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CANADA LUMBERMAN

WOODWORKERS' MANUFACTURERS' AND MILLERS' GAZETTE

TORONTO, ONT., JANUARY, 1898

Printed and Published for the Proprietors by G. H. BURNETT, at the "Lumberman's" Office, 266 West Street, New York, N.Y.

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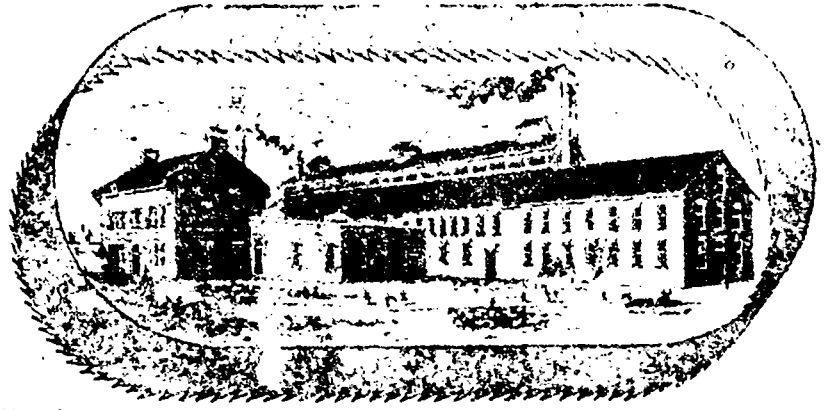
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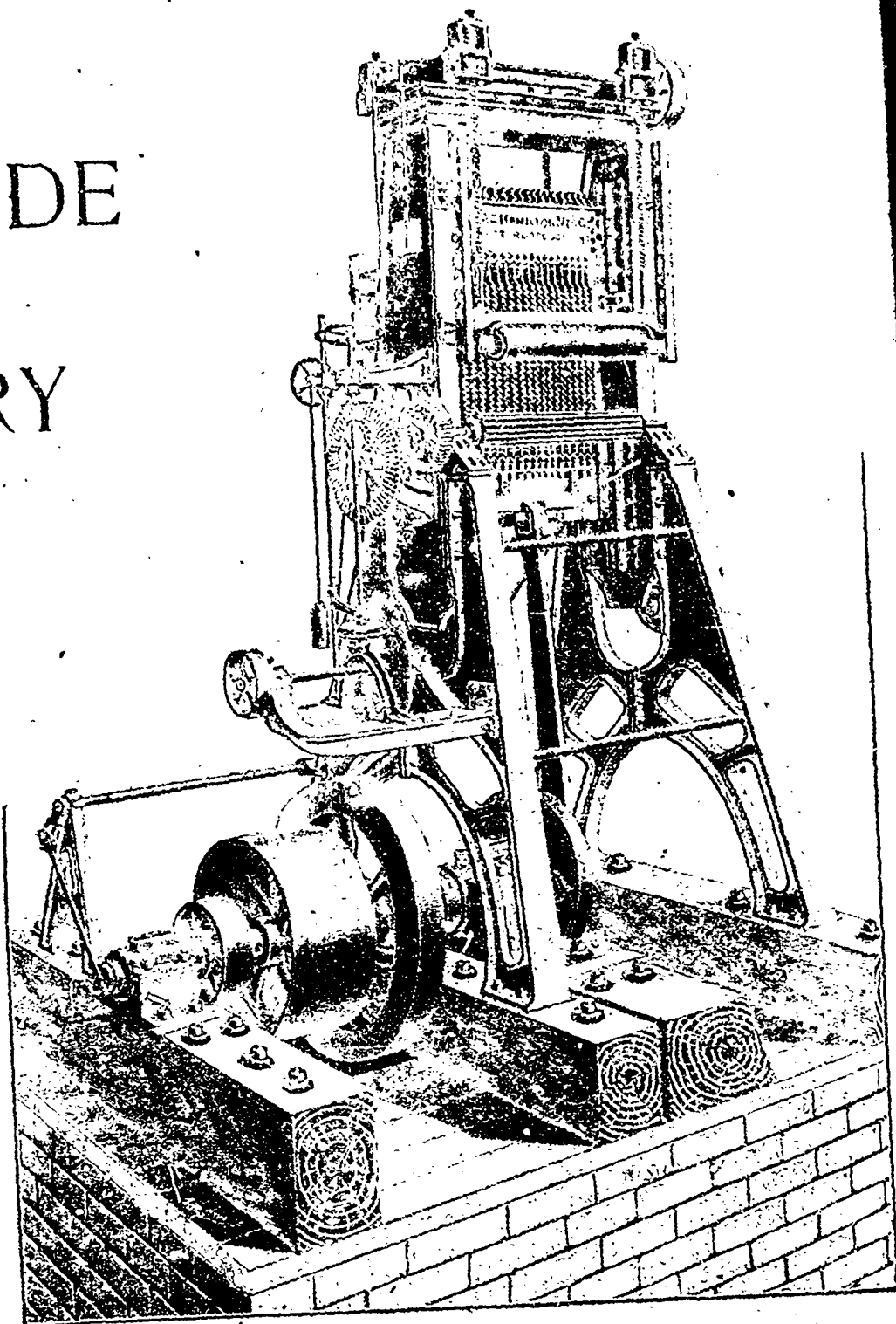
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THE CANADA LUMBERMAN

VOLUME XIX
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LUMBERING IN BRITISH COLUMBIA.

