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THE CANADA LUMBERMAN


Wood-Workers', Manufacturers' and Millers' Gazette

VOLUME XXIII.
NUMBER 4.

TORONTO, CANADA, APRIL, 1903

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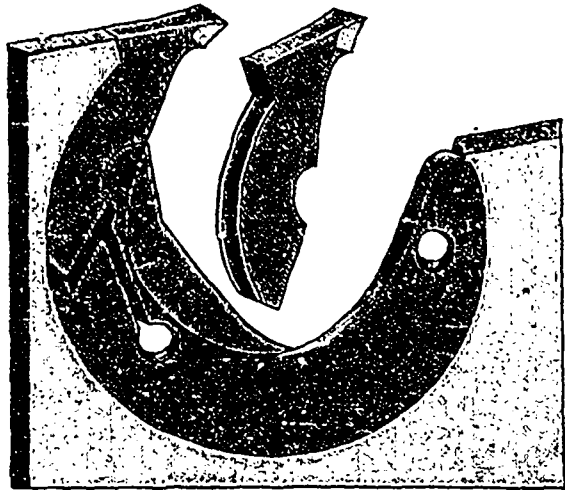
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in the Dominion of Canada.

There is no process its equal for tempering circular saws. Other makers recognize this fact, as some of them, in order to sell their goods, claim to have the same process. All such Claims are FALSE, as the patentee in the U. S. and ourselves are the only firms in the world who use it.



INSERTED TOOTH SAWS

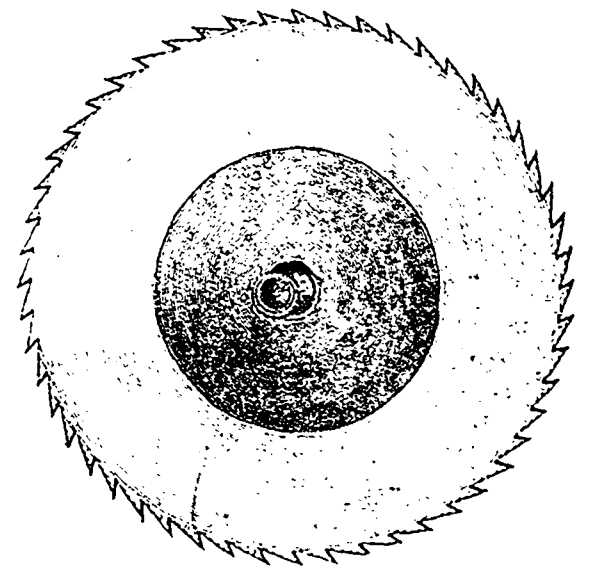
Notice the improved shank. We call particular attention to the swell which strengthens it at the weakest part and which gives it more wear than the old style.

Shanks made in usual gauges and to fit your saws perfectly.

SHINGLE SAWS

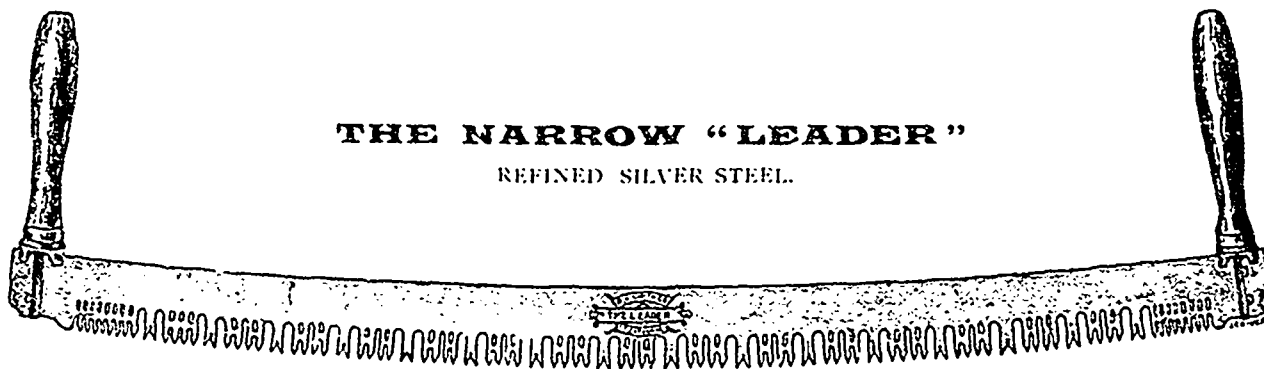
The quality of the "Simonds" Shingle Saws is proven by the fact that the largest shingle and machine manufacturers in Canada are using them.

Run a "Simonds" and you will increase your output.



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THE NARROW "LEADER"
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The Simond's temper and style of tooth make the "Leader" the fastest and easiest cutting saw manufactured.

Write for prices.

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(List corrected every issue.)

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- 12 in. Archimedian Brass, Waterous.
- 12 in. Right Hand Barris, new.
- 21 in. " " Burnham
- 23 in. " " Leffel.
- 25 in. Right-Hand Parrar
- 30 in. Left-Hand "
- 36 in. Right-Hand "
- 48 in. " " Vulcan.
- No. 9 Tuerk's Water Moto, 1/2 H. P.
- No. 12 " " 4 to 6 H. P.

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- Left Hand Circular Saw Mill, No. 1 Lane.
- 36 in. Circular Re-Saw, Galt Make.
- All Iron Swing Cut-off Saw Frames.
- Railway Swing Cut-Off Saw Table
- 26 inch Pedestal Band Saw, Silver Pattern.
- 40 inch Band Saw with Re-sawing Attachment.
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- Double Spindle Iron Top Wood Shaper, Berlin Make new.
- Double Spindle Wood Top Wood Shaper.
- 12 inch A. Dolg Poney Planer.
- 20 inch Jackson Cochrane Poney Planer.
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- 24 inch Jackson, Cochrane, Heavy Planer and Smoother, new
- 24 inch No. 14 McGregor, Gourlay Double Sur-facer.
- 24 inch I. Mitchell & Co. Surfacers.
- 24 inch No. 6 Goldie & McCulloch Single Surfacers.
- 13 inch Nicholls Planer, Matcher and Moulder.
- 14 inch Tompkins Planer, Matcher, Moulder and Header
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- No. 1 Single Drum Sander, New.
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- 5x4 " " " " new.
- 4x4 " " " " Dutton, New.
- 4x4 " " " " " "
- 4x4 " " " " " "
- 2 1/2 to 4 1/2 H. P. "Triton" Marine Gasoline En-gines, Complete With Shaft and Wheel, new.
- 10 H. P. Engine and Boiler on Wheels, Cornell.
- 14 H. P. " " " " Waterous.
- 70 H. P. Tandem Compound Condensing En-gine, Osborne Kelly Ma ".
- 7 3/8 and 10 5/8 12 Compound Slide Valve En-gine, Waterous.
- 11x10 Peerless Self Oiling Engine, Leonard.
- 10x10 " " " " " "
- 4 1/2x6 " No. 1 Jewel Automatic, Dutton, new
- 5x7 1/2 " No. 2 " " " "
- 6x7 1/2 " No. 3 " " " "
- 7 1/2x8 " No. 4 " " " "
- 10x15 " No. 8 " " " "
- 11x15 " No. 9 " " " "
- 6x7 1/2 Centre Crank, Dutton, new
- 7 1/2x8 " " " " " "
- 8x10 " " " " " "
- 4x4 Combined Engine & Boiler
- 4 1/2x8 Hor. Slide Valve Engine, Waterous
- 9 1/2x12 " " " " Northey.
- 9x12 " " " " Beckett, New.
- 9x14 " " " " " "
- 11x14 " " " " " "
- 16x24 Hor. Rocking " " " " " "
- 12 1/2x18 " " " " " " Waterous.
- 10 1/2x16 Slide " " " " Goldie & McCulloch
- 8 1/2x12 " " " " " " Buffalo.
- 4-8 and 25 H. P. Gasoline Engines, Junction make, new.
- 8 and 15 H. P. " " " " Haggas make, new.
- 1 H. P. Upright " " " " Housey make, new.

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- 58"x165"-84"-3" " " " "
- 41"x141"-45"-3" " " " "
- 60"x102"-56"-4" " " " "
- 45"x186"-52"-3" " " " "
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- 45"x162"-42"-3" " " " " Fire Box new
- 72"x192"-67"-3" " " " " " "
- 17"x44"-13"-2" " " " " " " Vertical, new.
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- 37"x68"-70"-2" " " " " " "
- 20"x49"-19"-2" " " " " " "
- 24"x50"-31"-2" " " " " " "
- 30"x60"-43"-2" " " " " " "
- 30"x72"-43"-2" " " " " " "
- 24"x60"-31"-2" Tubes, Submerged, new.
- 30"x72"-43"-2" " " " " " "
- 30"x84"-43"-2" " " " " " "
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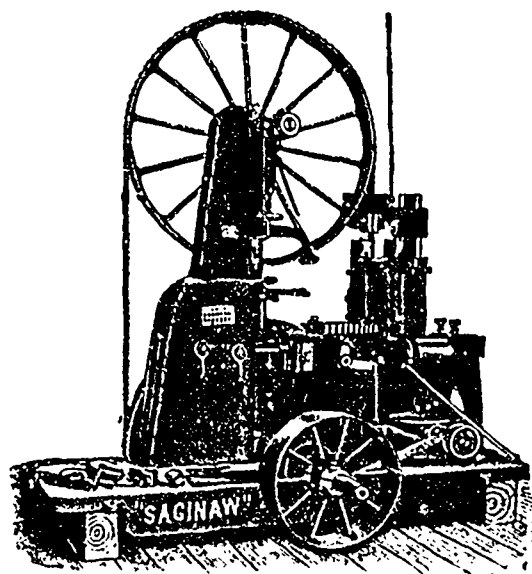
- 2 H. P. Reliance Motor, 110 Volts
 - 2 H. P. Kay Motor, 250 Volts.
 - 3 H. P. Rddy " " 110 Volts.
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 - 50 Light, Gee Electrical Co. Dynamo.
 - 60 L. ght, Canada Electrical Co. Dynamo
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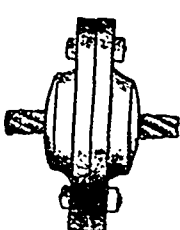
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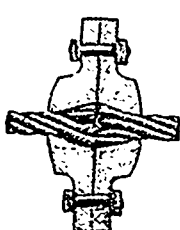
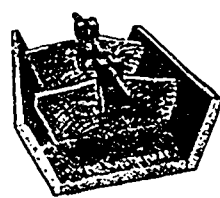
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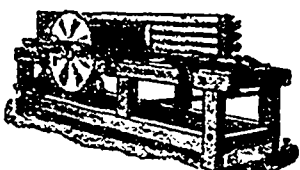


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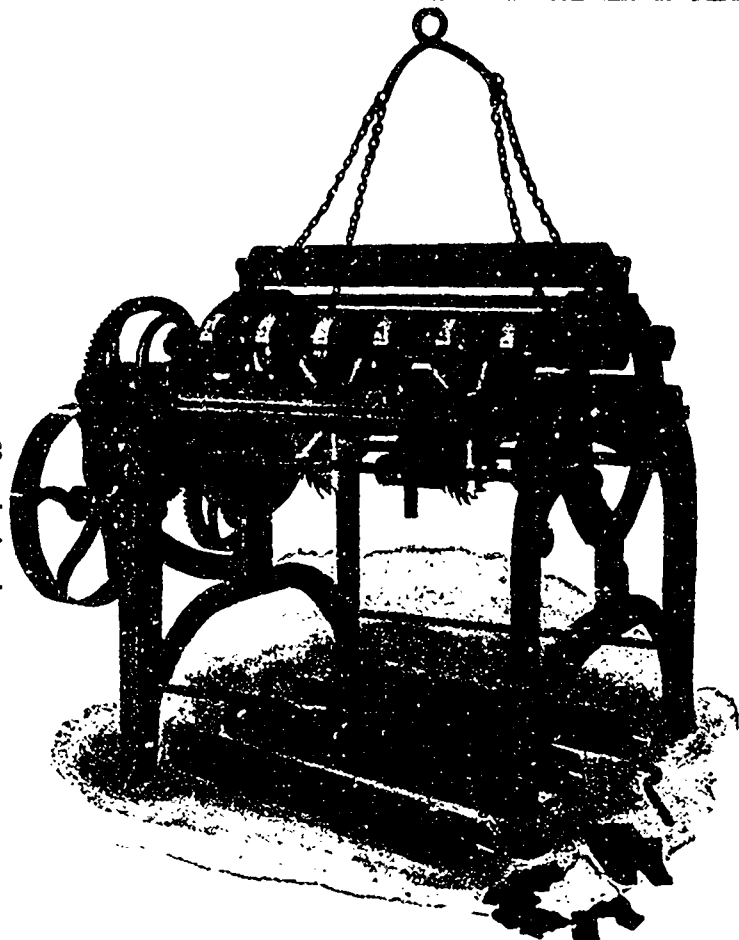
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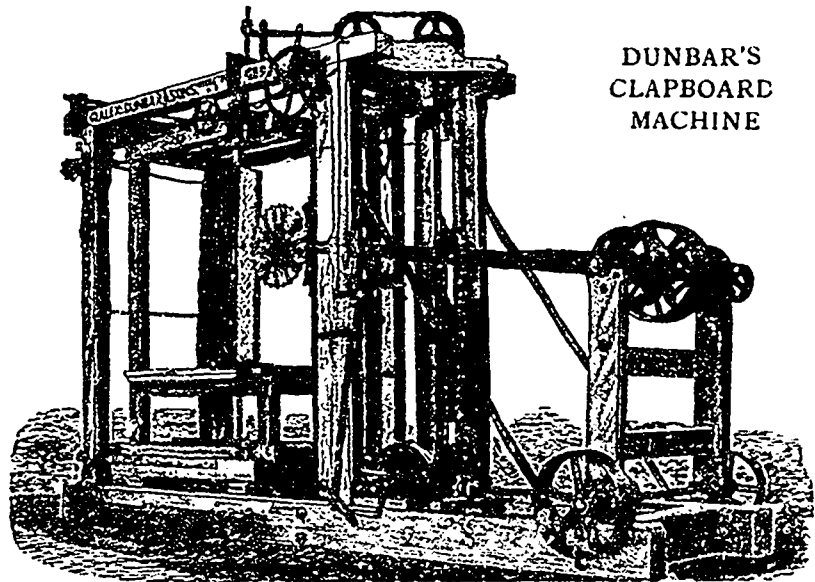
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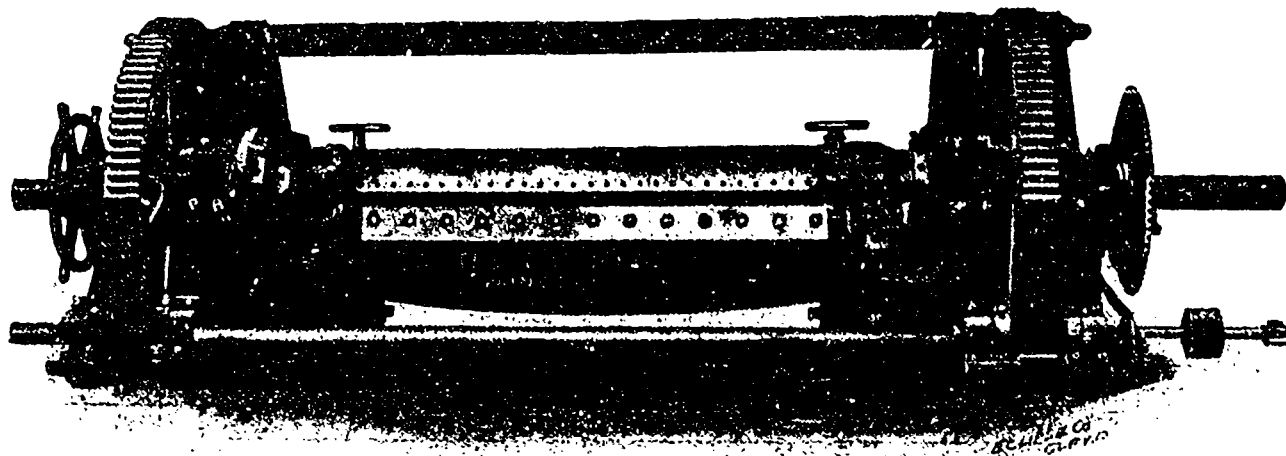
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Timber and mill owners should get in early.
 Buy a Coe Veneer Cutting and Drying outfit and prepare to supply thin lumber and veneers which have a healthy growing demand. More money in it than saving your logs into lumber.

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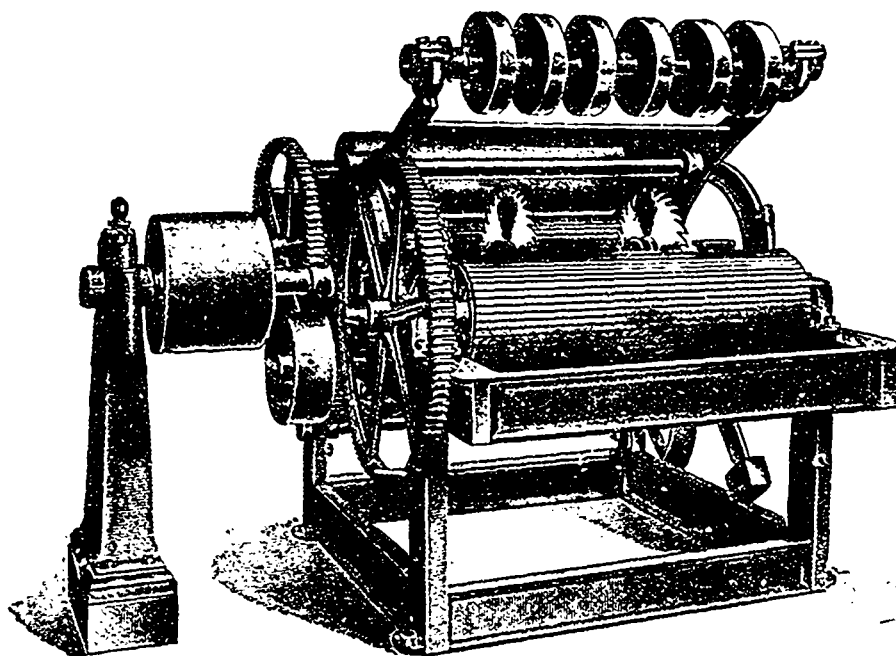
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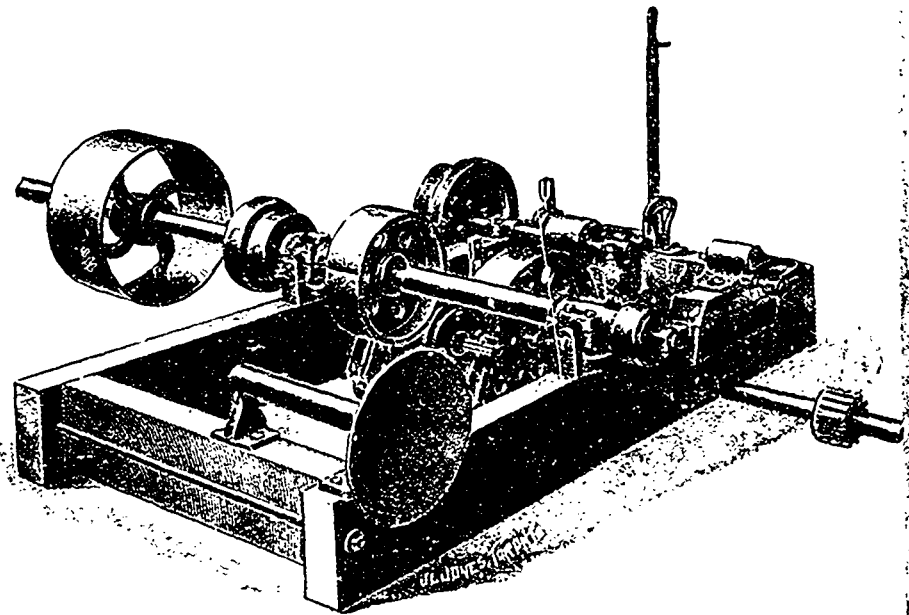
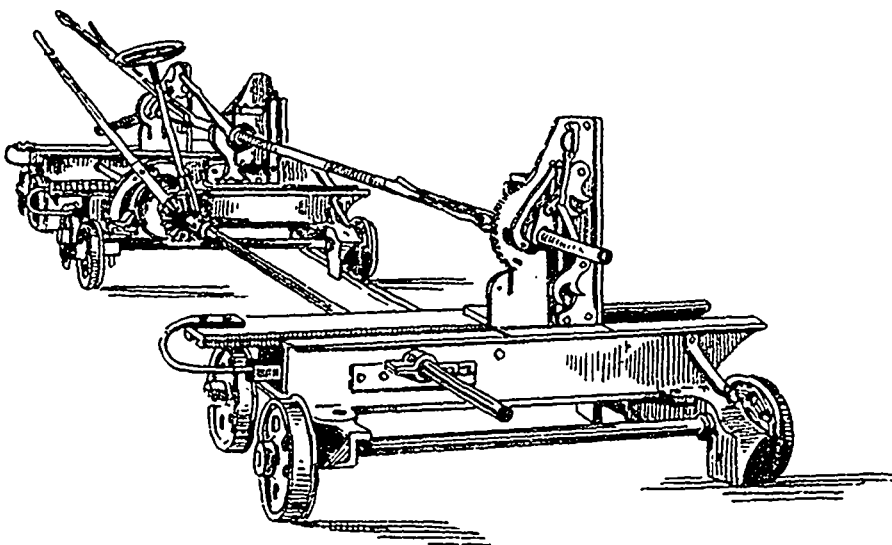


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The Dodge Wood Split Pulley is perfectly balanced.

This is but one of its strong points, however—its light—about one-third the weight of an iron pulley; it fastens to the shaft with ease and at any point along the line that you want it, without the necessity of taking any shafting down.

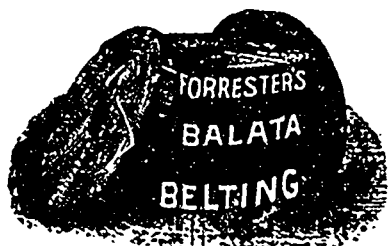
Then too, it fastens absolutely secure—and there are no set screws to throw your shaft out of line.

Then again the work of your boiler and engine is lightened, for equipped with Dodge Wood Split Pulleys, you carry only one-third the weight on your line as with iron pulleys.

If you are interested in reduced costs for power transmission, you'd better investigate the unnecessary outlay for coal you are now subjected to, by carrying 200 per cent. more weight on your shafting in iron pulleys than is necessary, when you use Dodge Wood Split Pulleys.

The Dodge System of Rope Transmission will solve many perplexing problems, if you have a large power used, and your plant covers an extensive area.

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THE CANADA LUMBERMAN

VOLUME XXIII.
NUMBER 4

TORONTO, CANADA, APRIL, 1903

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CANADIAN FORESTRY ASSOCIATION

Synopsis of the Proceedings of the Fourth Annual Convention at Ottawa.—Interesting Discussion on Methods of Protecting the Forests from Fire—Deliberations on Forestry Education and Other Pertinent Subjects.

