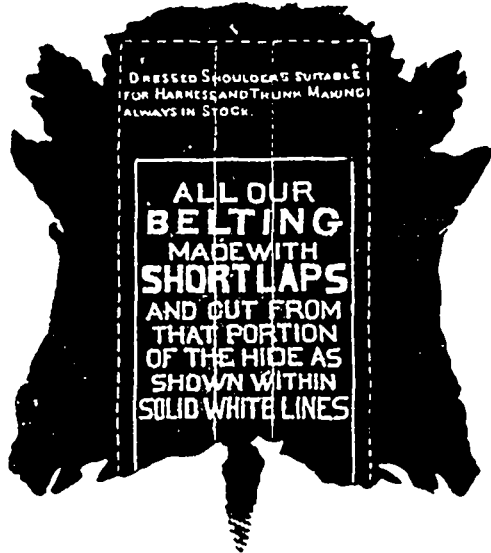
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ROBIN & SADLER



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MONTREAL SAW WORKS

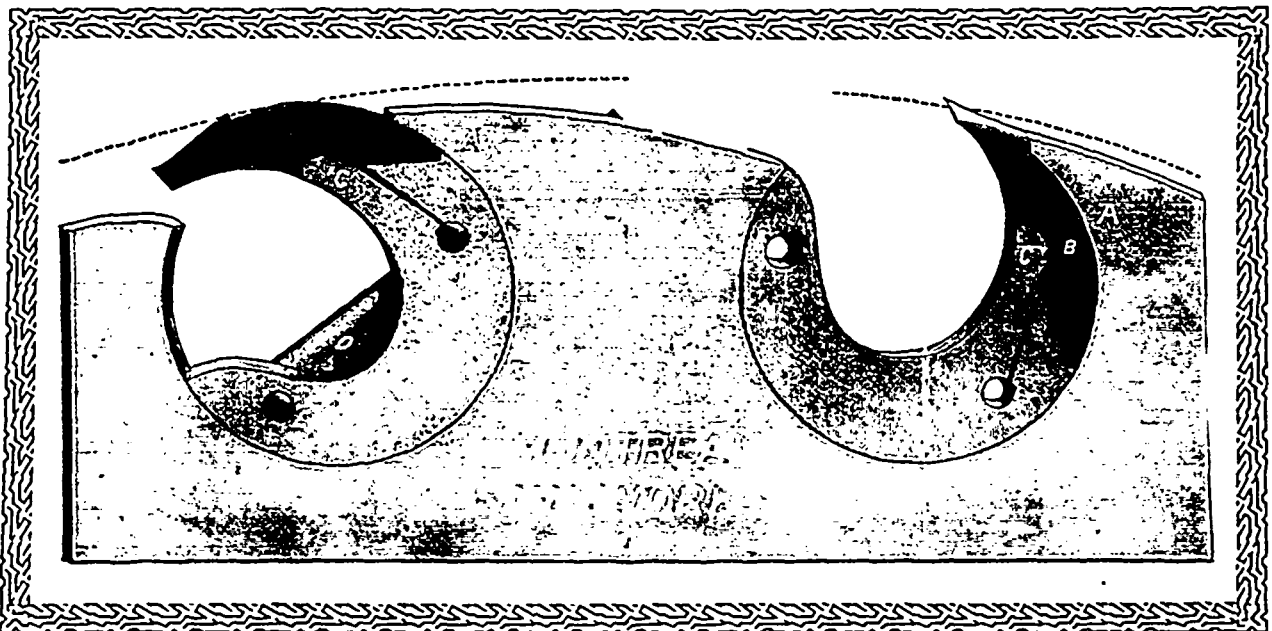
CHARLES M. WHITLAW, MANAGER

The Montreal Saw Works Co. Ltd.

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The "SIMONDS" $\frac{1}{2}$ AND $\frac{3}{4}$ The "LEADER"
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OUR HAND SAWS cannot be excelled for variety, quality, style and finish... - REPAIRING PROMPTLY ATTENDED TO
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