(By a Special Correspondent)

LUMBERING on the Pacific coast is a vastly more difficult problem to work out than lumbering in the eastern parts of the Dominion. The absence of snow and hard frosty weather plays its important part in the item of cost of logging; then again, the logs can be bought from the logger as cheaply as a limit holder can take them off his own limits. This seems hard for the eastern lumberman to take in. To put it in other words, the selling value of logs delivered at the mills is the cost of the labor that has been put on them, plus fifty cents per thousand feet timber dues, plus the profit (if any) the logger may have; so that as things have been, and as they are likely to be for a time, the limit holder realizes nothing on his holdings worth the venture.

The local government of British Columbia, who seemingly all along have been selling their berth-right for "a mass of pottage," are to blame to a great extent for this state of affairs, but at the same time the distance from consuming markets and the heavy freight rates regulate the prices that may be netted for forest products. This in turn regulates the price of logs and wages, with the result that a great many men, not satisfied with their lot, are joining in the seeking rush to the Yukon country, and the cost of labor is increasing in value on both the Canadian and American sides of the line, while the immediate supply of logs and lumber is less at the present time than has been the case at any previous time since the trade began. All things considered, the lot of the mill-man in British Columbia cannot be called an overly happy one.

Another item that plays its part in the cost of manufacture is the necessity for the operation of dry kilns in connection with every plant. All lumber and shingles shipped, excepting heavy dimension stuff, must be kiln dried, this being done purely to lessen the freight, while the use of a dry kiln always means heavy cost in handling and re-handling stock, besides the cost of the plant and the steady consumption of as much steam in the process of drying as would run a mill of the same capacity in Ontario. Still, in spite of all the difficulties and draw-backs, the Pacific coast lumbermen struggle on with commendable pluck, and whether they are meeting with any great measure of success or not, they surely deserve their share. For several years past none of the mills can claim to have made much money, and a number of large and very expensive plants are still lying idle, the combined capacity of the idle plants being much greater than

those in operation. The total capacity of all mills in existence in the province is about 650 million feet of lumber and about 350 million shingles per year. Hopes are entertained by those in the trade that next year will show more encouraging results than any year yet, these hopes being based largely on the prosperous state of the North-West. The volume of trade done shows a steady increase, year by year, but there is room for much more increase in trade before real prosperity can be looked for.

Touching on the woods being manufactured, first in order of commercial importance comes the Douglas fir (*Pseudotsuga Douglasii*). Our American friends to the south, with their characteristic egotism, call this wood Oregon pine. Eastern Canadians are getting more acquainted with this wood every year, and while it does not and cannot supersede the use of white pine for many purposes, all over Canada it is supplying a want where large and strong dimension timber is called into use. For flooring this wood is

leaves pine behind. At present British Columbia mills are shipping red cedar, to some extent, over the whole Dominion.

Lastly, in order of importance, but still a useful wood, is spruce (*Picea Englemanni*). Our American friends call this wood by a lot of names, and not a little of it is sold in their eastern markets as white pine. It fills a want that neither fir or cedar can. Its main use at present is in box making, the consumption of it in salmon and fruit boxes totalling to a surprisingly heavy quantity. Considerable of it is also shipped in the form of clear squares for turning lumber for piano and organ building, and for refrigerator construction, and it is also manufactured into various finished forms, such as ceiling, siding, etc.

Apart from these three woods no other Pacific coast wood need be mentioned. The province is practically without hardwoods, and where such are required for mechanical uses, they are imported from the eastern parts of Canada. Some

experiments have been made in using Australian hardwoods, but without much satisfaction, and where the good old hardwoods of Ontario, such as oak and hickory, are useful in Ontario, they are equally useful in British Columbia.

INVENTOR OF THE BAND-MILL.