THE Canadian Forestry Association opened its fourth annual meeting in the Council Chamber of the City Hall, Ottawa, on Thursday, March 5th. Considering that Parliament was not in session, the attendance was large. Mr. William Little, of Westmount, president of the Association, occupied the chair, and among others present were the following:

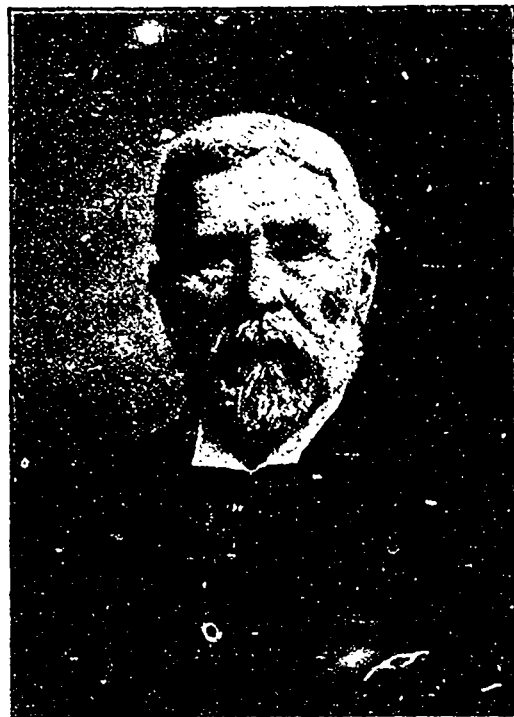
Hiram Robinson, Ottawa, Vice-President; E. Stewart, Ottawa, Secretary; R. H. Campbell, Ottawa, Assistant Secretary and Treasurer; Aubrey White, Deputy Commissioner of Crown Lands, Toronto; Thos. Southworth, Ontario Director of Forestry, Toronto; Professor E. C. Jeffrey, Harvard University; Professor Macoun, Geological Survey, Ottawa; Hon. J. K. Ward, Montreal; Geo. McCuaig, Superintendent of Forest Rangers, Bryson, Que.; N. E. Cormier, Superintendent of Forest Rangers, Aylmer, Que.; Dr. Saunders, Director of Experimental Farms, Ottawa; George Johnson, Dominion Statistician, Ottawa; J. B. McWilliams, Superintendent of Ontario Forests, Peterboro; His Worship F. C. Gendron, Mayor of Hull, Que.; Dr. Phinney, of Fish and Game Association; A. Knetchel, Forester New York State Forest, Fish and Game Commission, Albany; T. S. Young, CANADA LUMBERMAN, Toronto; Professor J. H. Faull, Toronto; Professor Goodwin, G. Y. Crown and A. P. Knight, Queen's University, Kingston; R. T. Pinkerton, Westmount; E. G. Joly de Lotbiniere, Quebec; Henry Robertson, Collingwood; C. Rankin, Mattawa; W. C. Caldwell, M.P.P., Lanark; Colonel J. A. McRae, Guelph; Sir Sandford Fleming, George Simpson, Robert Gorman, Norman M. Ross, J. R. Booth, G. B. Reid, T. King, R. B. Dowling, Sir James Grant, J. B. Frazer, J. C. Clute, A. Blue, A. M. Campbell, F. W. Cowie, Dr. A. Harold Unwin, C. Jackson Booth, E. J. Darby, A. F. McIntyre, Otto J. Klotz, Professor Shutt, and William Ide, Ottawa.

After the reading of the minutes a telegram was read from Hon. H. G. Joly de Lotbiniere, of Victoria, B.C., conveying his best wishes for the success of the meeting. Letters regretting their inability to attend were read from Rev. Father Burke, of Prince Edward Island, and Colonel Warne, of Vancouver.

PRESIDENT'S ADDRESS.

The theme of the President's address was the rapid depletion of the white pine forests of

the United States and Canada. Through Mr. Charles T. Sargent, Professor of Arboriculture at Howard University, the American people obtained the first authentic information of the conditions of forests of the United States. This was in connection with the census of 1880. The president believed it would have been worth millions of dollars to the Dominion if the Canadian Government had followed the example of the United States and ascertained if we had so



MR. HIRAM ROBINSON,
President Canadian Forestry Association.

great a supply of valuable timber that we could afford to sacrifice it in the reckless manner we have. According to the United States census report of 1900, the stock of white pine then remaining did not exceed fifty billion feet, and the cut since that time has been twenty billion feet, leaving the supply only thirty billion feet, which is less than the amount of all kinds of lumber sawn in the single census year of 1900, namely, thirty-five billion feet. The present remaining supply of eastern white pine timber in the United States, therefore, would not furnish one year's stock for the existing saw-mills. The Northern States are drawing largely on the South and West for lumber, since the Southern and Pacific States, which in 1880 produced timber to the value of \$50,000,000

exceeded this amount in 1900 by \$200,000,000. The yellow pine of the South, in 1880 not generally known or much used in the North, produced in 1900 10,603,000,000 feet b. m., as compared with white pine 7,483,000,000 feet; hemlock, 3,420,000,000; spruce, 1,448,000,000 feet, which last was exceeded by the red fir, 1,736,000,000 feet—the Southern pine and Western fir almost exactly equalling the cut of white pine, hemlock and spruce, the former being 12,339,000,000 feet and the latter 12,351,000,000 feet. It is but reasonable, therefore, to assume that the pitch pine of the South to-day exceeds the whole output of pine, hemlock and spruce of the North.

It was a belief in the accuracy of the statements made in Professor Sargent's report that induced the Forestry Association of Quebec to memorialize the Dominion Government to grant a Parliamentary inquiry into the conditions of the forests of the country, especially the white pine. "I will not," said the President in conclusion, "attempt to say what amount of good white pine in my opinion exists in our Canadian forests, but of this I feel confident, that if the present indifference continues and the inquiry they asked for be delayed for many years more, the condition of our Canadian white pine forests may be stated in very similar terms to the school boy's essay on snakes in Ireland. He said: 'There are no snakes in Ireland.' We may be able to say, 'There are no white pine forests in Canada.'"

The manner in which the address was received indicated the strong sentiment of the meeting in favor of taking very effective measures to preserve the forests.

REPORT OF BOARD OF DIRECTORS.

Mr. Stewart submitted the report of the Board of Directors. It showed the membership to be 400, an increase of 33 over the previous year and divided as follows: Ontario, 128; Quebec, 54; Nova Scotia, 10; New Brunswick, 10; Manitoba, 78; Alberta, 61; Assiniboia, 15; Saskatchewan, 4; British Columbia, 17; Prince Edward Island, 1; Yukon, 1; United States, 17; England, 3; Germany, 1. The revenue for the year was \$580.17, and the expenditure \$474.02. The following abstracts are taken from the report:

If the Association is to have that expansion which will ensure its success and is to reach those whom it wishes to influence, it is clear that its work must be developed on larger and broader lines than those which up to the present time have been possible of adoption. It is desirable that meetings should be held in different parts of the Dominion and that the officers of the Association should in this and other ways have the opportunity of coming into more direct contact with those who might be induced to give their assistance so that the Association may be established on a firm and broad basis both in numbers and influence. This question is worthy the fullest consideration by the members of this Association.

Owing to the wet summer throughout the whole of Canada east of the Rocky Mountains forest fires have fortunately not been numerous or destructive. Those which did occur during the earlier and drier part of the season show that the danger is still ever present and

that no relaxation can be permitted in the efforts to maintain and increase the effectiveness of the fire preventive service. This is strongly emphasized by the loss that has occurred in the Western United States, particularly Oregon and Washington, where half a million acres were fire swept and the loss totalled up to about twelve million dollars. Contrasted with this the prevention work done in the Railway Belt in British Columbia, part of it contiguous to the burned area in Washington State, with a comparatively small staff, is a subject for congratulation.

Advance in British Columbia is marked by the adoption by the Legislature of the penalty clause of the Bush Fire Act as suggested by this Association and the setting apart of Long Lake timber reserve and Yoho Park in the Railway Belt, the latter of which with the Rocky Mountains Park of Canada on the eastern slope of the Rocky Mountains, which has been extended to include an approximate area of 2,880,000 acres, form one of the most magnificent forest parks in the world and one of which Canadians may well be proud.

The setting apart of forest reserves is a decided step forward, but the question of their administration is one that is far from being finally determined. The Province of Ontario during the past year formulated regulations for the administration of its reserves, but these regulations did not deal with the cutting of timber for lumber purposes, and it seems advisable that this subject should be fully discussed by this Association in order that the Government may be assisted in determining the proper policy to be pursued.

At the last session of the Legislature of Quebec a Commission was appointed to enquire into Forestry and Colonization. Unfortunately through uncontrollable causes this Commission became disorganized and it has been necessary to reconstruct it. It is sincerely to be hoped that a fair and thorough examination on the lines laid down for this Commission will be made by the Province of Quebec, for in the proper adjustment of the relations of these two interests lies one of the most important problems that the Province has to face and one which will have a far-reaching influence on its future prosperity.

In the Province of New Brunswick an Act has been passed authorizing the setting apart of a Forest Park, but its location has not as yet been determined.

In the Province of Nova Scotia information is being gathered as to the forest lands under control of the Crown, and it is altogether probable that some important advance in the administration of Crown Lands will be made in the near future.

The work of cooperation with the farmers in forest tree culture on the treeless prairies of Manitoba and the North-West Territories which was started a couple of years ago by the Department of the Interior is now assuming large proportions, and promises to prove very successful. Besides about 700 pounds of maple and ash seed there will be distributed this spring over 600,000 trees to 827 farmers. This gives an average of over 1400 trees to each farmer, and the applications received from those desiring to have their farms visited by the supervisors next season with a view of obtaining trees the next spring are more than double that number.

The total distribution when this spring's supply is finished will be 1,424,800 trees and 1400 pounds of maple and ash seed. The reports received from the supervisors of the condition of the trees planted in the spring of 1901 and 1902 were very satisfactory both in the Province and in the Territories.

The report of the Board of Directors was referred to the Committee on Resolutions, composed of Messrs. Hiram Robinson, Thomas Southworth, Dr. Saunders, Professor Macoun, E. Stewart, R. H. Campbell and George Johnson. The report of the treasurer, then presented, was referred to the auditors.

Mr. R. H. Campbell gave notice of motion to change the date of the annual meeting from the first to the second Thursday in March.

The following paper on the "Forests of New Brunswick" was then submitted:

The Forests of New Brunswick.

By HON J B SNOWBALL

The subject given me to deal with is Forestry in New Brunswick. In forestry proper there is nothing whatever being done in the Province, beyond the work of a few wood rangers, whose duties it is during two or three summer months to protect the forest from fires, or rather to prevent settlers from burning their newly cleared land in these the most dangerous months for fires.

Such fires on several occasions have been very destructive. The Saxby gale (known as such), which occurred in October, 1869, swept across the province from south-west to north-east, and blew down a section of well timbered forest on the tributaries of the South-west Miramichi river forty to fifty miles long by fifteen miles wide. The following year fire got into it, and the whole district was burned over. For some reason this district has been unfortunate, as it has again been burned over since 1870 and the fire attributed to carelessness of settlers. Spots were missed by the blow-down and subsequent fires, these spots being mostly hardwood ridges. The lumber blown down consisted largely of rough pine, and was all on Crown Lands. The loss to the province and the district of this large section, over seven hundred square miles, is not less than a quarter of a million dollars annually, and the loss must continue unless some system of reforestation and better protection is adopted.

All woods natural to our soil are manufactured and utilized for export. There is very little hardwood square timber exported from this province. This wood is now mostly sawn into deals, furniture squares or spool-wood squares and shipped in contract sizes. The cedar is manufactured into shingles, and exported largely to the United States. There is very little pulp wood shipped. It is manufactured within the province and shipped as pulp. The export value of the above commodities, including spruce and pine deals, is estimated to amount to ten million dollars per annum.

There are different computations by various authorities on the area of the Province of New Brunswick, but it may be stated at 28,200 square miles; or a little over 18,000,000 acres. About two-thirds of this, or 12,000,000 acres, is forest lands. Of this forest area about 60 per cent. is estimated as spruce land; 10 per cent. pine; 5 per cent. hemlock; 5 per cent. cedar, and 20 per cent. hardwoods, which latter consist principally of birch, beech, ash and maple.

For comparison I would repeat. New Brunswick has 12,000,000 acres of forest lands, or 18,750 square miles; Norway 16 Sweden 58,000,000 square acres of forest lands, or 90,625 square miles; Russia in Europe 527,427,000 acres of forest lands or 814,104 square miles; Europe 687,000,000 acres of forest lands, or 1,073,000 square miles. 42 per cent. of Russia in Europe is under forest; 40 per cent. of Sweden in Europe is under forest; 24 per cent. of Prussia in Europe is under forest; 22 per cent. of Norway in Europe is under forest; 32 per cent. of Austria in Europe is under forest; 16 per cent. of France in Europe is under forest.

Every country of Europe has a large area of forest lands excepting Great Britain, which has less than 4 per cent. All these countries are seeking more or less legislation looking to the protection of their forests and the replanting of their denuded areas. Germany has taken the lead in wise forestry administration, and most of the other European countries have established forestry academies and now conservation of wood lands occupies prominent and studious attention.

The area of New Brunswick inland waters, including rivers and lakes, is about four hundred square miles, and the salmon, trout and other fishing on these waters is said to be equal to the best in the world. The forest lands of the province also cover one of the best game regions in North America, considered from the sportsman's point of accessibility from railways. Trappers also find New Brunswick forests rich in fur-bearing animals.

Persons desirous of settling on the Crown Lands of the Province, whether they are immigrants or residents, may acquire grants thereof, either under the Labor Act or by cash purchase. Under the Labor Act one hundred acres may be obtained by the performance of thirty dollars worth of work on the roads, or a payment

of twenty dollars cash in lieu thereof, the clearing and cultivation of ten acres of land, the building of a habitable house 16 feet by feet, and the continuous residing therein for three years. The words "continuous residing" are liberally construed, and under the law the settler may be absent from his holding for certain months in the year to enable him to engage in wage-earning occupations.

Mr. Campbell read a paper on Forestry Conditions in Nova Scotia, of which the following is an abstract:

Conditions of Lumbering and Forestry in Western Nova Scotia.

By F C WHITMAN

The writer outlined the conditions of forestry and settlement in Western Nova Scotia, and particularly in the Annapolis Valley. The forest growth in this district, discovered in 1505, was so dense that it was over 200 years before any roads were cut through it. The first trading was with the New England States, but exports of wood were very limited, then later a trading interest was developed with the West Indies and lumber was exchanged for sweets. The export to the West Indies still continues, and as the markets developed the cutting of the forests became general. To-day the forests are well nigh depleted, and within the past year Provincial operators have gone north to Newfoundland and Labrador.

When cutting first began spruce, hemlock and hardwoods were scarcely touched; it began on the white pine until to-day it is commercially gone. The cutting of the spruce followed and is still going on at the rate of 1000,000,000 feet annually in this district. The pulp mills are eating up the small growth, and the saw mills cut from 1 inch by 2 inch up. There has been for many years past a very large export to South America of 1 inch by 3 inch and up, 2 inch by 3 inch and up, which also takes small and young growth wood. These South American orders call for a proportion of 12 inch wide stock, and great difficulty is now found to secure the proper proportion. The character of the cut of wood, and the increasing value of spruce lumber is tending toward absolute denudation. I believe that it is opportune to undertake a movement in the study of forestry and that an appeal to the people in the interests of the country would lead to a betterment before it is too late. The foot hills and the vast interior, although no longer a forest primeval, will always be more suitable for wood growth than for any other purpose.

The standing timber in the order of commercial value would be as follows:

White Pine - Nearly all cut, young growth scattering.
Spruce - Old growth confined to holdings of large operators, and in scattering bodies on farm lots, or remote sections. Young growth luxuriant everywhere, and will come to a size fit for commercial purposes in 30 years from breaking ground.

Hemlock - Abundant in many sections, now being cut where easily accessible, largely used for railway ties. Bark wasted.

Fir - Trees die early, much affected by insects. Used for cooperage.

Poplar - Quick growth but sound stock small in size, scattered through low lands or hillsides along streams. Used for pulp and staves.

Elm and Cedar - None.

Birch, White - Abundant.

Birch, Yellow - Abundant.

Birch, Redheart - Scarce.

Maple - Rock and softer kinds abundant, scattering bird's eye.

Beech - Abundant.

Oak - Scattering growth according to elevation, mostly red oak, coarse open grain. Used for car building.

Ash - Very scattering, kept under by basket and hoop makers.

All the hardwood grows mixed and would only pay to cut as it runs.

White pine was largely used for ship-building, the butt was often used and the top wasted, as can be seen in nearby woods to-day. Spruce and all the hardwoods are now used for shipbuilding, and the fishing fleet annually takes a very large quantity. It will be noted

particularly that a northerly slope produces the better timber, having a brighter foliage and a heavier growth. Where the timber has been cut away on a southerly slope, and fires have occurred, the soil has lost its fertility, and the new growth is very sparse.

In many instances so unsatisfactory do the conditions appear that it might be considered waste land. As an instance of growth, in going to a favorite fishing pool in September, the writer in going along a well-trodden path had to step aside to pass a young poplar that had sprung up and had grown over eight feet in that one season. There were no signs of this tree on the same path in the spring. In 1902 a graft of Russett apple, considered to be the slowest grower of any of the fruit trees, grew from May to October 6 feet 8 inches. It was grafted on wild stock. Lumbermen who have been careful to cut spruce not less than 14 inches at the stump say that it will give them a cut every ten years, and the second cut will be better than the first. In Cumberland County, at the head of the Bay of Fundy, the growth is more vigorous, and they can cut every seven years. Two hundred to 2500 acres will produce a paying annual cut, and the value of the whole be maintained with systematic cutting. One reason for this is that the Western Nova Scotia forest area is overgrown in the number of trees, and the soil cannot support the growth unless thinned out. Both hardwood and spruce have an early maturity, and once past that point rapidly deteriorate. The soil is not rich and in many places does not retain sufficient moisture to keep the elder growth.

The country named is not subject to violent wind storms, and little damage is done by winds except to hardwood on exposed hills. There is an impression that the annual fall of rain or snow is decreasing, but the lack of sufficient water for driving logs, and the disastrous spring floods, may possibly be traced to the clearing out of timber along the water courses, so that snows melt rapidly in the spring and the land does not hold the moisture that it did in early years.

Professor Macoun said that the conditions in Nova Scotia were just an epitome of the destruction that is going on in every province of the Dominion. He was in favor of timber lands passing into the hands of private individuals, because the Governments of some of the provinces did not seem disposed to properly guard them. Ontario was doing much more than any other province.

Mr. G. Y. Chown was not in favor of private ownership of the forests. Professor Fernow, he said, contends that the individual cannot properly do forestry work, the returns being too slow. A large corporation may have immense wealth, but the private individual is anxious to obtain a proper return for his investment. We must, therefore, look to the governments and force them to protect the forests and reserve them for the people.

Mr. Thomas Southworth said that the original steps towards the protection of the forests had come from the government officials.

Mr. E. G. Joly de Lotbiniere maintained that the government fire ranging system was not sufficient. Private owners should have fire rangers of their own so as to provide some system of protection in addition to the government service. Mr. Joly told of the measures adopted to protect his property in the province of Quebec. On a section of twelve miles he kept two gangs of men, each gang provided with railway velocipedes, shovels, buckets, etc. These men had extinguished a large number of fires, and the parties owning adjoining property had adopted the same policy.

Mr. Aubrey White said that in Ontario the limit holder was not taxed so much per mile for fire ranging. He was asked to state how many rangers he would require and told to

select them, the government and the limit holder paying an equal share of the cost. He did not think there was any reason why fires should always follow railway construction, as Mr. Joly contended. With the construction of the Canada Atlantic Railway rangers were placed along the line and the necessary precautions taken, with the result that there were no fires.

Mr. Joly held that the danger arose after the railway was constructed.

Mr. George McCuaig said that the province of a ranger was to put out a fire in its incipient state. When a fire had obtained a good start it was almost impossible to extinguish it. The Quebec system worked satisfactorily, but he thought it might be extended by securing co-operation between the government on one hand and municipal authorities on the other. Municipal officers could do much good by looking after settlers who carelessly set out fires.

THE FIRE RANGING SYSTEM OF ONTARIO.

Following the reading of a paper on "Forest Fires," by Mr. W. A. Hendry, of Halifax, an address on the fire ranging system of Ontario was given by Mr. Aubrey White. Mr. White outlined the first steps that were taken to provide for the preservation of forests from destruction by fire. He then took up the appointment of the fire rangers and the manner in which they were chosen. The department had always impressed upon the rangers the necessity of not antagonizing the settler. The results of the fire ranging system in Ontario were detailed as follows:

In 1885 37 rangers were employed, at a cost of \$7,911. A number of fires were extinguished and the general effect of the system was good.

In 1886 45 rangers were employed, at a cost \$9,847. There was no trouble or friction with settlers. A large fire occurred on the Bonnechere river, although the quantity of timber damaged was not so large as supposed.

In 1887 55 rangers were employed, at a cost of \$15,000. This was the driest season on record. Day and night rangers fought with fire and called out assistance. As many as one hundred men, in addition to the regular staff, were employed. Settlers co-operated with rangers. The licensees were supplied with information as to the burned timber, which was taken out before the borers got into it. The number of fires reported was 110, and the timber damaged 200,000,000 feet, the loss being \$70,000. The licensees asked that limit holders be compelled to place rangers on their property. The causes of fires were settlers clearing land and setting out fires in dry season and high winds; river drivers making fires and not extinguishing them before leaving; locomotive sparks; hunters and fishermen using fire carelessly. In this year the system of having ranging on Crown lands was first adopted.

In 1888 70 rangers were employed, at a cost of \$17,854. Seventy fires were reported and 100,000,000 feet of timber damaged, 15,000,000 feet of which was a total loss. The main cause was carelessness of settlers.

There were 75 rangers employed in 1889 at a cost of \$15,468. Few fires occurred and all timber damaged was cut.

In 1890 there were 83 rangers, which cost \$17,525, and no fires.

In 1891 98 rangers cost \$20,053. This was a dry season and several fires occurred on Crown and licensed lands. Of 100,000,000 feet of timber destroyed, 95,000,000 was on Crown lands. The damage was \$60,000.

There were 80 rangers employed in 1892, at a cost of \$18,362. Being a wet season, there were no fires.

In 1893 there was a staff of 106 rangers, which cost \$19,831. There were several fires but no serious loss.

In 1894 108 rangers were employed, at a cost of \$20,276. There were no fires in the east, but in the west where no rangers were employed and there were extensive explorations for minerals, etc., several fires caused considerable damage. Owing to the slackness of demand the timber was not cut.

The season of 1895 was very dry; 117 rangers were employed, at a cost of \$26,253. The timber damaged was 46½ million feet, including some pine on Crown lands in the township of Grant.

In 1896 there was a staff of 160 rangers, which cost \$47,719. Fires on licensed lands were mostly suppressed, but there were three fires on Crown lands near Wahnapiatae and Biscotasing, 65,000,000 feet of timber being damaged, all of which was sold.

A staff of 179 rangers was employed in 1897, costing \$49,926. No fires occurred.

In 1898 195 rangers were employed on licensed territory and 11 on Crown lands, the former costing \$53,498. There were a few unimportant fires.

In 1899 190 rangers on licensed territory cost \$46,150. On Crown lands there were twelve rangers. A fire occurred in the townships of Howell, Foy and Harty, all the destroyed timber being sold.

On licensed territory 185 rangers were employed in 1900, at a cost of \$53,970. There were twelve rangers employed on Crown lands. Ninety fires were extinguished, including one in Dana township.

In 1901 there were 236 rangers employed on licensed territory, at a cost of \$60,132, and 10 men on Crown lands. In the Rainy River and Thunder Bay districts the rainfall was heavy, but in the east the season was dry. Early in July there was a serious fire in the Temiscaming district, said to have been caused by smouldering brush heaps left by settlers. Not much pine was damaged, but a quantity of spruce and other soft woods.

In 1902 234 rangers on licensed territory cost \$68,400. There were forty fires and 10,000,000 feet of timber damaged.

Mr. White said that in no case had the Government received a complaint from a licensee as to the fire-ranging system.

Mr. J. R. Booth said that the Ontario Government measures had saved millions of dollars' worth of timber. He urged that the Government enforce the regulations in every possible way and keep settlers out of districts where there is only a small tract of agricultural land. He thought some of the officers had been too lenient in this respect in the past.

Mr. Stewart thought that the government should take up the exploration of the country with a view to ascertaining what land should

be opened for settlement and what kept as forest reserves.

Mr. A. Knetchel, forester to the Forest, Fish and Game Commission of New York State, complimented the Government and the Association on the success in reducing the fire loss and told of the system in vogue in New York State.

Mr. Joly again referred to the number of fires started by locomotives. In a stretch of six miles he had proven that the Intercolonial Railway engine had set fire in five places. Four of these fires, according to the evidence submitted at an investigation granted by the Government, were extinguished by Mr. Joly's own men, but the fifth was too far advanced to be conquered. He maintained that the engines are not properly inspected and contended that it should not be left to the railway authorities to say whether their engines were provided with proper apparatus to protect the forest from fire. If precautionary measures were taken nearly all the fires caused by railways would be prevented.

Mr. Chown thought the Government should put on more fire rangers on Crown lands and that there should be a still more effective manner of controlling the fire system.

This brought up the question of the competency of fire rangers. Mr. McCuaig stated that in the province of Quebec a ranger was compelled to show that he was qualified for the position from every point of view. As to settlement, he contended that no man should be allowed to locate in a section where there were only one or two farms.

THE FOREST FIRES OF 1902.

A report on the forest fires which occurred throughout the Dominion in the year 1902 was submitted on behalf of the Association by Mr. R. H. Campbell. In Nova Scotia the area burned over was greater than in 1901, but a considerable portion was not at the time good timber land. The area probably exceeded 25,000 acres, and the loss was between \$100,000 and \$200,000.

In New Brunswick the summer of 1902 was wet and comparatively little damage to the forests was done. The only fire of any account occurred in the county of Kent.

The Province of Quebec escaped without serious loss owing mainly to the wetness of the season, as many fires were started. In the Upper Ottawa district there were eight fires that were sufficiently serious to require an expenditure of about \$900 for extinguishment. Three of these fires were caused by locomotive engines, three by carelessness on the part of river drivers, and others by settlers and lightning. The rangers employed in this district were 29 regular and 21 special. The holders of timber licenses urge an addition to the number of fire rangers and the Superintendent suggests an increase of five. In Fire District No. 2 there were 79 fires reported, 47 of which occurred in May, 15 in June, one in July, 10 in August and 6 in September.

Six specific instances were reported by one ranger in which fires were set out by settlers in contravention of the Statute. The number of fire rangers in this district was twenty-two, and they had to patrol and safeguard a tract of 17,824 square miles. In the Gatineau District the average area for each ranger was 360 square miles, on the Lower Ottawa 585 square miles, and in the St. Maurice Agency 1316 square miles. The total amount expended in the province for the protection of the forests from fire was \$17,000 but the fire tax brought in the sum of \$7,306, leaving the net expenditure \$9,694.

Most of the particulars regarding the fires in Ontario have already been given, and no serious fires occurred in Manitoba and the Northwest Territories.

Several fires occurred in British Columbia, where the season was exceptionally dry. One of these started on Mr. Wells' timber berth on the Beaversfoot river, where about 1,000,000 feet of timber was destroyed. The fire was confined to the worked-over portion of the limits. In the Boundary district several fires are said to have started from prospectors' smudges.

In the evening an illustrated lecture was given in the Normal School by Professor E. C. Jeffrey, of Harvard University, on "Forest Trees and Their Uses." Hon. Clifford Sifton presided, and in introducing the lecturer dwelt upon the manner in which the forestry subject had been neglected in proportion to its importance to Canadian people. Professor Jeffrey, who is a Canadian by birth and education, advocated that none but scientific experts be

placed in charge of forestry work. The Canadian pine, he said, was one of the most valuable timbers in the world, as it was of the greatest practical utility for general purposes. He outlined the characteristics of different woods, giving reasons why some are strong and some are weak. The lecture was illustrated by stereoptican views.

SECOND DAY.

Resuming on Friday morning, the first business was a paper on "Tree Planting in Manitoba," by Mr. A. P. Stevenson, of Nelson, Man. This was followed by a paper on "The Growth of Forest Trees in the Forest Belts and Arboretum of the Experimental Farm," by Mr. W. T. Macoun, horticulturist. An abstract of this paper will appear in a later issue.

The paper brought up a discussion as to the methods of planting trees. Mr. Norman M. Ross explained the system adopted in Manitoba and the Territories, and Mr. Knechtel gave some particulars of the reserves in New York state. He had ascertained that two men could plant 1,600 trees per day. With an appropriation of \$4,000 a nursery had been made in the Catskills for half a million seedlings and some money was left. The average cost was about half a cent a tree. Replying to a question as to the percentage of the trees still living, he said that last spring, in a plantation of 5,000 trees, 97 per cent. of spruce, 80 per cent. of white pine, and 95 per cent. of Scotch pine were found in good condition. Scotch pine showed most rapid growth, namely, nine inches in about nine months.

Colonel McRae, of Guelph, said he, too, had found the Scotch pine to make the most rapid progress. He asked Mr. Knechtel whether it was advisable in a plantation to remove the dead branches, to which the latter replied in the affirmative, adding that with pine trees he would apply a coating of lead paint.

Mr. Hiram Robinson brought up the question whether by removing a dead branch it would be possible to obtain more clear lumber than if the branch were permitted to remain in the tree.

Mr. Joly thought that as long as the branch remained, the tree would continue to develop the knot. Coniferous trees should be carefully trimmed, but with hardwoods he would let Nature do her own trimming.

Mr. Ross said that in the Scotch pine forests of Germany it was the custom to go through them when about twenty years old and prune such trees as had made the most satisfactory progress.

At the afternoon session the secretary read a paper on "Forest Protection in the Railway Belt of British Columbia", by James Leamy, Crown Timber Agent, New Westminster. An address on "Forestry Education" was given by Professor W. L. Goodwin, Queen's University, Kingston. Prefacing his remarks by reference to the gradually declining timber supply and the increase in the value of timber lands, Professor Goodwin reached the question "Will Forestry Pay?" That it paid in the long run there could, in his opinion, be no question. The 35,000,000 acres of German State forests produced a net revenue of \$1.80 an acre, equal to a net annual income of \$63,000,000; and both capital and income are increasing. This is after some 150 years of forestry management, but the records show that the State forests have yielded a fair income from the start. When in Kingston recently, Dr. Fernow told of German municipalities which paid all taxes and even declared a dividend from the profits of their carefully managed forests. The large profits of the present Canadian system represented for the most part capital being eaten up, as our forests are rapidly decreasing. Forestry education was very essential in order that we might

work into a system of forestry suitable to Canadian people and Canadian conditions. Professor Goodwin then reviewed what had already been done in Canada along the line of forestry education. Recent steps included the engagement of Dr. Fernow to lecture to the students of Queen's University in January, 1901, followed by a course of lectures in January and February of this year. One result of these lectures, the speaker said, had been to determine several students to make forestry their profession; and the Board of Governors of Queen's University had decided to go forward next session as far as circumstances will permit to make provision for a forestry course.

Dr. Unwin spoke of forestry education in Europe, where he graduated. In Germany the forestry course was seven years, but he would not advocate such a lengthy term in this country.

An interesting address was given by Professor A. P. Knight, of Kingston, on "The Effect on Fish Life of Sawdust in Rivers." His observations and experiments, he said, had been confined to the Ottawa and Bonnechere rivers. He believed that no healthy fish had ever been killed by the discharge of sawdust into these streams. His view was supported by Professor Prince, of the Dominion Fisheries, but refuted by Dr. Bastedo, of the Ontario Fisheries. Personally conducted experiments showed that from fifty to eighty per cent. of the different kinds of sawdust thrown into streams sank in from three to five minutes. Owing to the late hour there was very little discussion on the paper, which was pronounced a most valuable one.

A motion was then introduced by Mr. Campbell changing the date of the annual meeting to the second Thursday in March, which was carried unanimously. This will avoid a clash with the annual meeting of the Canadian Mining Institute.

It was decided to hold the next annual meeting in Toronto.

Mr. Joly submitted a resolution calling upon the Government to increase the number of fire rangers throughout the provinces and to explore the unsettled portions of the country more fully and to prepare maps showing those portions of the country fitted for settlement and those entirely unsuited for this purpose yet good for timber growing. The resolution referred to the advanced steps that had been taken towards forestry protection by the Ontario Government and was carried unanimously.

ELECTION OF OFFICERS.

The election of officers for the ensuing year resulted as follows:

Patron, His Excellency the Governor General; Hon. President, W. Little, Westmount; President, Hiram Robinson, Ottawa; Vice-President, Aubrey White, Toronto; Board of Directors, Dr. Saunders, Prof. Macoun, J. R. Booth, C. Jackson Booth, Ottawa; E. G. Joly de Lotbiniere, Quebec; Thos. Southworth and John Bertram, Toronto; Secretary, E. Stewart, Ottawa; Assistant Secretary and Treasurer, R. H. Campbell, Ottawa. Vice-Presidents of the provinces: Ontario, J. B. McWilliams, Peterborough; Quebec, Hon. E. F. Caron; New Brunswick, The Lt.-Governor; Nova Scotia, A. H. McKay; Prince Edward Island, Rev. Father Burke, Alberton; Manitoba, Major Stewart, Winnipeg; Assiniboia, J. F. Dennis; Saskatchewan, P. L. Laurie; Alberta, Wm. Pierce; Arthabaska, F. B. Wilson, Fort Vermillion; British Columbia, Hewitt Bostock; Yukon, The Commissioner; Keewatin, The Lieut. Governor of Manitoba.

The passing of votes of thanks to the railway companies, the City Council, the Secretary and Treasurer of the Association, and the Press, concluded the business of the convention.

INCORPORATION OF JOHN FENDERSON & COMPANY.

A few months ago a Quebec charter was granted to John Fenderson & Company, who have for a number of years been among the foremost manufacturers of New Brunswick cedar shingles. Their product, manufactured by three mills owned by the company along the line of the Intercolonial Railroad in Quebec, is largely marketed in the Eastern States, where their well-known brand commands the top figure.

The business of John Fenderson & Company

England. The company owns a tract of 55,000 acres of cedar and spruce timber, all of which can be brought down the St. Pierre to the mill, the farthest point from the mill to the extreme edge of the timber tract being less than fifty miles. At a point twenty-five miles east of Sayabec the company recently completed a new mill at Salmon Lake. This plant is in practically every respect a duplicate of the one at Sayabec, the single exception being that six shingle machines are operated at this

pared at the present time to load shingles and ship them from the mill within forty-eight hours from the receipt of the order, a feature which is appreciated by many buyers.

The entire product of these mills is marketed by the A. C. Dutton Lumber Company, of Springfield, Mass., and includes shingles, spruce boards, scantling, plank and one and one-half-inch lath. The A. C. Dutton Lumber Company is one of the strong wholesale houses in Western New England, of which Arthur C. Dutton is the president and T. D. Potter treasurer.

TRADE NOTES.

The M. Garland Company, manufacturers of general saw mill machinery at Bay City, Mich., have just shipped a second car of saw mill machinery to Revelstoke, British Columbia, including a special gang edger. One side of this machine is a regular Garland three saw edger, and the other side is a gang of ten saws, set 1-inch apart with separate feed rolls so that a cant 6"x12" can be run through the machine and made into 6" strips at one operation. By special collars this gang can be changed to a five saw gang to make 2x4 and 2x6 from the cant.

The M. Garland Company, of Bay City, Mich., are building an 8-inch spring tension band mill with special guide which is raised and lowered by friction, the lever being conveniently located and operated with the greatest ease. This band mill has many other features of merit, notable among which is the spring tension, which is a system of cushions and weights so arranged that a hard ball of sawdust may be thrown between the saw and wheel without injury to the saw or parts. This band mill will be installed in the Sprague mill at Kingman, Maine. This mill will have a large capacity, as it is strongly built and perfectly balanced. The band wheel shafts are extra large, this being a notable feature with all the band mills built by the M. Garland Company.

The Lumber Underwriters, of 66 Broadway, New York, have gradually extended and increased the lines which they are able to accept on lumber risks. As will be seen by their advertisement on another page of this issue, they are now able to accept a line of \$40,000 on a single detached unexposed lumber yard. This large



SAW AND SHINGLE MILLS OF JOHN FENDERSON & COMPANY, SAYABEC, P. Q.

has been in operation eight years, having been started in 1895. The stock is principally owned by Mr. John Fenderson, formerly of Oswego, N. Y., and Mr. Arthur C. Dutton, president of the A. C. Dutton Lumber Company, of Springfield, Mass. The president of the new corporation is Mr. John Fenderson, a gentleman who has devoted the last forty-five years of his life to the operating of lumbering plants. His son, Mr. Chas. Fenderson, is vice-president and manager of the company's mills at Sayabec, P. Q. The secretary and treasurer of the company is Mr. Arthur C. Dutton, of Springfield, who handles the finances and the sales department of the business. Mr. Mase Fenderson, a brother of the president, is superintendent of the mill at Red River, which is operated only during the winter months, and of the Salmon Lake mill, which is exclusively a summer plant.

Illustrations of the mill and yard at Sayabec are presented on this page, and will give the reader a fairly clear idea of the extent of the company's plant at that point. It is located on the Intercolonial Railway and on the St. Pierre River, and is a model plant in every respect, having been constructed in 1897. It includes a circular saw-mill of 30,000 feet per day capacity and eight shingle mills, capable of turning out 35,000,000 shingles per year. Included in the equipment is a lath mill and a heavy planer and matcher for dressing the spruce boards and scantling. The company also operates a general store at this point.

The saw-mill is operated days only, while day and night crews handle the shingle mill. A siding from the railroad runs directly to the sheds and shingle piles in the mill yard, and the Intercolonial road furnishes an excellent outlet for the product to all points in New

point instead of eight, as at Sayabec. Its capacity is about 25,000,000 shingles per year and 30,000 feet of lumber per day. A third mill is operated by the company during the winter months at Red River, twelve miles west of Sayabec, where four machines are operated night and day.

All of these mills are equipped with modern appliances for turning out a perfect pro-

duct, and are lighted throughout by electricity. The company makes a leading specialty of its ability to furnish shingles at all times for immediate shipment, care being taken not to sell ahead of the saws, and during the past year when the lumber business in many sections of the country was practically paralyzed by the car shortage, this company at all times found it possible to secure cars enough to move its product as fast as wanted, and they are pre-

line is only made possible by the large amount of reinsurance which the Lumber Underwriters are able to obtain from strong stock companies. Thus by securing a policy from the Lumber Underwriters the reduced rate at which they are able to accept insurance may be secured not alone for the net line which the Lumber Underwriters can carry but also on the large amount of insurance which could otherwise only be secured at the tariff rate. The Lumber Underwriters anticipate that the time is not far distant when practically all of the lumber yards in the country will be insured in the companies which limit themselves to lumber risks. It is estimated that there are now more than four thousand yards which are partially or fully insured by the various lumber insuring companies.



SHIPPING YARD OF JOHN FENDERSON & COMPANY, SAYABEC, P. Q.

THE Canada Lumberman

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ADVERTISING RATES ON APPLICATION.

THE CANADA LUMBERMAN is published in the interests of the lumber, wood-working and allied industries being the only representative in Canada of these important interests. It aims at giving full and timely information on all subjects touching these interests, and invites free discussion by its readers.

Special pains are taken to secure for publication in the WEEKLY LUMBERMAN the latest and most trustworthy market quotations throughout the world, so as to afford to the trade at home and abroad information on which it can rely in its operations. 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.

Advertisers will receive careful attention and liberal treatment. For manufacturing and supply firms wishing to bring their goods to the attention of owners and operators of saw and planing mills, wood-working factories, pulp mills, etc. the CANADA LUMBERMAN is undoubtedly the cheapest and most profitable advertising medium. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which are inserted in a conspicuous position on front page of the Weekly Edition.

LUMBERING IN BRITISH COLUMBIA.

The activity in lumbering operations in British Columbia this year far surpasses anything heretofore known. During the months of January and February 195 applications for timber licenses were received and 81 licenses granted. Owing to the difficulty of prospecting claims in the winter, the demand for licenses does not usually commence before April. Although in every section of the province operations are on an enlarged scale, the greatest degree of activity prevails in the Kootenay district, where mining has to a large extent given place to lumbering.

Speculation in imber lands has accompanied the increased lumbering operations. The wholesale staking out of limits that has taken place has caused considerable excitement and it is said that in too many cases limits were purchased without having been properly cruised. For this reason it is feared that some 30 the investments may prove unprofitable.

There is likewise reason to believe that the production of lumber may be overdone. The prospective demand from Manitoba and the Territories has been magnified by enthusiastic individuals, and while it is true that the lumber consumption is likely to increase each year, and that there are bright prospects ahead for our western country, it should not be forgotten that the process of settlement must be gradual. It is a question whether the capacity of the saw mills now built and under construction is sufficient to supply the demand at least for the next year or two. If such is the case, it would seem advisable for persons with money

to invest in lumbering enterprises to seek new fields as far as is expedient, not overlooking the possibilities of export trade. British Columbia is well situated geographically to supply the markets of Australia, China, Japan, and South Africa, all large importers of lumber.

THE ALLEGED LUMBER COMBINE.

A few newspapers have recently devoted much space to the doings, or rather alleged misdoings, of the Western Retail Lumbermen's Association, of Winnipeg, and by sensational headings have endeavored to work up public feeling in opposition to a so-called trust. The laymen in the east must surely be of the opinion that there has suddenly been discovered some carefully devised plot to wreck the fortunes of the farmers of the west and to extract from their pockets their hard earnings in order to enrich the "lumber kings." Not for a moment would it be supposed that this same Western Retail Lumbermen's Association had been in existence for twelve years, that it had held annual meetings which were regularly reported by the press, and that its constitution and by laws are to-day essentially the same as when the association was originally organized.

If an official of the Canadian Pacific Railway Company has been correctly reported, that corporation has turned philanthropist, a change of front which will be greatly appreciated by the people of Canada, who, we regret to say, have not in the past been able to detect evidences of this commendable quality in their business dealings with that company. To facilitate the shipment of lumber into the Northwest, we are told that the company reduced freight rates and offered financial assistance to dealers to enable them to obtain a supply early in the season. They have even considered it necessary in their new capacity as guardians of the rights of the people to acquaint the local Government of the exorbitant prices which were being asked for lumber by manufacturers and dealers. All of which is in striking contrast to what has in the past been considered the policy of the Canadian Pacific corporation.

If there exist a combine which is responsible for extorting from the consumer fabulous prices for lumber, such combine should be abolished. The history of the association, however, proves that its object has not been to boost lumber prices at every opportunity, but rather by means of co-operation to bring about harmony and promote good feeling in the trade. It seems that the association has been attacked on the phraseology of its constitution and by-laws, perhaps none too carefully compiled, rather than on evidence of injury or hardship inflicted upon the buyer of lumber as the result of the workings of the association. The contention that the price of lumber has been advanced unreasonably cannot be substantiated. Indeed, lumber is to-day selling at a correspondingly lower figure in the Northwest than in Ontario and other parts of the Dominion.

It is only reasonable to suppose that inflated prices would encourage the importation of foreign lumber, yet each succeeding year for the past three years has shown a decrease in the quantity imported into Manitoba from the

United States. This in the face of an increased consumption. Here are the figures:

1900.....	24,000,000 feet.
1901.....	15,835,000 "
1902.....	13,228,000 "

Of the 1902 import sawed boards and dimension timber represented 11,039,000 feet and tongued and grooved pine boards 1,285,000 feet. The import of shingles shows a still greater falling off, declining from ten million in 1900 to less than two million last year. As the Minnesota manufacturers are not associated in any way with the organization which has been made the subject of attack, they might naturally be expected to more vigorously exploit the North-West lumber market in search of the handsome profits accruing through the operation of the trust. An explanation of the decreased import is furnished by Mr. E. F. Stephenson, Crown Timber Agent at Winnipeg, who in his last report to the Department of the Interior, says: "The low rate of dues charged by the Government enables manufacturers to undersell the imported article, to the advantage of the purchasing settler. Comparing prices for lumber and building material in Manitoba at the present time with those for the same kind and quality in the bordering states, they are considerably lower." This statement, from an impartial source, is also a refutation of the charge of exorbitant prices.

EDITORIAL NOTES.

Winter sawing is becoming more popular. The Pigeon River Lumber Company, of Port Arthur, and the Algoma Commercial Company, of Sault Ste Marie, operated their mills last winter for the first time. Their method is to dump the logs into a pond of water which is prevented from freezing by a system of steam pipes. It will be interesting to learn whether the additional expense thus entailed is warranted by results.

In the diligent search that is being made for a more profitable means of utilizing sawdust, some peculiar theories have been advanced, one of which, of German origin, is to produce a food for horses by a mixture of sawdust and other materials. The most recent invention, if it may be so termed, will probably be received with greater credence than were many others. It is the discovery of Alexander Glassen, of Aachen, Germany, and, according to the United States patent dated December, 1902, is for "the conversion of cellulose of wood or the like into sugar." The material is subjected in a closed vessel to a heat of 120 to 145 degrees centigrade, and is acted upon by a mixture of sulphurous and sulphuric acid, the variation in the heat required being dependent upon the quality of the wood used. The temperature also very greatly affects the yield of sugar, any lower temperature than that stated giving a much smaller return. Birch is said to require a temperature of about 130 degrees, and western fir 144 degrees. It is claimed that a yield of 300 grams of sugar per kilo of dry wood or sawdust can be obtained, and of the sugar thus produced from 80 to 90 per cent. is fermentable glucose. Should this discovery prove to be practically and commercially feasible, it would mean much to the lumber industry of this country.

THE DOUBLE CIRCULAR SAW MILL.

LISCOMB MILLS, February 28, 1903.

Editor CANADA LUMBERMAN:

Dear Sir:—In your February issue I note in your column on "Views and Interviews" an article discussing the double circular saw mills and raising a few points that I am glad have been brought up in print and I trust that you can spare space in your valuable publication for a reply to me and an explanation as to why the Killam double circular mill does not possess the weak points discussed in the article under mention. Let me quote from your article: "I think Mr. Killam's circular mill would be likely to increase the quantity of waste and produce more thick and thin lumber than in the ordinary single cutting saws. I know that some trouble in this direction has been experienced by the double cutting band, and while it may be possible to turn out the lumber equally as good as by the single saw, this I believe can only be done by giving extra care and attention to the saws and having men to operate them who are expert sawyers of the first order."

I think the above quotation covers all the important points raised in the article, and in answering I shall start as the Yankee does and ask a question myself. Why will the double circular mills make more thick and thin lumber and more waste than the single circular mills? There are no reasons why they would, and many reasons why they will not do the things spoken of, and actual tests in the manufacture of lumber using the double circular have shown that they do not possess the faults we are discussing.

I am well aware that double cutting band saws do make a lot of trouble and any saw cutting both ways of the grain of the log (one cut from butt to top and the next cut from top to butt) will make thick and thin lumber for this reason: sawing from top to butt, cutting against the growth-grain of the log, will always incline the saw from the log, while the other cut from butt to top will have the opposite effect. I might make the point now that no saw fitter, no matter how expert, can so fit saw teeth as to overcome this law of grain of wood, and so it follows that any saw cutting both ways of the grain of log will make a lot of thick and thin lumber.

It is assumed by the writer that no manufacture of lumber will employ a sawyer who cannot make good lumber with a circular saw, and as there are no mechanical difficulties to overcome in operating two saws cutting on one side of a log at the same time there is no reason why the sawyer competent to operate an ordinary circular mill cannot as easily operate the double circular mill. As an illustration of this I will state that the sawyer who made the first tests with the double circular was a young man who had sawed with a single circular but a few months and he had no trouble in sawing a big average and handling the double circular without a hitch, making extra good lumber. The sawyer has the same view of the log as in sawing with a single circular and the same opportunity to use his judgment as to how to cut same.

I might observe here that in the final cuts on the last half of the log the double circular taking two deals and leaving the slab finds the log more rigid and will cut more even lumber than the single circular mill when cutting the last deal and leaving the slab, as in the latter case the remains of the log is in a very springy condition.

The writer uses a first saw of from 50 to 60 inches and a second saw of from 60 to 72 inches. In extra heavy cuts both saws are set in line; the smaller saw cuts through the greater part of the log and the larger saw finishes the cut. This arrangement permits full feed being carried in cutting large logs and insures the cut being complete. Attention can here be called to the fact that no time is lost in cutting through unfinished cuts with an axe and the lumber is better and cleaner cut with no loss of time or lumber.

Keeping the above facts in mind, let me call your attention to the reasons why the double cutting circular mill will cut less thick and thin lumber, and make less waste than a single circular mill.