WRITING from Charleston, West Virginia, a correspondent of the *Chicago Northwestern Lumberman* says: The inventor of the band-mill, without which no modern saw-mill is thought to be complete to-day,

lives in Charleston, W. Va. This man is J. R. Hoffman, who made the first attempts to produce lumber with a band-saw in Fort Wayne, Ind., in 1868. He did the first work alone, working out his own ideas against the advice and opinion of saw mill men everywhere, who did not believe such a device was practicable. The first band-mill had a 7 foot wheel, and the saw used was 45 feet long, 6 inches wide and 16 gauge. The pulley was built up from an iron center with wooden arms and a wooden rim. The saw for this mill came from France, there being no works in this country at that time that could furnish a saw of this kind. During the Franco-Prussian war the factory from which this saw was obtained was destroyed, and it became necessary to seek another factory. This was finally found in France, and the industry proceeded without further interruption. After putting up 50 or more band-mills in various parts of the country the Hoffman patents began to expire, and Mr. Hoffman abandoned the business to return to that of sawmilling, with which he had been identified for a long term of years.

WISHING YOU

A

PROSPEROUS NEW YEAR

particularly well adapted on account of its freedom from knot or defects and tough wearing qualities. Throughout Manitoba and the North-west fir flooring is almost exclusively used, and through the eastern provinces many who are acquainted with the nature of the wood are specifying its use for different purposes. This wood is also exported by water to all points of the world.

Next in order of commercial importance comes red cedar (*Thuja Gigantae*). Our American friends have the ownership of this wood nailed also, as they call it Washington red cedar. However, red cedar is all right, whether its stump happened to be in British Columbia or in Yankee land. Comparing this wood with Ontario woods in point of usefulness to man, it is about half way between white pine and Ontario cedar, fit for all the purposes for which Ontario cedar is adapted, and used for the same purposes as white pine in some cases, and as door and sash making, shingles, house finish, ceiling, siding, etc. This wood is much softer and takes a bruise easier than white pine, but for non-liability to shrink and swell, and for beauty of natural grain, it

A PIONEER CANADIAN LUMBERMAN.

Forty-five years ago, in the townships of Ancaster and Beverley, not many miles from the future city of Hamilton, saw the beginning of the great lumber firm of Mickle, Dymont & Co., of Barrie, Gravenhurst, Severn Bridge, Thessalon and other places. It was then that Mr. N. Dymont, a bright, enterprising youth of seventeen years, laid the foundation of the large firm of to-day in which he is the chief figure.

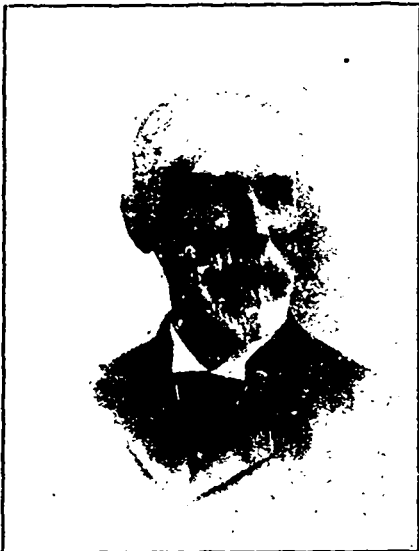
From his earliest years Mr. Dymont was disposed toward a business career. The bustle and activity of the pioneer saw mill, with its possibilities of supplying the lumber demand of a rising country, caught his fancy. His first operation involved one pine tree, which he purchased for a dollar. This dollar he earned by cutting two cords of wood. This first transaction of his long and successful business career he describes with evident pleasure, when recalling the pioneer days of the lumber trade, in which he has been so prominent a figure for twenty-five years past.

In Ancaster and Beverley there were originally rich pine forests, and he soon established a large business and built several other mills on the line of the Great Western Railway. As the country developed the timber became scarce and dearer. Mr. Dymont has seen the time, in that part of the province, when \$100 would purchase 100 acres of choice pine. He has also seen the time when the same timber was worth \$312 per acre.

About twenty-five years ago, having cut most of the available timber of that country, he extended his operations into Simcoe county, Muskoka, and the North shore, removing his place of residence to Barrie. Here pine was plentiful and cheaper. Many mills were established in the northern country, to be removed to other points from time to time, as the timber supply became exhausted. The mills at Thessalon, however, have been in operation continuously since they were started twenty-five years ago.

The output of the firm has been as high as fifty million feet in one year. Now the average is thirty-five million feet.

Mr. Dymont has always been conceded as one of the best posted men we have on lumber and the lumber trade.



Mr. N. DYMONT.

He has been through every stage of the business, from the machinery to the counting room or camp life in the pine woods. A close observer of life, events and business methods, he has a most interesting individuality. One cannot converse with him without acquiring useful knowledge for any walk of life, the fruit of his long and active business experience. His quiet, thoughtful manner and genial disposition renders him an enjoyable companion. The firm employ from 300 to 400 men the year round.

The Jacquet river property in New Brunswick, owned by Mr. J. P. Doyle, has been sold to Capt. Geo. R. McDonough, the St. Martin's lumberman, and others. The business will be managed by M. A. Ferguson, who has been in the employ of the Prescott Lumber Company.