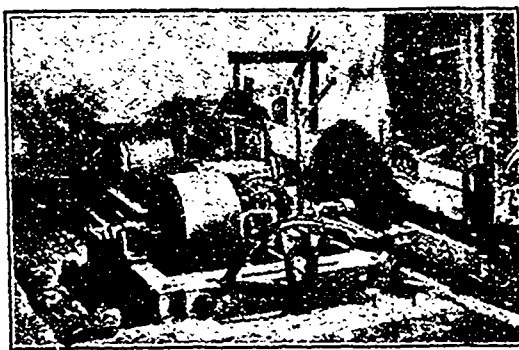
The distance between the original and the additional saws is a fixed distance (no matter if you are sawing boards, plank, battens or deals), the additional saw being set and firmly held at the required distance from the original saw, and as the saws are cutting on both

sides of the piece of lumber under cut at the same time, it follows that saws being properly fitted, a perfect cut of the piece of lumber is produced between the two saws. The second piece is produced outside the additional saw, which is assisted in resisting any spring pressure or other deflecting influence by the original saw and the piece of lumber being sawn between the two saws, thus producing an evenly sawn piece on the outside saw.

The whole operation of this double circular mill is such that advantage is taken in cutting the log of all of its rigidity, and as all cuts are made one way of the grain of the log and the tendency of the log to spring overcome to a much greater extent than with single circulars, hence it follows that lumber is sawn more evenly and more smoothly than by any other method.

The subject of making more waste will need but a brief reference. Emphatically the double circular does not make as much waste as the single circular, and more than that it does away with the necessity for a re-saw and saves the expense of men to operate the same.

In closing let me say that the Killam double circular mills will cut 75 per cent. more lumber than a single circular mill, cut the same more evenly for the above given reasons, make less waste and save the expense



THE KILLAM DOUBLE CUTTING CIRCULAR.

of a re-saw, require no more skilled men to handle than any well equipped circular mill, can be installed at a small cost and operated at small expense compared with any other double cutting mill, and requires a floor space of only six feet square.

Respectfully yours,

M. L. KILLAM.

RAILWAY CAR SERVICE.

ORILLIA, March 20th, 1903.

Editor CANADA LUMBERMAN:

DEAR SIRS,—You are no doubt aware that at the present time there is a great amount of dissatisfaction among shippers generally, and among lumbermen particularly, with the way the Car Service Association is making its charges.

We all recognize the justice there is on the part of the railway companies in making some charge for undue detention of cars under load or waiting load, but they should not make charges and try to enforce payment of that charge in the arbitrary manner which they usually adopt.

There are several things which should be very carefully considered by the railway people before they try to collect car rentals, one of the principal ones being storms, both rain and snow, and in dealing with allowances to be made on that score the agent should be given quite a lot of discretionary power, or, in the absence of that the claim should be passed upon by the manager of the Car Service Association before payment is made, and thus overcome the necessity of asking the return of money which should not have been paid, and which the Association as a rule is slow to give up. If the agent were given the necessary power it appears that better results would be effected, for the reason that storms may be quite severe in a certain locality and yet be quite local.

There is yet another cause why there should be more reason used in levying demurrage charges, and which is almost entirely overlooked, and that cause arises out of the shortage of the car supply. A receiver of lumber, we will assume, has handling capacity for say five cars per day, naturally he places his order so that about that many cars would reach him in every twenty-four

hours, but owing to scarcity of cars he receives only (on an average, say two cars per day, for perhaps three, four or more weeks. This would result in quite a few of that man's orders being held at the mill or mills unfilled. All at once cars become plentiful, all shippers are supplied and all ship at the same time. The inevitable result is that instead of that receiver of lumber getting five cars per day, he is apt to get many more than he can handle through no fault of his whatever, but because of the fact that he had his orders placed and was in all probability being urged by the shipper to take delivery of the goods, the reason for which being that on account of the scarcity of cars the shipper was short of bottoms in his yard and was accordingly forced to make shipment in order to make room for new lumber. Now, I have said that the Railway people, or the Car Service Association, overlook these conditions. Well, not only do they overlook them but they often refuse to consider them even when they are pointed out and proof furnished as to their existence.

By the columns of the American Lumberman of 6th of December, I see that a contract has been entered into by and between the manager of the Michigan Car Service Association and the customers of the roads in that state by which they get two days or forty-eight hours in which to load and unload all commodities excepting coal, coke, lumber, logs at Grand Rapids, tanbark, bones, glue stock, and hide trimmings, all of which will be allowed three days or seventy-two hours, and cargo and lighter lumber is to receive six days, and the average time is to rule, which is to say, that should two cars arrive on the same day and be placed for unloading or loading by noon of that day and one car is loaded or unloaded, as the case might be, before the expiration of that day, the other car might remain untouched for five days without creating any cause for car rental, as the two days' credit due on the first car would take care of the two days overtime on the second car. We do not suppose that the railway people make money out of their cars when they are standing under load, and we know that they cannot use these same cars to supply other customers, and we believe that they would much prefer the use of the car to the \$1.00 per day which is collected as car rental, for which reasons they should receive very careful consideration, but the railway people should at the same time see the matter from the position of the owner of the goods, who may have several cars under load worth anywhere from \$200 to \$600 per car and yet through some cause beyond his control be unable to release them. This same lumber may have been ordered weeks before to take care of certain orders. The Railway Company were short of cars, goods did not arrive, orders were cancelled which might have caused him serious loss and all through no fault of his, and it may trouble him greatly to take care of the lumber, but on top of all this if he happens to be a few days behind on one or two cars, the Association steps in and levies a charge for car rental, and thus increases a trouble which is many times of their own making.

Summing up the whole situation and giving both sides due consideration, I am sure that I voice the feeling of many, if not quite all the shippers in this district, when I say that, if an agreement could be reached between the Car Service Association and the shippers of Ontario on the same general lines which form the agreement between the manager of the Michigan Car Service Association and the patrons of the different roads in that State, it would accomplish a great amount of good and go a long way towards creating a better feeling between the Railway people and many of their customers. I would like very much to have the views of other readers who may be interested in this question. Thanking you for your space, I remain,

Yours truly,

J. H. LAVALLEE.

GOOD OPENING FOR A SAW MILL.

NEW LISKEARD, TEMISCAMING DISTRICT,

NEW ONTARIO, February 11th, 1903.

Editor CANADA LUMBERMAN:

DEAR SIR,—If you know of anyone desiring to change their place of saw mill business, we have a good location here for a man having some capital to start on and a good knowledge of the business. A portable mill of thirty or thirty-five horse power with planer and shingle machine would be most suitable.

The site is six and a half miles from New Liskeard, on the corner of two main government graded roads, and it is now expected that the new railway is likely to come close to it. There is plenty of timber close by, including spruce, pine, cedar, tamarac, whitewood, etc. We have a school there and the government is going to open up a post office on 1st April and a store is to be started. There is a good demand for lumber, beside a large amount of custom work. It is really a good opening for a good man.

Yours respectfully,

E. SACRIDER.

MICHIGAN'S LUMBER INDUSTRY.

(BY OUR TRAVELLING REPRESENTATIVE.)

While in Bay City and West Bay City many of the dealers were calculating upon the probable cut, this season, of Canadian pine, and whether a heavy crop of logs would have a tendency to lower prices. One dealer told me that if prices went any higher he would quit and go south for his pine. In a large number of the yards I saw plenty of hemlock and southern pine in stock, but very little Canada pine.

The firm of Mershon, Schuette, Parker & Company are at present the largest holders of Canada pine lumber in Michigan. This company is composed of W. B. Mershon, Wm. Schuette, F. E. Parker, Selwyn Eddy, S. L. Eastman and E. C. Mershon, and they are wholesale dealers in and manufacturers of white pine lumber, sash, doors and blinds, box shooks, etc., with mills and yards at Saginaw and Bay City.

Many of the members of the Michigan Retail Lumbermen's Association, after their convention in Detroit, took advantage of the invitation of Henry A. Stephens & Company to be the latter's guests in a four days' trip through northeastern Michigan lumber districts. Before the meeting adjourned the Secretary, Arthur L. Holmes, was unanimously endorsed by the association for the position of U. S. Internal Revenue Collector.

I had intended to be initiated into the mysterious

articles of association with the State at Lansing, among which I noticed the Grand Rapids Cabinet Company, with a capital of \$100,000; the Churchill Lumber Company, of Alpena, \$50,000; the Cadillac Cabinet Company, of Detroit, \$100,000; and others of more or less interest to the lumbering industry.

I found Battle Creek thriving and hustling. Although this city is called "Food-town" because of its world-wide renown in the patent food line, it has other and growing industries, among which are the American Column Company and the Stenhouse Mfg. Company, both of whom are contemplating an invasion of the Canadian market. The three leading lumber firms in this city are North & Strong, L. B. Clapp and H. K. Haak, all doing a good business. A great many business men whom I conversed with were visibly impressed by the fact that over forty thousand American citizens last year crossed the Canadian frontier to permanently settle there.

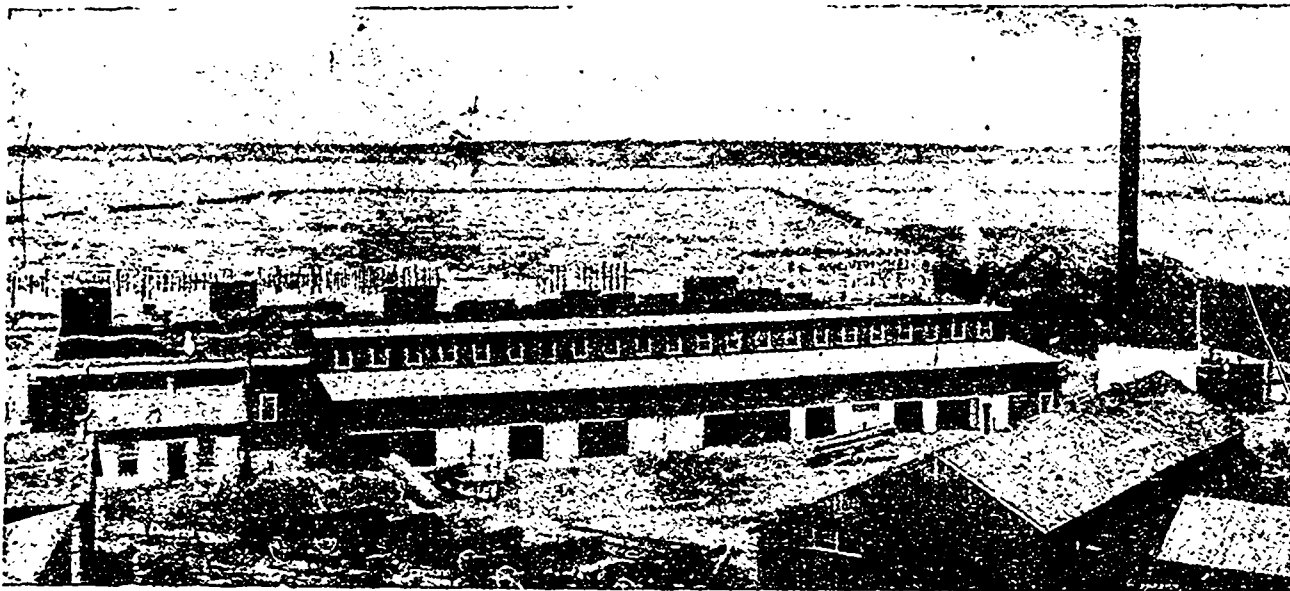
I left Battle Creek in a raging storm and ran into a regular blizzard at Kalamazoo—so named from the Ke-Kenamazoo river, or "Boiling Pot," as it was called by the Indians; street cars were stalled, electricity staggered and the schools closed. The oldest inhabitant had on his "thinking cap." In the midst of it I received a hearty welcome at the offices of the Wm. E. Hill Company. This firm are extensive manufacturers

their advertisement in this issue will be of interest to our lumbermen. I also had pleasure in securing the picture of the company's planing mill, presented herewith.

At Muskegon is situated the Rogers Iron Works, whose combination edgers and siding machines are known all over the continent. In order to get through to the north I returned to Grand Rapids. Whilst there I learned that J. P. Underwood, of Chicago, and E. Mariner, of Milwaukee, had purchased two thousand acres of Louisiana timber land from Major Watson, who died many years ago in Grand Rapids. It has been discovered that the titles are defective and the estate is being sued for the purchase price, \$20,000 and \$6,000 expenses.

The J. F. Quigley Company, at Grand Rapids, who are large specialists in hardwood lumber, have already entered the Canadian field. Mr. Quigley is one of the best known lumbermen on this side of the line. This company's advertisement will be found in another column.

Whilst talking to one of the F. & F. Company, I learned that they would wind up their Michigan and Wisconsin business this year. The last of their limits was to be cut down this season. They held land in the upper peninsula which had cost 50 cents an acre. It is stated that Thomas Friant, of this company, at Thompson, Schoolcraft county, is one of the wealthiest men



PLANING MILL, LUMBER YARD AND DOCK OF MANN, WATSON & COMPANY, MUSKEGON, MICHIGAN.

lumbermen's order of Hoo-Hoo, but not having been notified, I failed to connect, much to my disappointment. The Hoo-Hoos held their concatenation rites at 9.09 p. m. on the 9th day of the new moon, with a wealth of ceremony. Nineteen new members paid the initiation fee of \$9.99 and were taxed 99 cents per year for dues. Several times, I hear, nine blind kittens were sacrificed in the ceremony, which took 99 minutes. Those who had no "middle" name were given one—a choice selection being always on hand, such as Culls, Ripsaw, Rollway, Resaw, Filer, Knots, Millrun, Shaky, Clear, etc., etc.

Long before the white man set foot in the Saginaw valley it was known to the Indians as the "land of milk and honey," and many a war was waged between the tribes for its possession. Here the red man lived and roamed the then dense forest, without care and without want. The first house was built in Bay City in 1835. The lumber industries of the Saginaw Valley had a world-wide reputation and the amount of logs, timber and lumber that has been cut there in the past runs up into billions of feet.

I saw an enormous lot of basswood and poplar bolts on the Pere Marquette Railway, which had been shipped from Graham Station to Port Huron and Saginaw firms.

From Bay City I went direct to Lansing, the capital of the state. It did not impress me as a very keen competitor of the other Michigan cities, in fact it is slow-going. However, it needs quietness for legislation, I suppose. A number of corporations have filed

of a regular and improved line of saw-mill machinery. Mr. Anthony S. Hill is the manager, and Mr. Dumont A. Shephardson the secretary, assisted by a gentlemanly and efficient staff. I predict for this company a good business in Canada in the near future. North & Coon and the Van Bochove Sons Mfg. Company, both large lumber dealers, said business was on the increase and by the appearance of their mills the fact was self-evident.

At Grand Rapids they say they are turning out as much furniture as ever, with a steady demand for all kinds of hardwood. Basswood is particularly scarce in these parts. Many pine and hardwood dealers are now getting car lots shipped direct from Canada by the smaller mill owners, and the lumbermen here say it is profitable to advertise for offers in the CANADA LUMBERMAN want columns.

Whilst in the office of Mr. Walter Clark, 535 Michigan Trust Building, I met Mr. A. H. Cleumner, of Toronto, also there on business. The former is building up a fine veneer, mahogany and oak business. Munson & Company, of Mill street, are talking of entering the Canadian field with a device for balancing planer knives. Messrs. A. H., David and Geo. Engel, whom I saw, stated that the lumbering industry was flourishing, and they were experiencing the effect of the wave of prosperity.

From Grand Rapids to Muskegon is an easy run. At the latter place I saw the enterprising firm of Mann, Watson & Company, the leading lumber dealers in the district. They will likely enter the Canadian field, and

in Michigan. He was recently offered four millions of dollars for a tract of southern pine, which would have yielded him a handsome profit. When asked why he did not sell, he answered, "What would I do with that amount of money?"

I visited Perkins & Company, who are manufacturers of gas engines and yachts, as well as a line of wood-working machinery. Their large works on River street present a busy scene. They have built and designed specially for shallow waters a gasoline boat, which is a marvel of neatness. It is for the use of a lumbering firm near Corpus Christi, Texas, and has a draught of 16 inches. The length of this boat is 50 feet and width 11 feet. The Perkins Company are also manufacturing two towing tugs for the Central America banana trade, both using gasoline, one of 24 h. p. and one of 18 h. p. This company intend to build these launches suitable for lumbering on our Canadian streams. The framework of these boats is oak, the planking of cypress. See their advertisement in this issue.

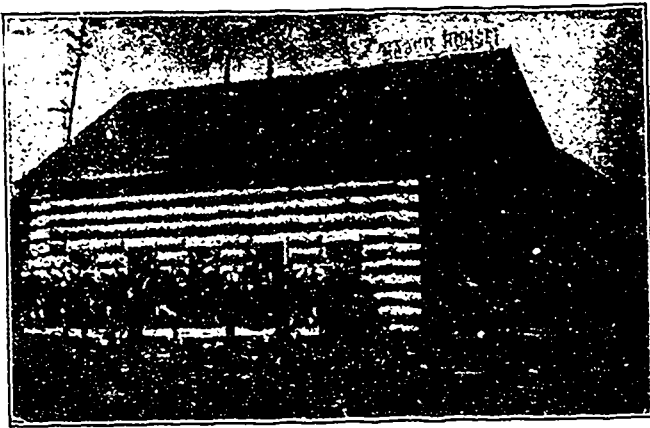
Grand Rapids is a great center for river, logging, swamping and cruising shoes. The two largest dealers in the state are the Herold-Bertsch Shoe Company, of 507 Pearl street, and Rindge, Kalmbach, Loring & Company, of 11 Ionia street. Both these companies do an enormous business in supplying the great demands of the lumber camps. Large experience in meeting the wants of the woodsmen has brought their product to a high state of perfection, adequate to the severe requirements of the camp.

The Crane Lumber Company, of Grand Rapids and Frankfort, has been adjudged bankrupt. They were active participants in the Northern Michigan lumbering industry.

The first logging road in the United States is said to have been built in Ottawa county, Michigan, in 1856, by the Blendon Lumber Company. The engine used was one of the first that ran on the old Michigan Central and said to be the fourth ever used in the United States on a railway. This road was eight miles long and had wood rails at first. Later, the discarded strap iron once used on the wooden rails of the Michigan Southern R. R. were placed on this logging track.

The late Winfield Scott Gerrish is also credited with being the pioneer in logging railways and logging cars. He built the first one from Lake George to the Muskegon river about two miles in length.

At Reed City I did not find much of interest, so I moved on to Evart, the headquarters of one of the largest lumber tool and handle works in the world—the Champion Tool & Handle Works. This company do an immense business and I was shown tens of thousands of handles in the process of air drying and seasoning. They have been thirty years at the business and their equipment is completely modern. In no business is a more critical test required of a working implement than in that of handling logs. The extensive works of this company are well worth a visit of inspection, and if at any time any of our lumbermen are near Evart, Mich., I would suggest a visit to this mammoth plant, where they will be well received by the courteous



FIRST BUILDING ERECTED WHERE THE CITY OF CADILLAC, MICH., NOW STANDS.

gentlemen composing the Champion Tool & Handle Works. They are already doing a big trade in Canada, "following the lumber industry" closely.

At Evart Wm. R. Shore is the leading wholesale and retail dealer in lumber. He makes a specialty of kiln dried maple flooring, and is certainly wide-awake and up-to-date.

Cadillac used to be situated in the pine belt of Michigan, now it is really in the hardwood belt. The town, by a judicious system of bonuses or bonding, has increased wonderfully. Situated on the banks of the Little Clam Lake, it presents a beautiful appearance at all times. In 1871 this was an unbroken wilderness of pine and hardwood timber. We give herewith a cut of the first building erected where the city of Cadillac now stands.

This old historic house has held within its walls all the lumber pioneers. Cadillac was and is to-day the center of the lumber interests of Northern Michigan. Among the enterprising firms in the lumber industry are Wilcox Bros., Smith & Staples, Cummer Manufacturing Company, J. Goldie, and others who were unfortunately away when I called. Cadillac is a live town and its progressive citizens seem to be on the alert to give the place the standing it deserves. To the editor and publisher of the Cadillac News I am indebted for much information respecting the remarkable growth of this city and its brilliant future. No place that I know of has brighter prospects ahead.

The pine in this region, as elsewhere, is rapidly going, but there is considerable hemlock and hardwoods. A farmer near Traverse City cut a single elm tree which scaled 5,976 feet, for which he was paid \$83.24 or \$14

per thousand. Fifteen years ago \$20.00 would have been a fabulous price for the same tree.

Over at Manistee on the lake shore I found the Manistee Iron Works, who are manufacturing Geo. R. Ray's patent twin engine steam feeds for operating saw-mill carriages. In this issue will be seen a cut of this wonderful machine. This company is one of the most progressive I have ever met. The testimonials they have received from the Atlantic to the Pacific testify in words of high praise the excellence of their machines.

The I. O. Batey Saw & Supply Company and the S. C. Overpack Company may enter the Canada field very shortly. They recognize the fact that the lumber industry is shifting across the border to stay.

I also had the pleasure of meeting Mr. Patrick Noud, Sr., a veteran lumberman of Manistee and a born Canuck. Mr. G. E. Anthony, who is an extensive dealer in railway supplies, intends to cater to the logging railway trade in Canada.

To get to Northern Michigan I decided to go to Ludington and crossed Lake Michigan on the fine new steel steamship "Pere Marquette No. 18." It was a winter trip and I shared it with one other passenger, a traveller for a Chicago belting firm. I took the train at Manitowoc, Wisconsin, for Menominee, Northern Michigan. At the latter place I met among others a former Canadian, Mr. J. M. Thompson, of the Wolverine Cedar & Lumber Company, and the C. J. Huebel Company, both of which are very large concerns. Here the indications were plainly evident that the pine industry had gone never to return. The deserted piling grounds, the rotting beams, told the same old tale that I had seen in the Saginaw Valley, and as in the latter district, so in Menominee they are turning to new industries. A beet root sugar company is building a plant to cost \$800,000, one of the largest in the west.

At Menominee a new scheme for the insurance rating of lumber has been introduced. Hereafter all lumber owners agreeing to insure their lumber up to 80 per cent. of its cash value, will receive a reduction of 10 per cent. from the new rate. If they make an agreement to insure up to 80 per cent. of the cash value and do not do so and then have a loss by fire they can only recover such per cent. of their loss as their insurance bears to the cash value of the property.

In one of the northern lumber camps the record for big loads of logs has again been broken, a load of pine logs containing 20,000 feet having been hauled by a single team at one of the Peshtigo Lumber Company's camps, about eighteen miles west of Wausaukee. "Dunc" Taylor is the woodsman who beat the record. The previous record had been held by "Sherin" Bush, of Crivitz, who loaded 16,098 feet of pine logs on a sleigh and with a single team hauled it a distance of over two miles without a stop.

I noticed that in the hotel where I stopped petitions were being circulated asking the State Senate and House of Representatives to pass a bill changing the railway fare on the upper peninsula roads from four to three cents a mile. This section is sparsely settled and four cents a mile seems rather excessive.

Speaking of the rapidly diminishing pine an official said: "The future of this country depends on agriculture. The iron and the copper will go the way of the forests. There are still thousands of acres of hardwood, maple, birch and hemlock, and the manufacture of flooring, etc., has got a good start." The factories at Hermansville and Crystal Falls are doing a good business. On the hardwood lands the soil is rich enough for grain growing.

Senator Moriarity, of Crystal Falls, said there was little grain growing so far in the upper peninsula. Dickson County is still putting out some spruce, pulpwood and cedar.

At Calumet, John S. Morrison, one of the heaviest operators, said the weather had been ideal for a good cut during the past winter. The contractors were skidding their logs as rapidly as possible in January and February, getting out also a large amount of square timber.

In the Lake Superior copper district there has been great changes. Not long ago the mines used hardwood for fuel, cutting it right back of their boiler houses. Now the available timber is all gone and they are all using coal. North of Portage Lake the timber is pretty thoroughly cut off.

At Houghton men were so scarce there last winter that loggers had to pay the highest wages ever paid and to furnish a table that many a hotel could not furnish in order to hold the men after they had got them. As it is there has been a good deal of shifting in the camps, and various devices to hold the men resorted to. Around Cadillac and Menominee I was told there had been a floating "tramp" element amongst all the camps. Every man presenting himself was given a pass to the camps.

From Northern Michigan I went west into Wisconsin. At the old Mason House at Clam Lake gathered the pioneer lumbermen who voted themselves into a municipality. At the first election of officers one hundred votes were cast; to reach this round number some negroes employed as laborers were permitted to put in their ballots. This was the beginning of Cadillac. The grand forest which then existed has nearly all disappeared—

"Where then grew tall the mighty pines
Is now marked off by city lines."

Logging camps on a small scale are, however, operating near Cadillac at Bunea and Harrieta, which I personally inspected. Speaking to an old lumberman he said that when he came into the country twenty-five years ago there were no clearings north of Reed City, just the railway track through a wilderness of tall pines. The first religious meeting he attended was held over a saloon. During the summer these gatherings when the weather permitted, were held on a snow, which was decorated with pine boughs, lighted with lanterns and towed out into the lake by a little rafting tug.

Fifteen years ago lumbermen said at Cadillac: "In five years more the pine will be gone and then your town will be dead." But still the hum of the saw mill goes merrily on, for the last of the great pine forests is being moved down the iron ways to the city.

In the hardwoods of Northern Michigan the sugar maple predominates, with soft, grey and rock elm next in quantity, then follow birch, black ash and some basswood. Red oak, white ash, cherry and bird's eye maple are scarce. The grey and soft elm is considerably sought by the stave and heading factories, whilst the rock elm is used for hames. The rock elm has taken the place of hickory somewhat in the making of cutters, buggies, etc., because it has been found to be nearly if not quite as good. In New York and points east it is known as hickory elm.

At Cadillac one of the largest mills in Northern Michigan is located, cutting timber which comes forty to seventy miles away. The pines have led the way and the hardwoods are following.

"What was the song of the dark plumed pines,
When thro' their densely glades
The bright warm smile of the morning shines,
And her fairies chased the shades?
Keep the bright blade ringing
Keep the keen axe swinging!"

Another old logger told me of the lively days gone by when the big hardy Canadian woodsman came over by the hundreds. Money flowed like water. A minstrel show came up and gave two performances to crowds of lumbermen. The show was held in an ice-house, the ice being piled up at one end to form the stage.

Cadillac has what is known locally as the "Lakeside Boulevard," being nothing less than a beautiful gravelled roadway clear around Little Clam Lake, over seven miles. The city can well support industries or manufacturing which are progressive enough to reach out for the world's trade and not remain solely of local importance.

"If you have read
These pages through
And haven't read
What ads. say too,
You've missed a lot
Of business views,
Which you cannot
Afford to lose."

VIEW'S AND INTERVIEWS

Much money is this spring being spent on the sawmills of Ontario to properly equip them for what is expected to be the busiest season yet experienced. Foundries are working day and night on rush orders, and everything not required immediately is laid aside in the hope of a let-up after the mills resume. A "man of the road" who recently returned from the Algoma district tells of a universal complaint by mill-men of inability to obtain machinery when wanted. They have placed orders with United States concerns, he says, and are willing to pay the duty in order to secure early delivery.

* * *

One engaged in the business took occasion to express his approval of the remarks in the February LUMBERMAN concerning the low prices obtaining for manufactured wood-work. They were especially applicable to sashes and doors. "I cannot understand," he remarked, "why some concerns continue to sell their output at such a small margin of profit. Of course prices are better than they were some time ago, but there was great need for improvement. Our policy has been to curtail production whenever we find that there is not a reasonable profit, and if other manufacturers would do likewise the trade would be in a healthier condition." Touching on this point is a letter which ap-

pears in the Liverpool Timber News. The writer, signing himself "English-American," estimates the cost of producing an ordinary house door as follows: Timber, 30 cents; Labor in work-shop, 9 cents; plant, office and incidental expenses, 25 cents, a total of 64 cents. The market price of the door he places at one dollar, leaving a margin of 36 cents as the manufacturer's profit. It strikes me that the above cost of production is underestimated, as it is extremely doubtful that, even with our improved machinery, a finished door of average quality can be turned out for much less than one dollar.

* * *

The writer was lately accorded the privilege of meeting a gentleman who for nearly half a century has been connected with the lumbering industry. This gentleman was Mr. Isaac N. Kendall, millwright, of Ottawa known in all parts of the Dominion as a peer among the builders of saw mills. Recently he has been associated with Louis Miller & Company, a Scotch concern which has located limits and erected mills in Newfoundland. As a millwright Mr. Kendall has been afforded ample opportunity to witness the saving in timber that can often be effected by economical sawing. He is a strong advocate of the use of thin saws and contends that in this respect the Swedes have distanced us very noticeably. Some Swedish machines have been introduced in this country and have been found to give

good results. "Within ten years," said Mr. Kendall, "twice as much lumber will be manufactured from small logs with a given number of men as is produced to-day, and this result will be brought about by the introduction of new machines and the employment of thinner saws for slabbing and other purposes. I look for wonderful changes in the sawmilling business in the next few years." Mr. Kendall then drew my attention to the reference to the Rodgers' log siding machine which appeared in the February LUMBERMAN. He pointed out that the William Hamilton Company, of Peterborough, Ont., have been manufacturing a similar machine for twenty years, and with splendid success. It has on different occasions sided 2,200 sixteen-foot logs in eleven hours, many of the logs passing through the machine a second time to take off a siding. He believes it to be equal to anything of the kind on the market.

Mr. John Layton, of Shubenacadie, N. S., has recently sold out his lumber business at that place to Messrs. Holman & Johnson. Mr. Layton intends removing to California.

The Dodge Manufacturing Company, of Toronto, have issued the third edition of their B6 catalogue. It is a most complete work. Besides illustrating and describing their general line of power transmission machinery, many useful rules and tables are given, such as table of circumference and area of circles, weight table of round and square iron, etc. In the front of the book is shown a view of their new works at Toronto Junction, the largest plant in Canada devoted exclusively to the manufacture of power transmission machinery.

The Milner Petrolea Wagon Co. LIMITED.

—MANUFACTURERS OF—

HIGH GRADE Lumber Wagons Trucks and Sleighs

FACTORY EQUIPMENT UNEQUALLED

Experienced Management Specially Selected Material Skilled Workmen

Combine to Make Ours

The Best Wagon on the Market

Head Office and Works - PETROLEA, ONT.

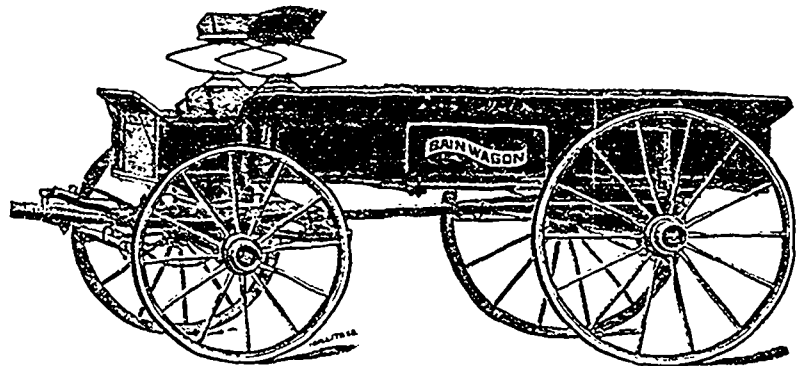
Bain Waggon's

SOLD BY

MASSEY-HARRIS

Agents Everywhere

have won renown wherever used.



In South Africa they were undoubtedly the Favorites.

Thousands use them.



THE AS



Our CAMP and COYOTE blends are "winners." Bulk, 3 and 5 lb. tins. Pleased to send samples

LUCAS, STEELE & BRISTOL,

HAMILTON, ONT.

PERSONAL.

THE LUMBERMAN regrets to record the death, from Bright's disease, of Mr. James T. Barnard, of Hamilton, secretary-treasurer of the Hart Emery Wheel Co.

The death occurred recently at Fredericton, N. B., of Mr. William R. Turner, who had been a lumber surveyor for a number of years.

Mr. L. Kennedy, travelling representative of Warnock & Company, Galt, Ont., has been appointed manager of the Dowsley Spring and Aale Works, of Chatham.

Mr. E. Letherby, of Midland, Ont., left early in March on a trip to British Columbia, where he will inspect the operations of the Ontario-Slocan Lumber Company.

Mr. Frank Early, formerly contractor to the Pembroke Lumber Company, has been engaged to represent the Waterous Engine Works Company, of Brantford, in South Australia.

Mr. E. H. Lemay, the well-known lumber merchant of Montreal, sailed from New York for Great Britain early in March. He expects to be absent about four months and will visit Southern Italy, Germany and France.

Official notification has been given of the appointment of Mr. W. L. Griffith, Canadian government agent at Cardiff, Wales, to succeed Mr. J. G. Colmer as Secretary of the High Commissioner's office in London, Eng.

Dr. A. H. Unwin, of London, Eng., has been appointed scientist to the Forestry Branch of the Department of Interior. Dr. Unwin is an Englishman by birth, but was for many years on the Continent studying forestry.

Mr. W. C. Edwards, M. P. for Russell and head of the large lumber concern of W. C. Edwards & Company, with mills at Rockland and New Edinburgh, Ont., has been appointed to the Dominion Senate in succession to the late Senator Clenow, of Ottawa. Mr. Edwards has been in the Commons since 1897.

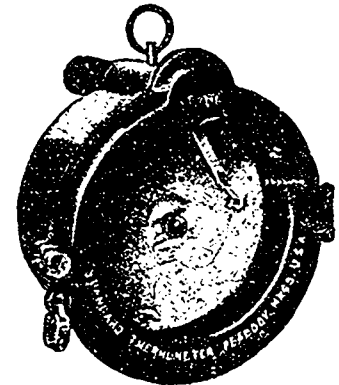
As previously announced, Mr. Fred Robinson, of Revelstoke, B. C., has disposed of his lumber interests at that place. It is learned that Mr. Robinson will visit the Southern States for a short time and afterwards settle down at his old home in Keswick, Ont., where he still has considerable interests. In recognition of the esteem in which he was held, the fellow-citizens of Revelstoke and his employees presented him with a handsome diamond ring.

The late Mr. J. A. Duff, whose death took place at Cookstown on February 13th, was greatly interested in the investigation of Canadian timber from the standpoint of the engineer. He graduated from the School of Practical Science in 1890, and was devising a systematic course of research and instruction in timber physics along similar lines to those successfully carried

out by the late Professor J. B. Johnson, of Wisconsin University. He spent the summer of 1900 in Algonquin Park examining the conditions of growth of the pine timber and selecting trees for examination in the School of Science. Unfortunately, owing to the state of his health, he was obliged to discontinue this work.

Recording Thermometer

Universally used by all the
Leading Lumbermen in U. S.
in their Dry Kilns.

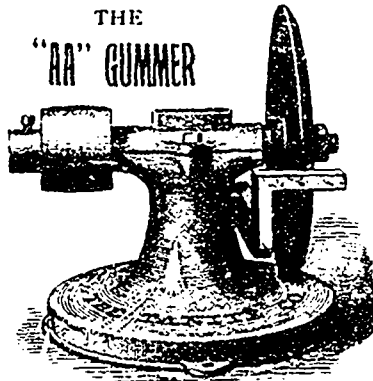


A great help in running your kilns and saves you expense.

HELIOS-UPTON CO., Peabody, Mass.
AGENTS—McEachren Heating & Ventilating Co., Galt, Ont.

P. PAYETTE & CO.

Manufacturers of Saw Mill and Engine Machinery, and all kinds of Marine Machinery.
PENETANGUISHEN, ONT



10 inch Swing, \$4.50 Net Cash, 14 inch Swing, \$5.40 Net Cash.
Emery Wheel not included.

Grinding Machines, Saw Gummets, Diamond Tools, Knife Grinders, Emery, etc., etc.

THE TANITE CO.
Stroudsburg, Penna.

LUMBER UNDERWRITERS

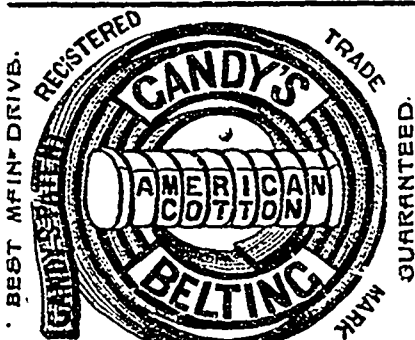
NOW OFFER LARGER LINES ON LUMBER YARD RISKS

Absolute protection is assured by reason of stock company reinsurance. Our policy goes to you for full amount, thus relieving you of the annoyance of taking care of many small policies.

\$1,000 to \$40,000 can be written on any unexposed or clear spaced stock of lumber.

For information as to concession in rates address our home office at

66 BROADWAY - - - NEW YORK



Best Canadian Agents
WATEROUS BRANTFORD, CANADA

Have YOU seen or are YOU using the SLEEPER PATENT ENGINES for Steam Feeds for Saw Carriages?

THEY

- Reverse instantly, at any point, without special gear.
- Are always under instant control.
- Run without noise or vibration, and at very high speeds.
- Are strong, rigid, and extraordinarily light, compact and portable.
- Can be installed in almost any conceivable position.
- Require no adjustment and very little attention.
- Are the very latest, the very best, and by long odds the most economical engine on the market.

We also manufacture engines for every description of service, and of all powers. Direct-connected electrical units and small engines for general lumber and agricultural service are specialties of ours. Catalogs and prices upon application.

The SLEEPER ENGINE COMPANY, Limited. Montreal.
Office and Works, Cor. Darling and Notre Dam Streets
Phone, East 2403.

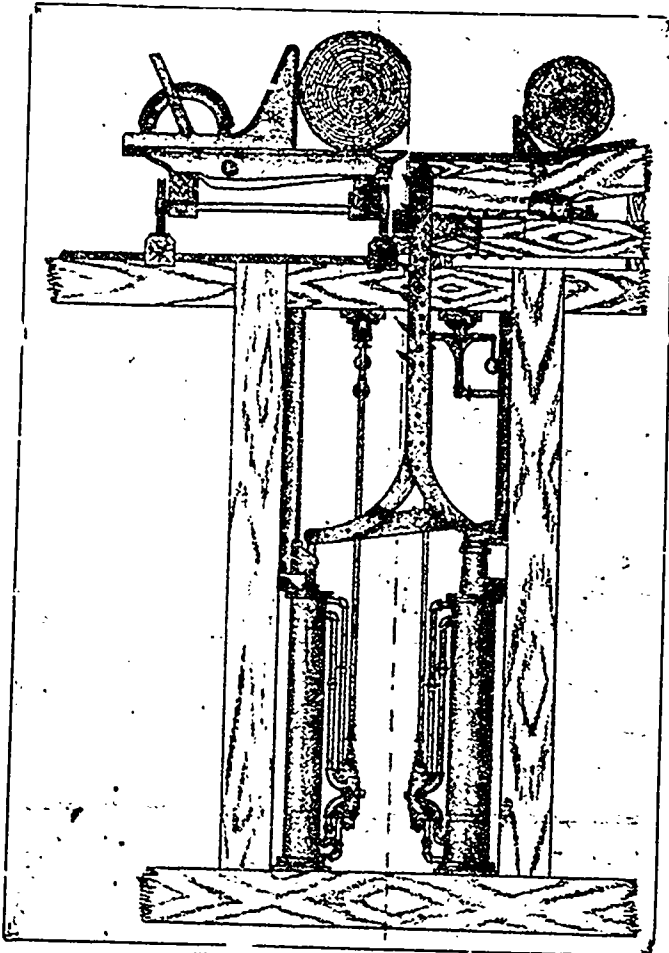
THE HILL STEAM NIGGER.

On another page of this issue will be found the advertisement of Wm. E. Hill & Company, the famous manufacturers of heavy saw mill machinery, of Kalamazoo, Michigan. They have most fittingly chosen for the subject of their initial advertisement their steam nigger or log turner.

This machine is undoubtedly one of the greatest money makers and money savers ever put into a mill, and it has done much to facilitate the handling of lumber in the mill. Wm. E. Hill, the founder of this company, was the inventor of the machine and lived to see it in seventy-five per cent. of the mills of the United States as well as in a goodly number of Canadian mills.

As the bulk of Canadian mill men are, however, but little acquainted with the merits of the truly wonderful machine, we have deemed it advisable to print a short description of the steam nigger for their benefit.

As may be seen from the cut, the machine consists, roughly speaking, of a toothed bar which is raised and lowered by two steam rollers. Its functions are not only to turn logs but to act as a log loader, hand spiker and straightener of long timber as well. A competent sawyer can handle a log or even a board exactly as he wants to, and with ease and rapidity place the log or board in any desired position. All this is accomplished by means of one lever, which is so arranged that by giving it a circular movement steam can be given to either cylinder or both at once if desired. If you wish to roll a log from deck to carriage you move the lever in the direction you wish tooth bar to go until the bar's back of the log, then by reversing the lever and admitting steam into the bottom of the large one and top of small one, the bar is moved forward and upwards, forcing the log before it and placing it on the carriage. Then by admitting more steam to both cylinders the log can be turned to any desired position. The teeth in bar are of a peculiar shape and, it is claimed, will



THE HILL STEAM NIGGER.

not mar the lumber. They are hinged and, as the bar comes down, recede between the sides, or if they hit the cant or board their shape causes them to recede without marring the face of the stick.

One of these machines will, it is claimed, increase the cut of any mill from 3,000 to 5,000 feet per day and do away with two or three men now required to load and turn logs, and the sawyer can do all that work easier and quicker without additional expense.

These machines are not some new experiment, but a machine that has stood the test of years and one of established reputation.

Wm. C. Hill & Company have the best equipped works for turning out heavy band mills complete, and are prepared to furnish complete plans and estimates for any who contemplate going into the saw mill business. Persons interested in saw, shingle, lath or pulp mill machinery should write for catalog B, which contains full description of their entire line. Their address is 415 North Rose street, Kalamazoo. When writing kindly mention CANADA LUMBERMAN.

WELL PLEASED WITH "AD."

The Hanchett Swage Works, of Grand Rapids, Mich., who recently inserted an advertisement in the CANADA LUMBERMAN, write: "So far we are well pleased with the "ad." in your paper, having had quite a number of enquiries and several orders which we credit you for."

TWIN ENGINE STEAM FEEDS.

There has been considerable talk about Geo. R. Ray's patent twin engine steam feeds, manufactured by the Manistee Iron Works Company, of Manistee, Mich. This enterprising company are now building these feed engines in two styles, the parallel style and the angular style. The parallel style is designed to be placed directly under the carriage, and is a very simple, compact and durable machine. Its two main

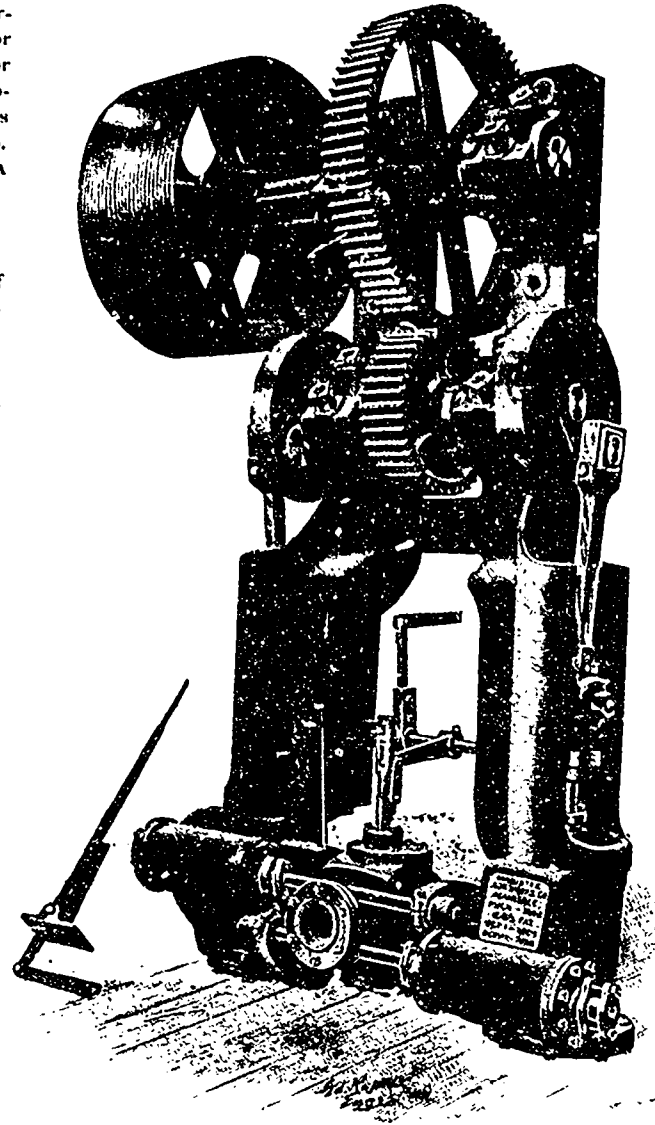
valves are worked by lever connection from the cross-head of opposite engine, after the manner of a duplex pump, thus doing away with the necessity for eccentrics. This enables them to bring the two cylinders near together, making a narrow engine that goes in between the track timbers, besides shortening the steam passages between the central reverse valve and the main valves.

The angular style is designed to be set out from under the carriage, leaving that space clear for main refuse conveyor from log deck. It can be placed either between the side of the mill and the carriage, or if space is limited it can be placed outside the mill frame, the crank shaft being made of any length desired to suit the position. The tail end of crank shaft is carried in two heavy bracket boxes which rest on top of the floor timbers, the engine frame being bolted up to the underside of these timbers. Preventer rollers are carried on these tail boxes, one on each side of the pinion, in mesh.

The cylinder, steam chest, slides, and boxes are cast all in one piece so there are no parts to get out of line and no main joints to blow out.

The main valves are plain rolling valves, held to their seats by flat springs between valve stem and back of valve, to prevent leakage of steam. The central reverse valve is a simple plunger valve, one end being serrated so the admission of steam while feeding can be regulated as desired, and the other end straight so as to let in full steam quickly for gigging. When this valve is pushed down by the sawyer's lever the engines run one way, and when it is pulled up they reverse instantly.

Louis Sands' mill at Lake City with a 14 x 16 feed has cut as high as twenty-four sixteen foot boards per minute.



GEO. R. RAY'S TWIN ENGINE STEAM FEED.

comparatively slow day; they use one 12 x 12 feed. The time is given in seconds:

	Log 16 in. dia. by 32 ft. long		Pine log 18 in. dia by 26 ft. long	
	Sawing	Gigging	Sawing	Gigging
Slab.....	4	4	Slab.....	4
Board.....	7	3	Board.....	3
Board.....	6	3	Board.....	5
1 in. deal.....	15	4	Turn.....	6
Turn.....	2	4	Slab.....	5
Slab.....	6	4	Board.....	4
1 1/2 in. board.....	6	4	Board.....	5
1 1/2 in. board.....	5	3	Board.....	6
1 1/2 in. board.....	6	4	Turn.....	3
Turn.....	7	4	Slab.....	4
Slab.....	5	3	Board.....	4
Board.....	5	3	Board.....	4
Board.....	5	3	Board.....	3
Board.....	6	4	Turn.....	4
Turn Twice.....	8	4	Plank.....	5
Slab.....	3	3	Board.....	4
Board.....	5	3	Board.....	4
Board.....	5	3	Board.....	4
Board.....	6	3	Board.....	4
2 in. plank.....	5	3	12 x 12 timber left.	
Turn twice.....	5	3	900 ft. travel in 1 1/2 minutes.	
Board.....	7	3	600 ft. board measure in 2 minutes.	
16 x 16 timber left.			Speed sawing 400 ft. per minute.	
1,300 ft. travel in 2 1/2 minutes.			Speed gigging 675 ft. per minute.	
1,250 ft. board measure in 3 1/2 minutes.				
Speed sawing 375 ft. per minute.				
Speed gigging 650 ft. per minute.				

The total cut in ten hours, two days before the above was taken, was 138,000 feet for the two sides together.

The Victoria Foundry Company, of Ottawa, are supplying the large pulley wheels for the Fraser Lumber Company's new saw mill at Deschenes, Que. They have secured the contract for shafting for J. R. Booth's new pulp mill at the Chaudiere.

THE NEWS

Cushing Bros. have opened a lumber yard at Fort Saskatchewan, N.W.T.

S. C. Smith has removed his sash and door factory from Vernon to Enerby, B. C.

Blackadar Bros., of Meteghan Station, N. S., are building a new saw mill.

A British Columbia charter has been granted to the McNab Lumber Company, Limited.

McLaren's saw mill at Frank, N.W.T., is being increased to a daily capacity of 40,000 feet.

The East Kootenay Lumber Company have just completed a new saw mill at Meadow Creek, B. C.

Fusee & McFeetors have purchased the planing mill of Wakefield & Kellington at Neepawa, Man.

James Babstowle, of Ferndale, B.C., is considering the erection of a saw and shingle mill at Vancouver.

The Rat Portage Lumber Company have decided to open a sash and door warehouse at Regina, N.W.T.

Holland, Graves, Manbert & George, of Buffalo, are building a planing mill on Hertel avenue in that city.

J. T. Scanlan, of Nelson, B. C., is building a new shingle and lath mill at Salmo, to cut for the North-West trade.

The Royal City Mills Company, of New Westminster, B.C., will erect a shingle mill on the old Mud Clay claim.

The Pearce Company, of Marmora, Ont., are making improvements to their saw mill and installing a new water wheel.

The Yale-Columbia Lumber Company are building a saw mill at Cascade, B. C. They have mills also at Nakusp and Robson.

Mr. Boulanger, of Levis, Que., recently superintended the construction of two saw mills in the Portneuf and Saguenay districts.

Sheriff Armstrong, of Parry Sound, Ont., is promoting a joint stock company to engage in the manufacture of hardwood flooring.

The Northern Logging Company, Limited, has been incorporated by the Government of British Columbia, with a capital of \$10,000.

A planing mill and a dry kiln will be constructed in connection with a saw mill at Sidney, B.C., of which Mr. Matteson is superintendent.

Irons & Winnacott have decided to enlarge their planing mill at Huntsville, Ont. They will install a complete sash and door equipment.

Clarence O. Anthony, of Kennetcook Corner, N. S., has patented a water wheel. A recent test showed it to be powerful and economical.

Incorporation has been granted to the Sandford Furniture & Woodenware Company, of Fenelon Falls,

Ont., with a capital of \$100,000. Francis Sandford is interested.

Buckman Bros. are building a saw and shingle mill about three miles west of Whitney, Ont., to comprise two band saws, a band re-saw, four shingle saws and a lath mill.

E. R. McDonald will likely build a new saw mill at Abbotsford, B.C. Mr. McDonald and his associates control a large timber tract near that place, where they are getting out piles.

Cushing Bros. have been succeeded by the Cushing Bros. Company, Limited, with lumber yards and sash and door factories at Calgary, Edmonton, Strathcona and Fort Saskatchewan, N.W.T.

The Dalhousie Lumber Company, of Dalhousie, N. B., have elected the following directors: James Manchester, George McKean, Henry Hilyard, Joseph T. Knight and A. J. Hilyard.

The Victoria Lumber & Manufacturing Company intend building a logging railway from Ladysmith, B. C., into the timber limits owned by the company west of the Esquimalt & Nanaimo Railway.

The British Columbia Manufacturing Company, of New Westminster, B. C., have decided to establish a saw mill to prepare the raw material for their box factory. Henry Eckert is manager of the company.

H. R. Whitworth, a lumber dealer of Manitoba, is said to have purchased a site at Vancouver, B. C., on which to build a saw and shingle mill. He is at present inspecting some timber limits with a view to purchase.

R. J. Shinner, timber inspector at Vancouver, B.C., has recently heard several disputes regarding timber limits. It is claimed that the law should be amended so as to obviate the difficulties arising from the overlapping of timber claims.

A pine tree was recently cut by A. F. Stewart, of Carleton Place, Ont., which weighed twelve 13-foot logs. The second cut from the butt of the tree measured 46 inches in diameter, and the logs produced 3,540 superficial feet of lumber.

The Canadian Elevator & Lumber Company have acquired the interests at Regina and at several other points of the Waddle Lumber Company and the yard at two Prince Albert branch stations of the Regina Lumber & Supply Company.

The St. Croix Lumber Company, which recently purchased the timber limits and saw mill of T. G. McMullen at Truro, N. S., intend to operate the property energetically. Hon. David McPherson is president of the company and J. M. Davidson secretary.

In last issue reference was made to the large saw mill under construction at Wardner, B. C., by the Crow's Nest Pass Lumber Company. It is learned that the machinery for this mill is being supplied by the Waterous Engine Works Company, of Brantford, Ont.

A meeting of the British Columbia Lumber & Shingle Manufacturers' Association was held recently, at which the chief business discussed was the shortage

of cars. It was stated that lumber shipments to the United States were almost at a stand-still on account of this drawback.

The largest load of saw logs loaded on the Vermillion River this season contained 107 logs, averaging 9-inches in diameter, loaded on 10-foot bunks. The load was put on in fifty-five minutes by the three Houston brothers and was hauled 2½ miles with one team of horses.

It has been decided to again put into operation the Ross-McLaren saw mill at Barnet, B.C. This mill was recently purchased by Minneapolis capitalists. It is intended to make extensive improvements, including the installation of a planer and dry kilns. It is probable that the bulk of the output will be exported.

The Vermillion River Boom Company has been granted permission to construct timber slides, dams, piers, etc., on the north shore of the river. An amicable arrangement has been made with the Sable & Spanish River Boom & Slide Company, which holds a charter for the construction of improvements on the river. Members of the Vermillion River Boom Company own timber limits along the river representing about 800,000,000 feet.

A special meeting of the St. John River Log Driving Company was held at St. John, N.B., recently. A proposal from John A. Morrison, who has a contract for log driving for four years, that he be relieved from further responsibility in connection with the contract, was considered. It was decided not to accede to Mr. Morrison's proposal and he will accordingly have to carry out his contract. A resolution in condemnation of the scheme to dam the St. John River at Fort Kent was unanimously passed.

On the Great Northern Railway it has been decided to use triangular ties, each of which contains about 10 feet less timber than the ordinary tie. The broad surface of the ties on which the rail rests is twelve inches wide. The apex of the triangle is seven inches below the surface of the tie. There is thus a gain of four inches in width over the old eight-inch ties, which means that fewer are needed to a mile of the road. The shape of the new ties produces constant tamping into place, with resulting gain in rigidity.

Recently a deputation, headed by John Charlton, M.P., president of the Reading Camp Association, asked the Ontario Government that grants of \$100 be given to instructors in camps. The Public Libraries Act of Ontario provides a grant of \$100 for evening classes in towns and villages. This is practically a dead letter. There are at present only three cases where it is taken advantage of, there being so many other educational facilities in the older parts of the Province, and the deputation urges that as one-half of the revenue of the Province comes from the forest and mines, such a grant should be available for the camps.

The Manitoba Iron Works, of Winnipeg, have had plans prepared for a new foundry to be built this spring. It is their intention to manufacture a line of mill machinery.

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WOOD PULP DEPARTMENT

THE EXPORTATION OF PULP WOOD.

Touching the memorials that have been presented to the Quebec Government asking for a greater rebate in favor of home manufacture of pulp wood, the views of Hon. S. N. Parent, Minister of Lands and Fisheries, are set forth in the last report of his Department, from which we quote:

The question of duties to be imposed on lumber exported in the raw state to be manufactured into paper abroad, continues to agitate commercial circles. A good many merchants, chiefly those who have embarked capital in pulp mills, are not satisfied with the differential duties imposed on this raw material from our province destined to supply American factories.

According to these gentlemen, the duties are not sufficiently prohibitive to enable American capitalists to make a profit by manufacturing that product on the spot, in this country; while they also think them altogether insufficient to compete to advantage with foreign competitors in the sale of their products.

I have been called upon, on two or three occasions, to decide as to the weight of these representations and I may say that it has been impossible for me to accept them.

The chief obstacles to the increase asked for arise, in the first place, from the fact that three-fourths of the material for these operations comes from private property over which the local government has no control; in the second place from lots sold to settlers who are clearing land for farms and to whom the imposition of an excessive duty would be odious. In the former case these differential duties, which cannot apply to lumber belonging to private individuals, would depreciate to the same extent the value of that cut under license which would be affected thereby. In the latter case, such an import would be considered unjust, and, even if it were possible to have it admitted, it would be impossible to collect it under such conditions.

To be acceptable and equitable such a mea-

sure must reach all producers equally and without distinction.

DUTY ON WOOD PULP.

The Board of Classification of the United States General Appraisers have given their decision in respect to the duty on pulp imported from Canada. The ruling is against the province of Quebec and in favor of the province of Ontario.

There were two protestants in the case, F. W. Meyers & Company, acting for Hollingsworth, Whitney & Company, of Boston, and the Sault Ste. Marie Pulp & Paper Company, of Sault Ste Marie, Ont. Two distinct questions were presented to the board. One related to pulp imported from Quebec, and the other to pulp from Ontario. In each case the pulp is made from wood cut on what are called "Crown lands." Under the law of Quebec, the Commissioner of Crown Lands is authorized to grant licenses to cut timber on the ungranted lands of the Crown, subjected to the "stumpage tariff," which provides that licensees shall pay a tax of 65 cents per cord for pulp wood cut, but a rebate is allowed of 25 cents per cord on "timber manufactured into paper pulp in the Dominion of Canada." The United States Customs authorities levied an additional duty on pulp equal to the 25 cents rebate allowed under a provision of the tariff for an additional duty equal to the export duty which any country or dependency may impose. The Board of Classification has overruled the protest relating to the pulp from Quebec, and the action of the collector in that particular is sustained.

The same additional duty has been imposed upon the pulp from Ontario. Under the law of that Province, however, no one is permitted to cut pulp wood on Crown lands unless it is to be manufactured in Canada. As regards importations from Ontario, the board held that the Province of Ontario "levies no export duty upon wood pulp exported from its limits, and, therefore, the additional duty imposed by the

collector upon the merchandise from the Province was improperly assessed, his decision on that point is reversed, and he is instructed to re-liquidate the entry so as to assess no such additional duty."

It is expected that the case will be appealed to the Federal courts.

NEW MANAGER FOR A PULP MILL.

MONTREAL, March 12th, 1903.

Editor CANADA LUMBERMAN:

Dear Sir, I noticed an item in your paper that Mr. F. M. Steadman had succeeded Mr. Joseph S. Hughes as manager of the Sissiboo Pulp & Paper Company. This is not so, as Mr. Joseph A. Fesside has been appointed manager. Please make the correction.

Yours truly,

"SHAREHOLDER."

PULP NOTES.

The pulp mill of the St. George Pulp & Paper Company at St. George, N. B., is expected to be in operation by May 1st.

The Brompton Pulp & Paper Company, of Brompton Falls, Que., have decided to proceed at once with the construction of a paper mill.

The United Lumber Company have decided to build a large pulp mill on the Clyde river, in Shelburne county, Nova Scotia. It is estimated that the water power will furnish 3,000 horse power.

The substructure has been completed for J. R. Booth's new pulp mill at the Chaudiere. The hydraulic installation for this mill is in the hands of the Jenckes Machine Company, of Sherbrooke, Que.

James L. Newton, of Watertown, N. Y., has purchased from the Quebec government two water powers on the Pentecost river in Lower St. Lawrence. It is Mr. Newton's intention to form a company to manufacture lumber and pulp.

The mechanical pulp mill and the paper mill of the Imperial Paper Mills Company at Sturgeon Falls, Ont., will be running this month, when 45 tons of paper will be produced daily. The output is shortly to be increased to 120 tons per day and it is intended to erect a sulphite mill in the near future.

A representative of Harmsworth Bros., proprietors of the London Daily Mail and other British periodicals, recently interviewed the New Brunswick government in respect to securing a location for a large pulp mill. The location of the proposed mill is at Grand Falls, on the Nepisiguit river, in Gloucester county, where an engineer is now surveying the water power. Messrs. Harmsworth require about 1,000 tons of paper a week for their various publications. It is reported that they will invest \$2,500,000 in building a sulphite pulp mill of a capacity of 350 tons per week and a mechanical pulp mill of 600 tons per week.

Charles B. Campbell sums up the cost of making a ton of mechanical pulp as follows: The cost of getting timber from the pulp areas will average 4 dollars per cord; much of it will cost more if the government insists

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on the literal enforcement of the contracts. A cord of spruce will make 1,850 pounds of air-dry pulp, and sufficient timber to make a ton of pulp will, therefore, cost \$4.30. The labour to manufacture it will cost \$2 per ton, and supplies, maintenance and fixed charges, at a low estimate, \$2.20 per ton; total cost of a ton, \$8.50 f. o. b. mill. This is the actual cost of putting a ton of pulp on the car at a well-appointed mill in Canada.

The chemical pulp industry of Austro-Hungary is reported to be in anything but a flourishing condition. Over-production is complained of, and importations appear to be on the increase. Producers complain that local paper mills show a disposition to manufacture their own chemical pulp, and frequently the surplus is put upon the market. There are some thirty pulp factories with a daily production of 600 tons, and one-third must be exported, which is a difficult matter owing to the geographical position of the Empire. Manufacturers look to Belgium, Great Britain, France and Italy, but find it a hard task to meet Scandinavian competition.

At a recent meeting of the American Sulphite Manufacturers Association, held in New York, the question of price cutting was discussed. The total daily production of unbleached sulphite for the market is esti-

mated at 1,000 tons of pulp made by the mills in the United States and 200 tons imported. For this quantity there is a good demand, so the manufacturers say, and they add that there is no reason why any maker of sulphite should cut the price of the association. The agreed upon minimum asking price of the Association is 2 cents. This price, from all accounts, has not been insisted on for a number of months. The range seems to be from 1.85 to 2 cents. To sell for less than 1.85 is evidently considered an offence by most of the sulphite manufacturers. That there have been some such sales is common report. But since the week the manufacturers have confidence that price cutting will end.

Mark W. Marsden, of Philadelphia, Pa., has been granted a patent covering a machine for pulping or disintegrating fibrous materials, wherein the pulping operation shall be practically continuous and shall be accomplished in a speedy and efficient manner, the machine being also available as a pulp washer. The machine comprises a vat or tank and duplicate sets or pairs of compression rolls arranged within the tank at opposite sides thereof. The rolls of each set are superposed one above the other and are arranged to be driven at different speeds through the intervention of suitable gearing. The rolls are formed with smooth cylindrical faces and the upper roll of each set is mov-

able with respect to its mate, so that an adjustment can be effected to accommodate the rolls to coarse or fine cut material. The action of the rolls upon the fibrous material is a peculiar rubbing action, as contradistinguished from that of a beating machine, so that the fibres are obtained in a long, good, strong condition. The movement is practically a synchronous one, motion being imparted from one set of wheels to the other, so that an even and continuous circulation of the material is obtained, thereby insuring a uniform product. The head blocks in which the rolls are journaled may be tongued and grooved or otherwise fitted directly in the sides of the vat, and are provided with flat inner faces against which the ends of the rolls snugly fit. The midfeather or partition which encases the intermediate gearing is likewise provided with flat faces flush with the abutting ends of the rolls, so that the fibrous material must of necessity pass through and be acted upon by the rolls. The machine is equipped with suitable inlet and discharge passages, and also with a sieve or strainer, with its complementary outlet to adapt it to pulp washing purposes.

The CANADA LUMBERMAN regrets to learn of the illness of Mr. W. R. Thompson, lumber merchant, of Teeswater. Mr. Thompson was recently in Toronto for medical treatment.

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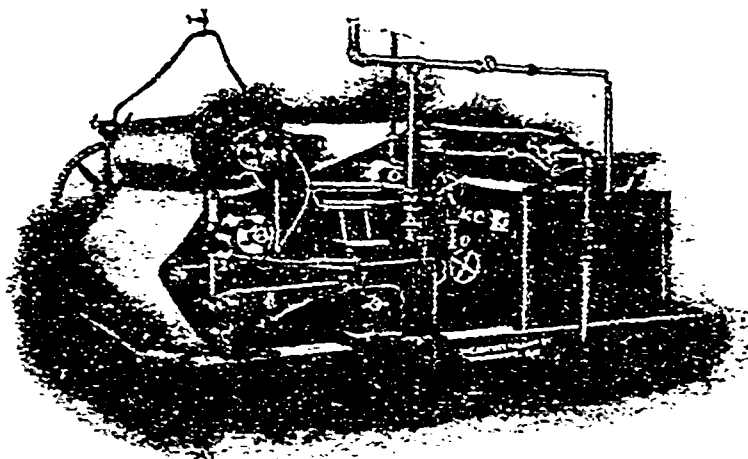


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QUEBEC FORESTS.

The report of the Minister of Lands, Mines and Fisheries for the province of Quebec for the year ending June 30th, 1902, shows that the receipts from forests were \$1,055,037.48, which included \$201,002.91, the proceeds of a timber limit sale. The following statement shows the area of timber land under license and the quantity of timber cut during the year under review:

Area under license.....	82,952½ sq. miles
Square timber, pine.....	635,621 cubic feet
" " hardwood.....	129,004 " "
Spruce, hemlock, balsam, cypress, cedar, white birch and poplar saw logs and boom timber	319,866,256 feet b.m.
White pine saw logs.....	51,303,526 " "
Red pine.....	38,076,043 " "
White pine saw logs under 11 inches in diameter.....	17,867,311 " "
Pulp wood.....	260,194 cords
Peles.....	128,042 lineal feet
Railway ties.....	629,270 pieces
Pickets.....	6,886 " "
Shingles.....	18,043,000 " "
Rails.....	6,635 " "
Hemlock bark.....	12,364 cords
White birch for spool wood.....	4,424 " "

The timber dues realized \$64,552.44, ground rent \$163,983, timber limit sales \$201,483.39, and transfer fees \$11,871.74.

Concerning the relations existing between the settlers and lumbermen the report says:

In this country the settlement and opening up of our vacant lands and the consequent increase of our population constitute our chief aim. All our energies are directed to that end, for from it is derived the political influence we now have and which we are to possess in the future. On the other hand, we have immense wealth to develop by the exploitation of our

vast forests. They constitute our greatest source of revenue, and from those forests, with the aid of our innumerable water powers, we shall obtain what our province needs to become a great manufacturing country, and thereby retain that section of our population that is always ready to emigrate.

True settlers and timber license-holders, when they remain within their respective spheres, do not hinder but, on the contrary, assist one another. In regions remote from the large centres colonization progresses in proportion to the extent and prosperity of lumbering operations, for the latter create markets for the former.

But the unheard of, almost abnormal prosperity we are now enjoying, gives rise to another state of affairs. It invites a great many persons to employ every means in their power to take advantage of the benefits it promises. Thus merchants, both great and small, manufacturers of all kinds associate with the settlers and with the heads of families of twelve children, and make use of them to attain the desired end.

The very great value that wood suitable for the manufacture of pulp gives to lots, even to those with the smallest quantity of timber, causes the demand therefor to become more and more pressing. So much is this the case that it would be very easy for me to dispose, in this manner, in a very short time and at apparently remunerative prices, of the whole of that portion of the province now divided into farm lots.

To this end it would be necessary to set aside a great many limits, duly acquired at high prices, and retained for many years by the payment of the regular ground rent and stumpage

dues, with the view of favouring other lumbermen disguised under a false name. Such a measure, apart from its character of injustice, would ruin our credit, and would finally result in our seeing vast areas of our public lands taken possession of and every opening closed to colonization.

In this connection I cannot do better than cite the example of our neighbors in the State of Maine. As everybody knows, only a limited portion of the territory of that State is under cultivation, the greater part being still in forest. These forest lands were sold long ago and passed into the hands of large landowners, who now refuse to sell any farming lands because the lumber production, properly managed, yields them ample revenues year by year.

The J. S. Henderson Company, Limited, manufacturers of oil-tanned larrigans, Parrsboro, N.S., expect to have their new factory completed at an early date. It is equipped with modern machinery and the latest labor-saving appliances.

James W. Woods, manufacturer of lumbermen's supplies, Ottawa, has again found his accommodation inadequate, and is now building a seven-storey warehouse on the south side of Slater street. The building will be first-class in every respect.

The new factory of the Compensating Pipe Organ Co., of Battle Creek, Mich., will be outfitted with American Blower Company heating and drying apparatus. The same company are also furnishing dry kilns for the Boake Mfg. Co., Toronto, Ont.; Detroit (Mich) Table Mfg. Co.; Wm. E. Uptegrove & Bro., Johnson City, Tenn.; Kelley Island Lime & Transport Co., Duluth, Minn.; Barber Bros. Chair Co., Hastings, Mich.; Cadillac Cabinet Co., Detroit, Mich.; D. M. Rose & Co., Knoxville, Tenn., and the Duane Chair Co., Dalton, Ga.

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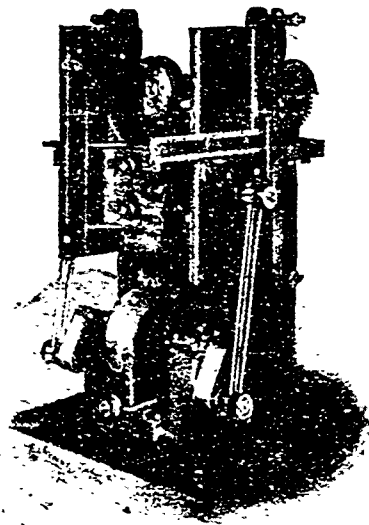


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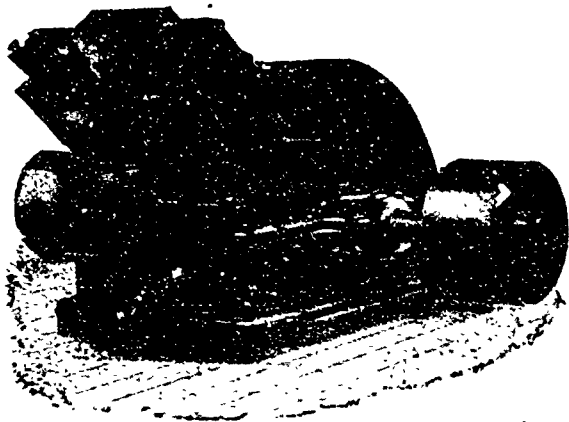
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If you have no Hog write us for circulars and let us tell you all about ours. They save their cost in a short time. Write for our Stock List of New and Second Hand Machinery.

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General Groceries
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We make a specialty of everything in this line suitable for Camps and Lumbermen's use.

We have had a large trade in this field for years, and know exactly what is required. The right quality of goods at the right prices will always be found with us.

We carry large Stocks of Staple Lines, which enable us to make prompt shipment at all times.

W. H. Gillard & Co.

WHOLESALE GROCERS, TEA AND COFFEE IMPORTERS

Write or Telegraph us when open.

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WE MAKE A BIG LINE OF

River Shoes and Cruisers

AND ALL KINDS OF HEAVY SHOES
FOR RIVER AND CAMP

WE HAVE MADE THEM FOR YEARS. WE KNOW HOW TO DO IT. SEND FOR OUR CATALOGUE.

Herold-Bertsch Shoe Co.,

Makers of Shoes

GRAND RAPIDS, MICH.



Watson's Portable Air Tight Baker



The most convenient stove ever constructed for use in the Woods, on the Drive, in the Camps. Bakes as perfectly as the finest range.

Read What Experienced Woodmen Say of it: "We used your Portable Woods Baker all last season with a crew of men in the woods, travelling from place to place. We found it convenient to handle and the best steel range cannot beat it in baking. It is a perfect baking oven and a success in every way.

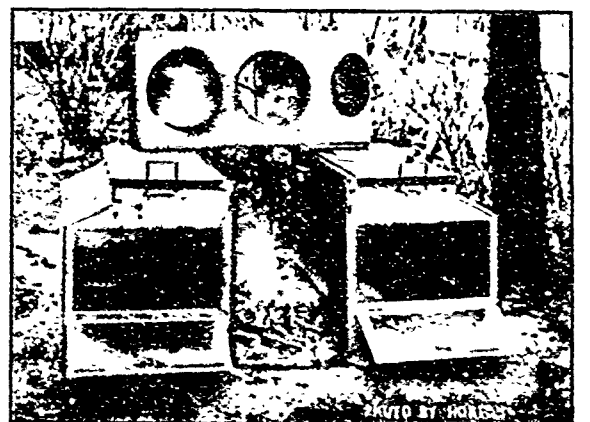
The cooking is not affected by rain or weather and can be used outdoors or in a tent."

Yours truly,
MENOMINEE RIVER BOOM Co.
Per Wm. H. Stephenson, Gen'l Supt.

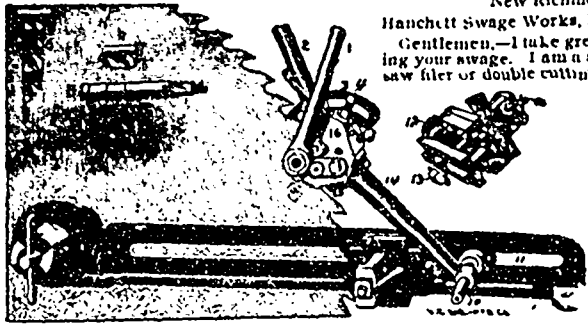
We make these stoves in three sizes. Our No. 10 will cook for ten men; our No. 20 for twenty men, and No. 50 for from fifty to one hundred persons. We want those interested in a stove of this kind to write us for full description and prices.

WATSON BROS.

Manufacturers
MARINETTE, WIS.



Hanchett's Adjustable Saw Swages



New Richmond, Wis., March 17, 1903.
Hanchett Swage Works, Big Rapids, Mich. :

Gentlemen.—I take great pleasure in recommending your swage. I am a saw maker and expert banding your swage. I have used all the different makes of swages now on the market and consider the Hanchett superior to all others for circular or band.

Yours truly,
M. R. ALLEN.

Mr. Allen is with Willow River Lumber Co. at a salary of \$10 a day.

The accompanying cut represents our Swage and Joiner for circular saws. Without question the best Swaging Machine in existence.

We also make Swages for Band Saws, Gang Saws and Band Resaws.
We invite correspondence from Canadian mill operators and supply houses, mentioning this paper.

HANCHETT SWAGE WORKS, Big Rapids, Mich.

“THE REEVES”

For Saw or Planing Mill work
“The Reeves” Wood Split Pulley
is the favorite. A good, strong, durable pulley made honestly and made right.

Reeves Pulley Manufacturing Company, Limited

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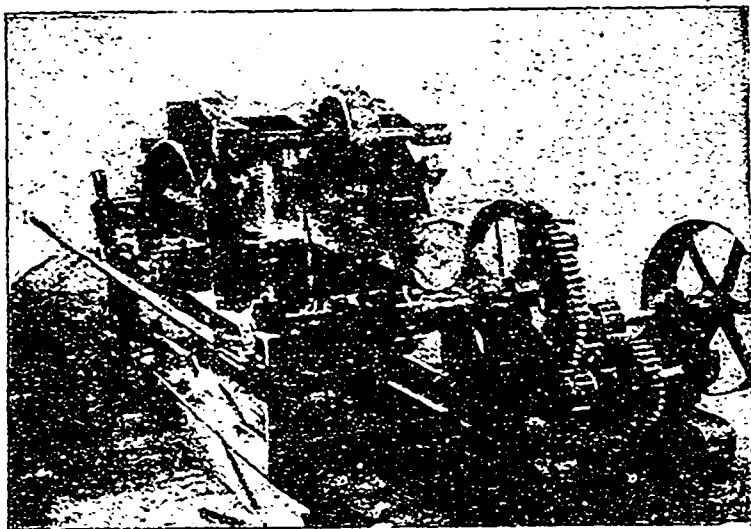
There is no doubt about the fact that the

RODGERS

Adjustable Log Siding Machine

is without a peer.

This machine will slab opposite sides of a log in one operation at the rate of two thousand logs in 10 hours.



A MONEY MAKER

A MONEY SAVER

HUNDREDS OF LETTERS RECEIVED LIKE THIS :

Rock Island, Ill., Nov. 25, 1902.
RODGERS IRON MANUFACTURING CO., Muskegon, Mich.
Gentlemen—Replying to yours of recent date and referring to your adjustable log siding machine, must say it has given us general satisfaction, and we have done good work with it. Anyone desiring a machine of this style for the purpose of slabbing small logs, we would recommend yours.
Respectfully,
WEYERHAUSER & DENKMAN.

For full particulars and literature, mention this paper and address :

RODGERS IRON MFG. CO.
MUSKEGON, MICH.

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RUBBER BELTING

“MONARCH” “RED STRIP” AND “LION” BRANDS.

These well known grades of Rubber Belting are used by the principal lumber and saw mills from the Atlantic to the Pacific. Unequalled for durability, tensile strength and power-transmitting qualities.

“REDSTONE” SHEET PACKING.

The most satisfactory Sheet Packing. Remains flexible under the highest pressures. Does not blow out or require any following up.

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Are you sufficiently supplied with Fire Hose, and if so, is it in good condition for immediate use? If not, let us send you a Post Graduate treatise on the subject. We are the largest manufacturers of Fire Hose in Canada.

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WE CAN HELP YOU.

The Gordon Hollow Blast Grate Co.,
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THE LARGEST MANUFACTURERS OF

Blast Grates, Edgers and Trimmers
IN THE WORLD.

A SPLENDID EDGER FOR SMALL MILLS AT LOW PRICES.

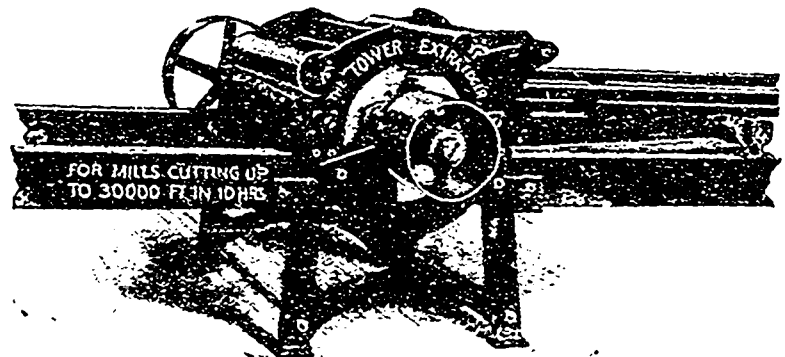
The “TOWER” 2 and 3-Saw Edgers, Improved.

For mills cutting not to exceed 20,000 ft. in ten hours.

The “TOWER EXTRA” 3-Saw Edger

A larger

of the “TOWER,” for mills cutting up to 30,000 in ten hours



1,000 in Daily Use!

Among the many reasons for the wonderful popularity of these celebrated edgers are the following

- 1 They take up little room.
- 2 They require little power.
- 3 The feed rolls are adjustable in FOUR directions, which means extreme accuracy
- 4 The saws may be removed easily and quickly, without disturbing the arbor.
- 5 The mechanism for shifting the saws is up-to-date, convenient and positive.
- 6 The vital parts are carried by a substantial iron husk resting solidly on the floor.
- 7 They are pre-eminently practical.
- 8 There is no edger made approaching them in cheapness.

The “TOWER” One-Man 2-Saw Trimmer.

With this trimmer one man can easily trim the output of a mill cutting up to 30,000 ft. in ten hours. SEND FOR CATALOGUE D.

Improved Gang Lath Machine

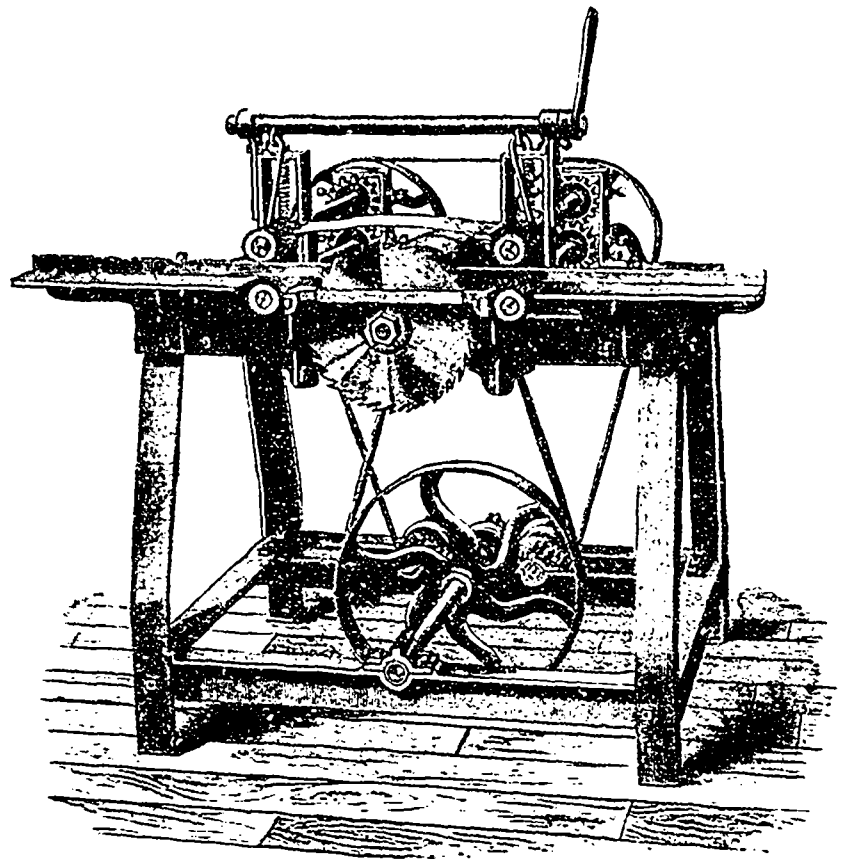
This machine is entirely self contained—does not require a counter-shaft and pulley to drive the feed from.

It has a solid iron frame. The feed rolls are milled from solid steel bar and case hardened. In fact the machine is constructed of the best material throughout. Carries four 12 inch saws and will do fully as much work as any other machine made for the same purpose.

I manufacture other lath machines much heavier than this cut shows, and lath bolters of various capacities.

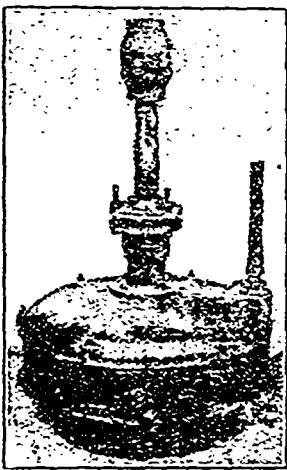
I also have a full line of saw mill and shingle mill machinery, and can quote low figures, especially to cash customers.

CATALOGUE FREE.



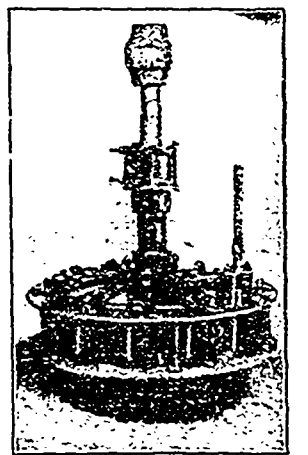
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Now is the best possible time for replacing your old, worn-out wheel with a new Turbine that will save Worry, save Time, and make Money for you. If you want a well built wheel, a wheel that will give you steady reliable power every day, a wheel that will save water, a wheel that will last you a lifetime, and that is sold at a reasonable price, then write us for catalogue and prices on the

Standard Leffel and Vulcan Turbines.



They are better developers to-day than ever before, and are growing in popularity, as our order books show.

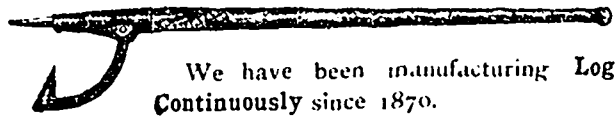
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Many of our 1870 customers still continue using Champion Tools.

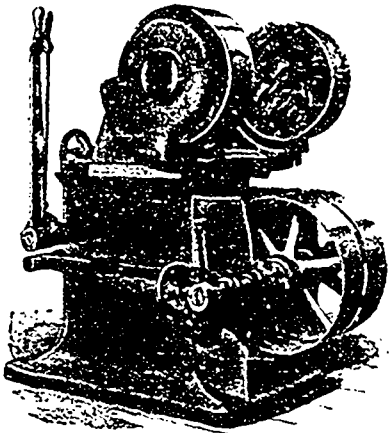
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ONE BOY AGAINST FIVE MEN



The boy with a Nash Sander will do as much work, and do it far better than five expert men can do with the old fashioned sand belt. You can

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It is simply the difference between what you will pay one boy and what the five men will cost. If you make any kind of round work, such as chair legs, spindles, dowel rods, curtain poles, shade rollers, handles etc.

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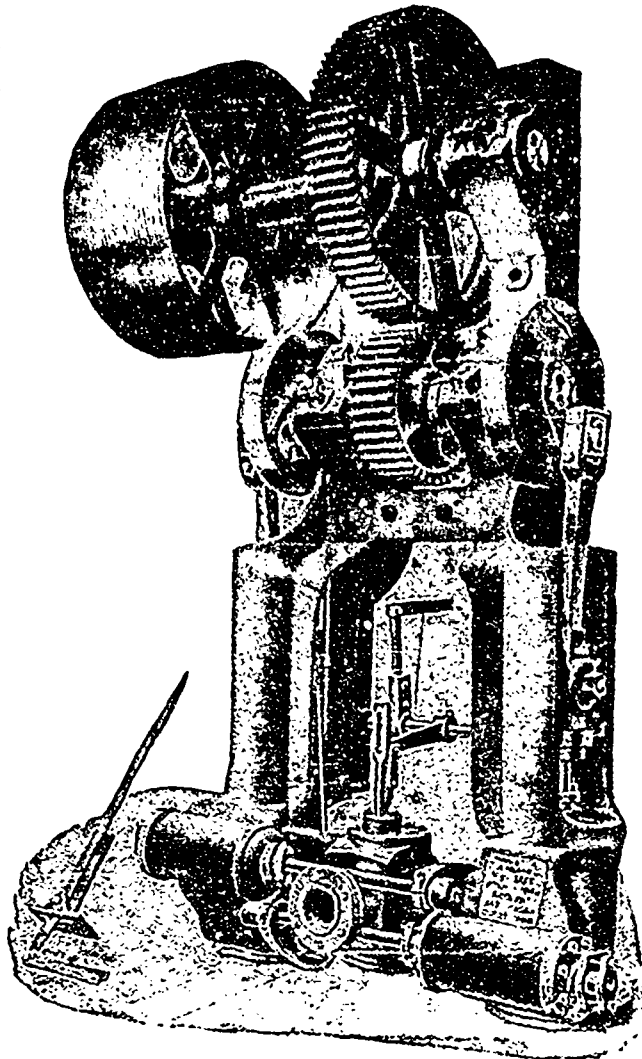
The machine will save its own cost in three months, besides making an improvement in the quality of your work that is a profit in itself.

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Oregon Pine Lumber.
Annual Output 75 million feet.
PORTLAND, OREGON,
January 8th, 1903.

ZIMMERMAN & WELLS
MACHINERY CO.,
Portland, Oregon.

GENTLEMEN, In reference to your inquiry regarding the workings of the Ray Patent Steam Feed purchased from you about eighteen months ago, we have this to say regarding the feed, that it certainly is not only the best feed that we have ever used, but undoubtedly has no equal to-day on the Pacific Coast.

We have dropped as high as twelve 24 ft. 1" boards in one minute. In doing this, the carriage would have to travel about 650 feet and stop and start twenty-four times in one minute. The weight of the carriage, head blocks and log would be about ten tons. This would give you a pretty good idea of the Power exerted by the feed in handling a load of that size at such a velocity.

We have run this feed night and day since we have had it, continually, and the same ropes are still in service that were put on when the feed was mounted. Everything about the feed seems to be in as good condition to-day as the day we got it. We would not take it out and put back our old feed for ten times the cost of the new one. You will see that we are more than pleased with it.

Yours truly,
INMAN FOULSEN & Co

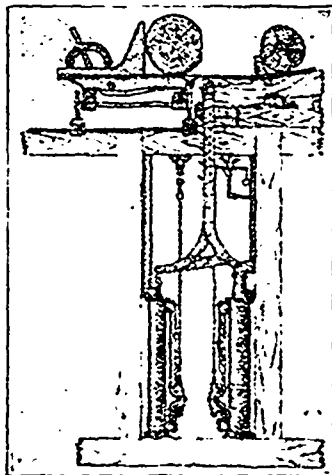
GEORGE R. RAY'S TWIN ENGINE STEAM FEED
PATENT With Drum for Wire Rope or Rack and Pinion.

—MANUFACTURED SOLELY BY—

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(NOT BY KIPLING)



Here is a machine. It is called a Hill Steam Nigger. With it you can increase the cut of your mill three to five thousand feet per day. It can also make the two or three men now ornamenting your log deck superfluous luxuries. Now, stop and figure out how much more money you will be worth in a year if you can increase your cut and decrease your pay roll as we have said, then you'll order a Nigger.

Write for Catalogue It

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LUMBER CAMP SUPPLIES A SPECIALTY

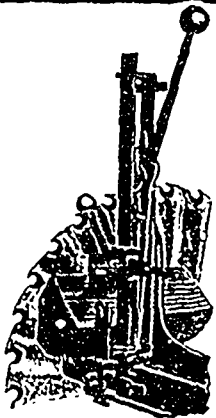
White Rock Maple and second Growth Rock Elm Finished to the Trade

Catalog on Application E. LIVINGSTONE, Prop.

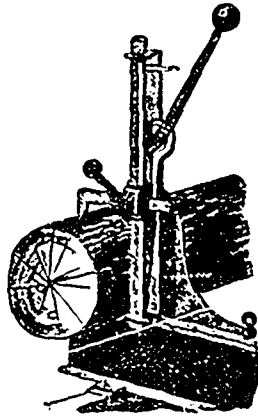
Glass Patent Duplex Mill Dogs

These dogs have no springs no ratchet, no pawls, nothing to get out of order, but have a positive grip so that no log can become loose or turn while being sawed. Dogs can be fastened on any head block knee, and will hold small blocks on single head block if necessary to do so. Upper and lower dogs can be used together or independent of each other.

Dogs made either right or left hand as required.



Right Hand Duplex Dog



Right Hand Single Dog

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Manufacturers of Saws, Saw Mill Dogs and Supplies.

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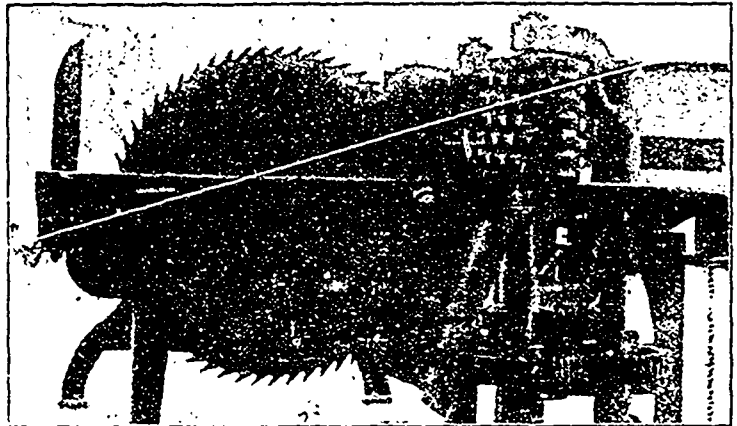
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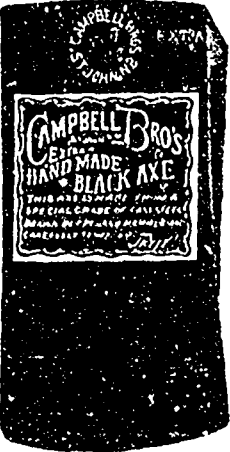
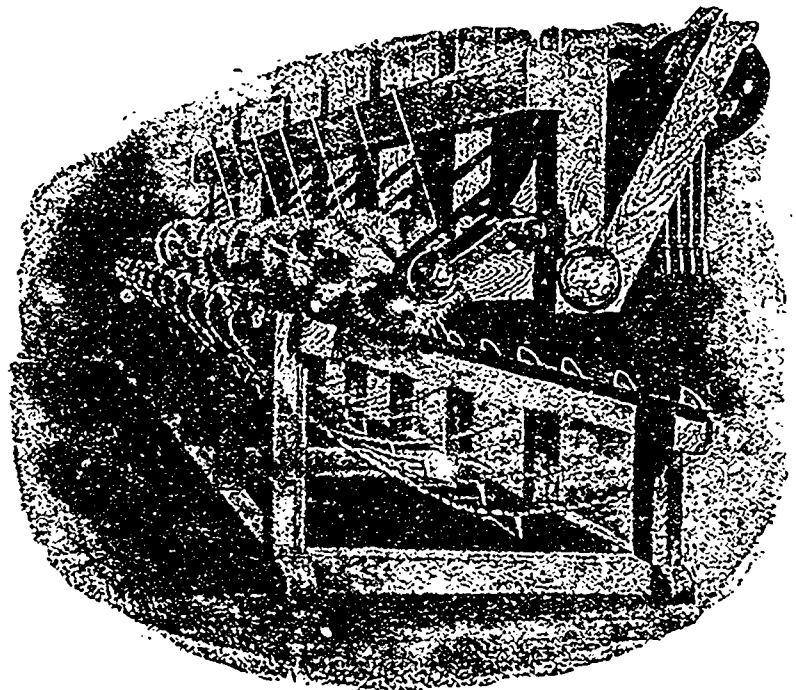
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Mowry & Sons,
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This Axe stands better in frosty weather than any axe made. Send for sample. Can supply any pattern.

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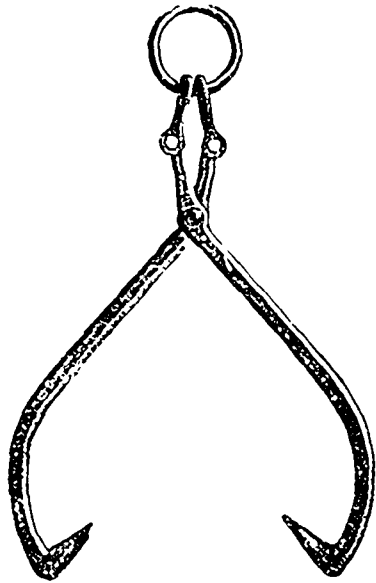
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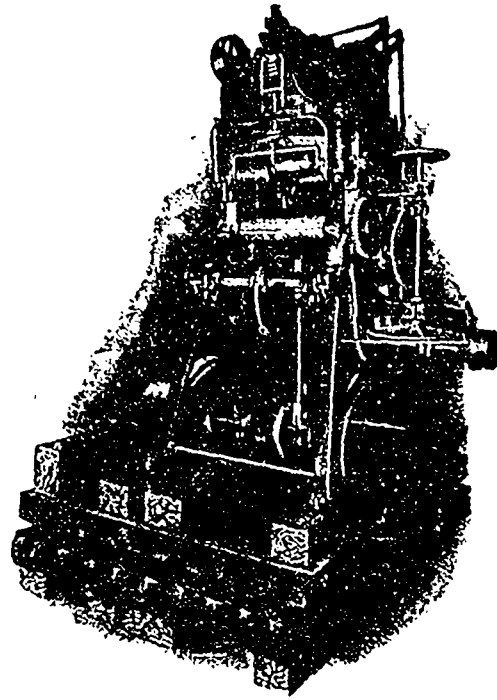


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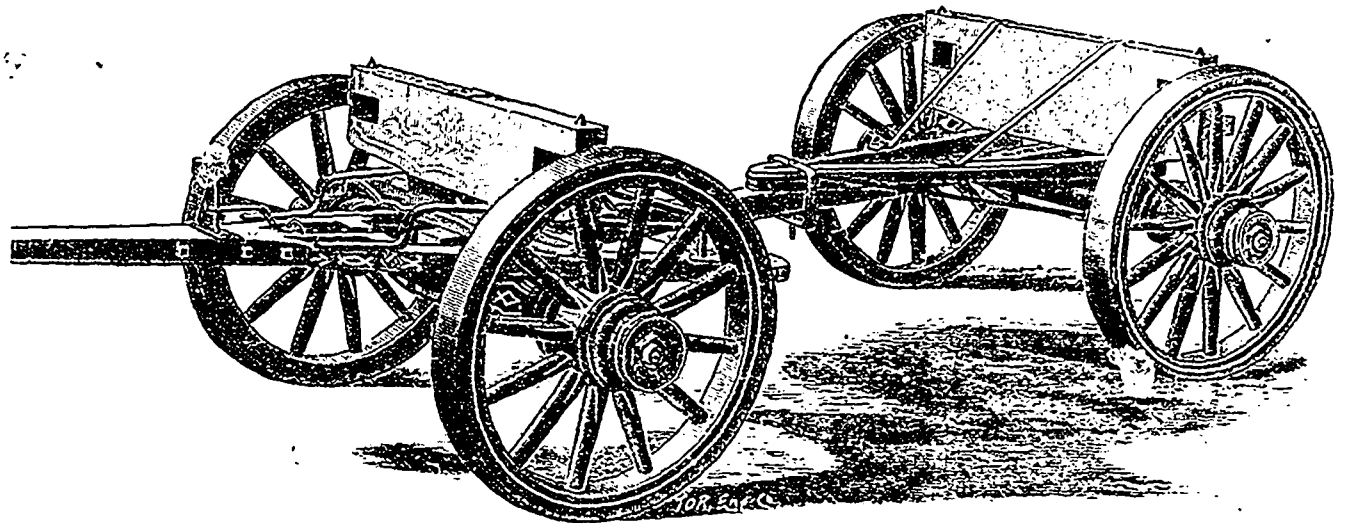
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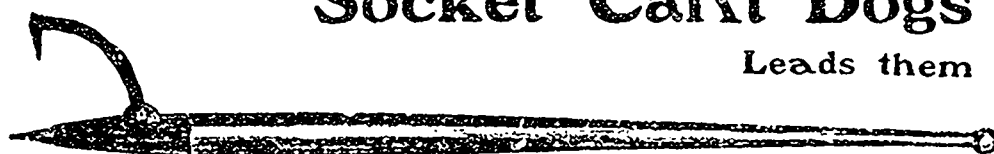
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Leads them all



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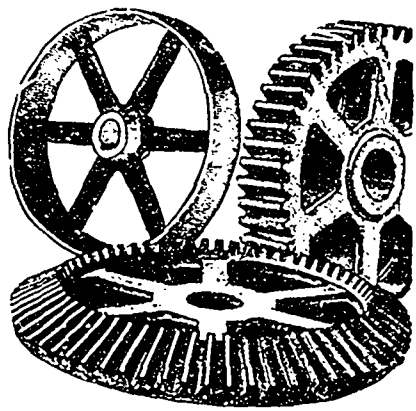
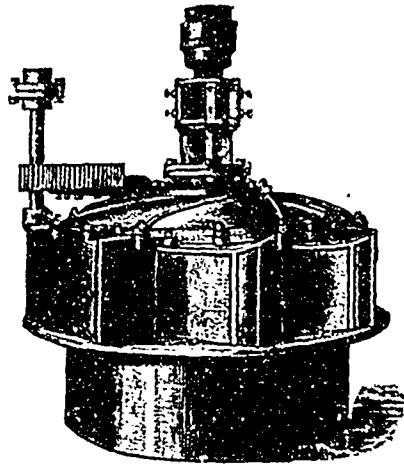


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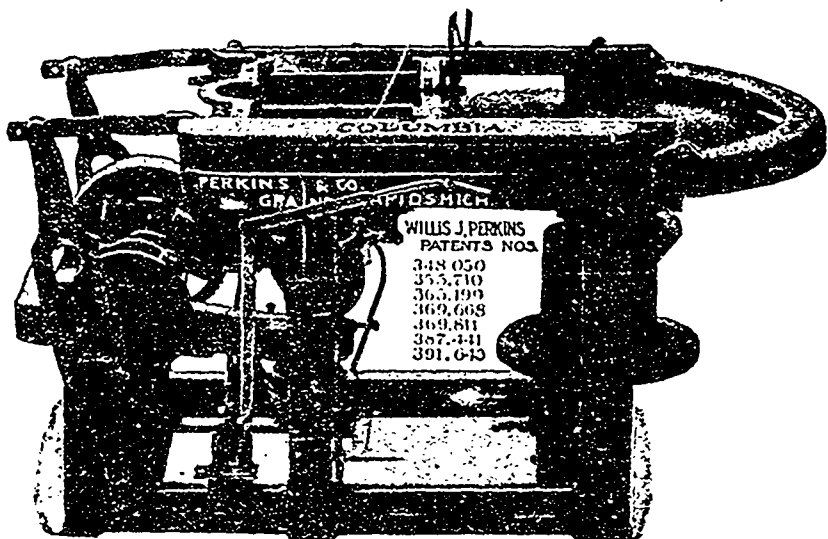


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 HEADING AND SHINGLE MACHINES**



THEY WERE WELL PLEASED.

PERKINS & CO.

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DEAR SIR: Replying to your favor of 18th inst., Mr. Shives has not called to see the Columbia as yet. Our man is feeding her on the fly now; he don't lose a clip. We are very much please'd with the machine.

Yours truly,

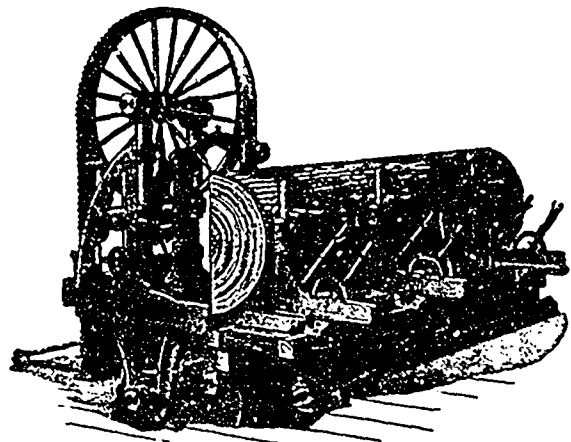
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 Lumber Mill Machinery a speciality.



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All Night

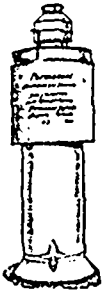
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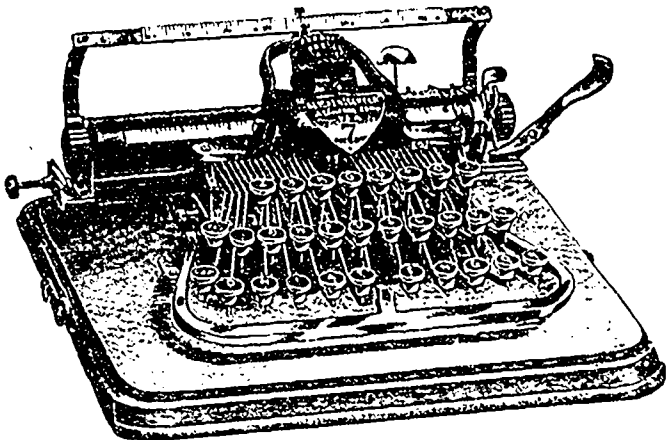
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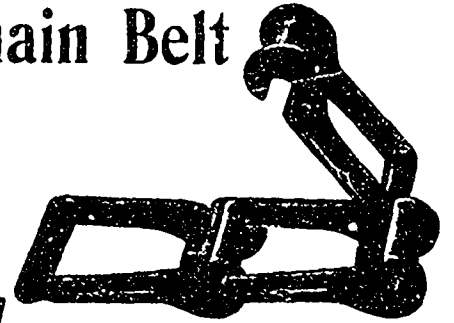
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—AND—

CONVEYING

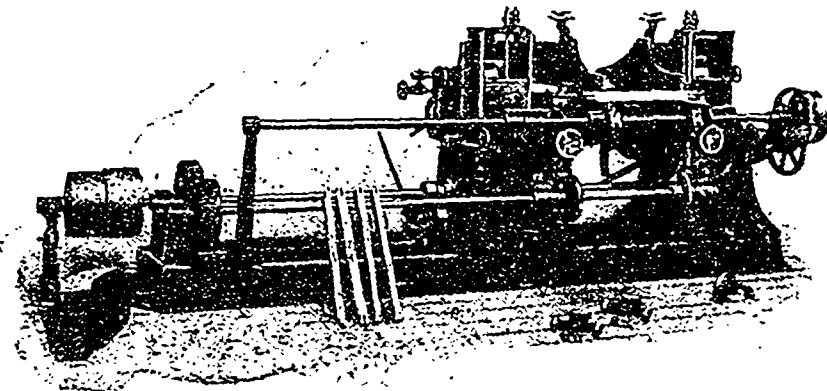
MACHINERY



William R. Perrin & Company

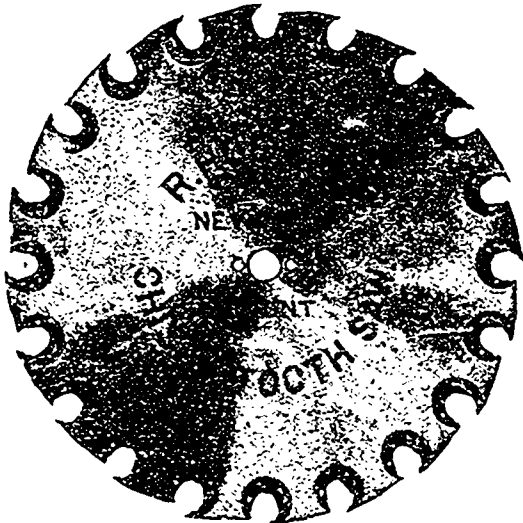
TORONTO, CANADA.

The first of its kind on the market. New and original and first introduced by us
E. B. HAYES MACHINE CO., Oshkosh, Wis.



When a new and improved machine that has great merit in it like this one, is put onto the market, often times other machinery manufacturers will recognize the fact that it will be a good seller and they will try and start in to copy, of course providing they can do it. We expect it may be the case with this machine, but we know that all the mill men purchasing machines will want the Original, for many mill men in the past have met with great disappointment in buying copied machines. Write for full information.

OVER 35,000 IN USE
IN EVERY KIND OF TIMBER



THE ONLY SUCCESSFUL
INSERTED - TOOTH SAW.

THE TWENTIETH CENTURY SAW

Our Chisel-Tooth Saw is adapted to all kinds and conditions of sawing, and does equally well in hard or soft woods, winter or summer, large or small mills.

It increases the output of the mill, requires less power and makes better lumber at less cost than any other saw.

BEWARE OF IMITATIONS.

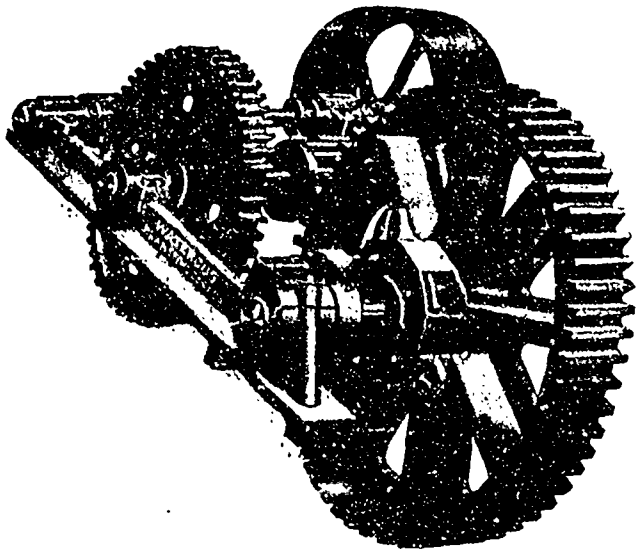
THE GENUINE IS MADE ONLY BY

R. HOE & CO.

504 to 520 Grand Street, NEW YORK, U. S. A.

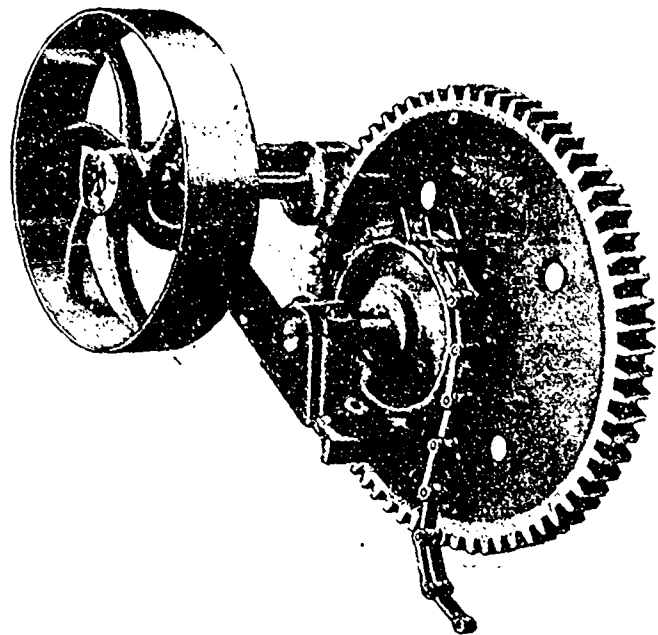
Catalogues with Prices and Further Particulars Sent on Application.

ENDLESS CHAIN BULL-WHEELS OR LOG JACKS



WATEROUS NO. 0 DOUBLE-GEARED LOG JACK

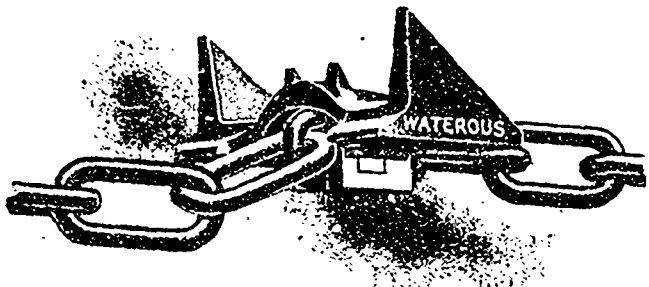
With spur gear to drive from shaft running across mill.
When needed to drive from shaft running lengthwise of mill, we replace smaller spur gears with bevel gears or frictions placed outside of iron frame.



WATEROUS NO. 1 SINGLE-GEARED LOG JACK

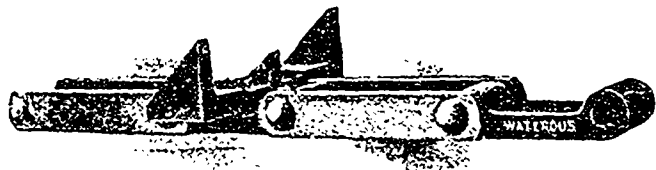
With No. 86 log chain. Cast steel spurs and centre links, steel side links, 6" pitch. No. 80 log chain is the same style but heavier with drop forged center links, 8" pitch.

PULLEYS CAN BE READILY REPLACED BY STRAIGHT FACE FRICTIONS.



Cable Chain with Cast Iron Log Spurs

Chilled wearing shoes 4x12" on each side round link. Made 10", 12", 14" wide for 1", 1 1/4" and 1 1/2" chain. Can't turn on chain.

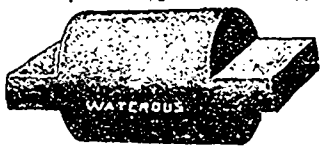


No. 86 Steel Chain (Cast Steel Log Spurs).

Rivets 1/2", side bars 1 1/4 x 5/8", 8" pitch, center (cast steel) 2 1/4 x 6" pitch. Spurs 9" point to point.

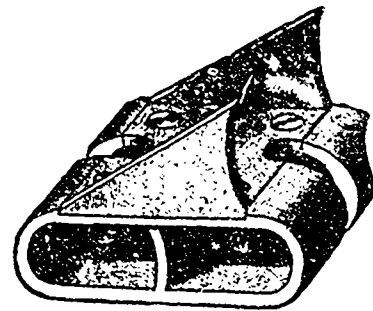
No. 80 Steel Chain

Is 8" pitch similar to above, except that solid link is a drop steel forging and the pin is 1 1/2" in diameter (like illustration) and is fixed in position connecting side bars, presenting a large wearing surface for solid link. Side bars 2 x 1 1/2"

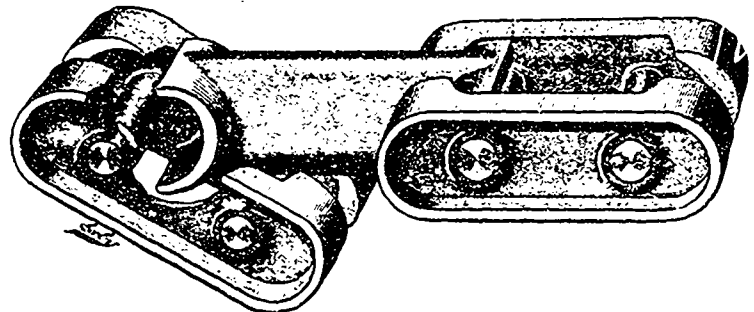


PIN OF NO. 80 CHAIN

Taking a safety of 4 1/2" this chain gives a 10,000 lbs. working strain. Log spurs same as No. 86 or of heavy forged steel, any spread desired.



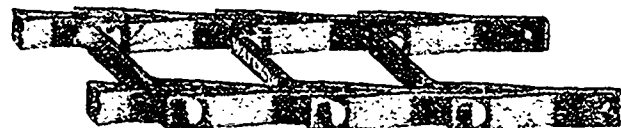
Malleable Log Chains--Detachable, readily applied.



No. 1050 and 1075--Giant Chains, Detachable.

Not recommended for salt water--but there is no better chain for fresh water.

Forged Refuse Chains



R. Double.

Outside width 12 1/2 in.--Made of 1 1/2 x 3/8 in.

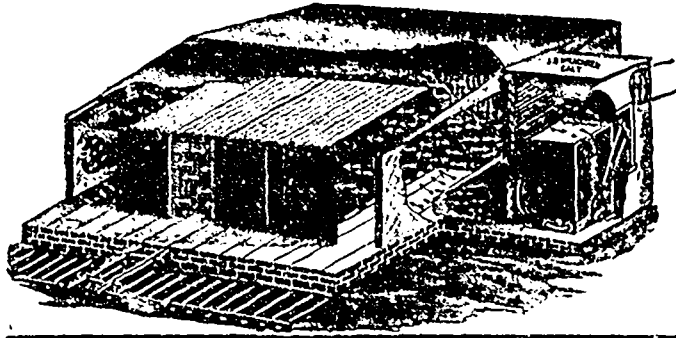
The 10 to 15 Tons of Ewart Detachable Link Belting we carry in stock insures prompt shipments.

WATEROUS ENGINE WORKS CO., Brantford, Can.

McEachren Heating & Ventilating Co.

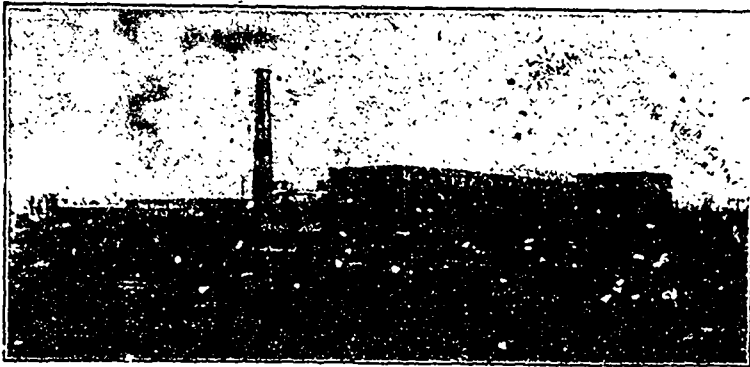
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Our Dry Kiln Installations are all giving the best of satisfaction. We make both a natural draft kiln and a blower kiln. Our Steel Trucks and Transfer Cars are worth examining; they are cheap yet strong and durable.



- Durability
- Efficiency
- Simplicity
- Economy

OUR BEST ADVERTISEMENT



is the satisfactory operation of our kilns.

A company who recently wrote us for quotation on an

"A B C" MOIST AIR KILN

stated:

"Our inquiry was due to the kiln of the Holland (Mfch.) Furniture Co. The splendid working of same caused us to investigate."

Let us send you a list of users in your vicinity.

American Blower Company, - Detroit
 NEW YORK CHICAGO LONDON.

Economy is the Watchword

of every modern business. No other way to successfully meet competition.

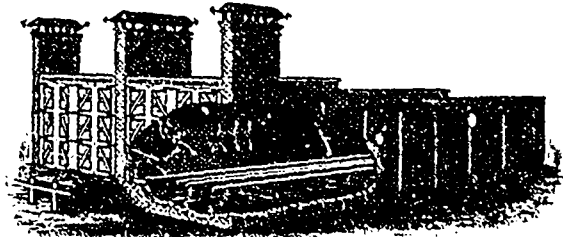
True economy in production is to use in each department the method which is most productive at the least expense.

Which is the same as saying: Put in

THE STANDARD MOIST AIR DRY KILN

THE DRY KILN THAT DOES NOT DISAPPOINT

THE DRY KILN THAT DOES NOT DISAPPOINT



We've a new booklet that tells why our kiln leads all others. A copy's yours if you'll write for it. Just say—Send Catalogue "D".

THE STANDARD DRY KILN CO.
 Indianapolis, Ind.

PRACTICALLY STRETCHLESS

STRONG

FREE

Canadian Oak Belting Co. Limited

BROCKVILLE, ONT.

SATISFACTION GUARANTEED

The Morton Moist Air Dry Kiln

There is no other Kiln like the Morton.
 SEND FOR CATALOGUE

Many say they thought they had good kilns before they bought the Morton, but would be satisfied with nothing else now.

What Constitutes the Best Dry Kiln?

The one that gives the most universal satisfaction, which, without question, is the Morton.

Manufacture: No. 149 rue Prince-Edouard, St. Roch.
 Bureau: No. 142, rue de l'Eglise.

QUEBEC, January 31st., 1902.

MESSRS. THE A. H. ANDREWS Co., Chicago, Ill.

GENTLEMEN:—Replying to yours of the 28th inst. I am pleased to say the Dry Kiln I purchased of you is giving good satisfaction. I am drying all kinds of lumber in it, and use exhaust steam in the day time and live steam at night. I am well pleased with the Morton Patent Moist Air Down Draft Dry Kiln, and have no hesitation in recommending same.

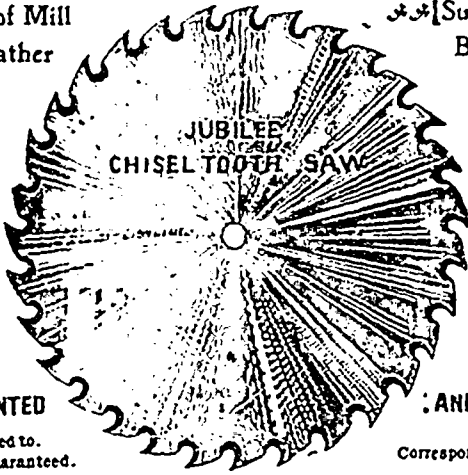
Yours truly,
 (Signed) J. H. GIGNAC.

The A. H. Andrews Co.,
 300 Wabash Avenue, Chicago, Illinois.



THE JAMES ROBERTSON CO., Limited.

Manufacturers of Saws of All Description
 Full line of Mill Rubber and Leather Metal, &c., always



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BOOM AND LOGGING CHAINS MADE TO ORDER

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Write for Prices.



THOMAS PINK
 Pembroke, Ont.

Send for Catalogue and Price List.

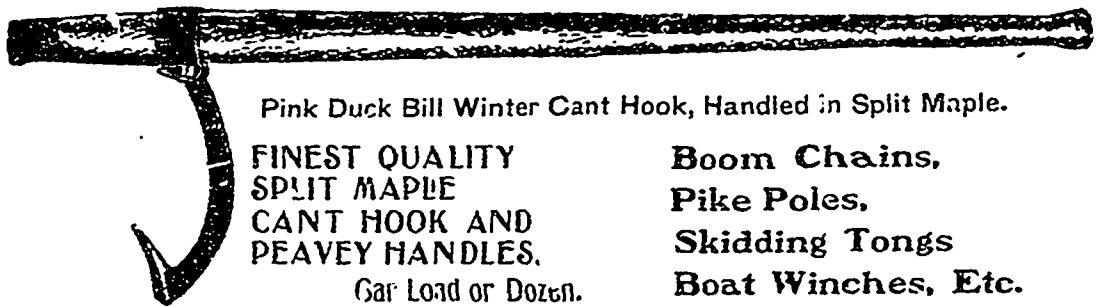
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In Every Province of the Dominion, New Zealand, Australia, Etc.



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FINEST QUALITY SPLIT MAPLE CANT HOOK AND PEAVEY HANDLES.

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