LUMBER IN WISCONSIN AND MINNESOTA.

"The Story of a Pine Board" is the title of an article by W. S. Harwood in the November St. Nicholas. Mr. Harwood says of lumbering in Wisconsin and Minnesota:

About 4,160,000,000 feet of logs were cut in the season of 1895—that is to say, what is equivalent to 4,160,000,000 pieces of board twelve inches square and one inch thick. I wonder if even the lumbermen themselves, and the log cutters, and the manufacturers of lumber in the great mills, realize what an enormous amount of lumber this is. Why, it would build a house around the globe, with a main roof ten foot high and a large attic, ceiling up the inside walls and roof with sweet fragrant pine; it would put down a matched floor, and then, when the house was all completed, there would be left enough lumber to build tight board fences on either side of the house, three and a half feet high, the whole distance around the globe. Besides all this there would be shingles enough for a good portion of the house; and then, if the mighty builder of such a globe circling house wanted to fit it up a little more neatly, there would be a large supply of laths, and, I suppose the plasterers could furnish him enough stucco and lime.

Or, if he wanted to construct a roof shelter for all the people of the globe, our mighty builder could accommodate them all, allowing to each man, woman and child a clear space of two square feet in which to stand, and still have room left over for five hundred millions of men, with the same room in which to stand. And to look at it in still another way, the same builder would have material to construct a bicycle path of pine a little over two feet wide from the earth to the moon, for there would be nearly 800,000 miles of board a foot wide and an inch thick. In sawing this lumber up into the required length and thickness, there was a great waste of sawdust, so great indeed that the sawdust pile would stand 112 feet high on a city square and 500 feet square at the base, and this is saying nothing about the vast amount of pieces of slabs which are split up into kindling.

This enormous quantity of lumber represents merely the output of two forests, one in the northwestern part of the state of Wisconsin and the other in the northern part of the state of Minnesota, and at the rate the logs are being cut there will not be a piece of forest left standing in all this vast region at the end of ten years, unless something is done by the government to put a stop to the ravages.

CANADIAN CAPITAL IN NEWFOUNDLAND.

Reference was made in THE LUMBERMAN recently to the formation of a company to develop the timber resources of Newfoundland. This company, we are now informed, is composed of Rhodes, Curry & Co., of Amherst, C. P. Pelton, B. B. Barnhill, C. T. Hillson, W. T. Pipes, W. W. Black, Josiah Lusby, J. Avar Black, Thompson Smith, Dr. Smith and G. A. Fowler. The company will at once apply to the Newfoundland Government for incorporation, and the provisional directors will be Hon. W. T. Pipes, N. Curry, William Black, C. T. Hillson and T. W. Smith. There are twelve in the company, two of the others being Messrs. Rhodes and D. B. Barnhill. The name of the company will be the Exploits Lumber Company.

The property acquired is that formerly held by the Exploits Wood Company, an English concern, and consists of 820 square miles, or nearly 560,000 acres, located in the southwestern part of Newfoundland and largely covered with pine. There is also a large quantity of spruce and poplar pulp wood, besides a good deal of white birch suitable for spool-wood. The English company, which has been operating there for a few years, leased a considerable part of the property from private individuals and some from the Government. The new company has acquired the limits under twenty-year leases at \$2 per square mile yearly rental, with the option of renewing at the end of twenty years.

The seat of the milling operations will be at the village of Botwoodville, so called from an Episcopal clergyman who was one of the original lumber company and a founder of the settlement. It lies nine miles from Exploits bay and 260 miles from St. Johns, with which it is connected by rail. The mill is fitted with gang and rotary saws and has a machine shop in connection. There is also a steamer valued at \$5,000, which is used in towing lumber down the river. The company expect to manufacture 4,000,000 feet of lumber this season, but when greater facilities have been provided and

contemplated improvements secured, the annual output will reach twelve millions, nearly all of which will be sold in the English market. Sixty hands will be employed this season, all natives, the conditions of sale requiring that native labor shall in all cases be employed, except the mechanical portion.

In addition to the property secured, the Exploits Wood Company have the refusal of 350,000 acres more, heavily timbered, and including all the timber worth mentioning on the island. Possession of this will give them a monopoly of the lumber trade and place great possibilities within their reach.

Mr. C. T. Hillson, of Amherst, N.S., is manager of the company. He has lately returned from the scene of operations, and will reside in Amherst until the spring.

ESTABLISHED OVER FIFTY YEARS.

In the year 1840 the late R. Anglin established the lumbering business at Kingston, Ont., now known as S. Anglin & Co. Upon the death of the founder, his son, Mr. J. Anglin, who had been associated with the business for some years, became the senior member. The portrait of this gentleman, now fifty-five years of age, is herewith presented.

The premises occupied by this firm are very conveniently situated on the banks of the Catarqui river, with ample



MR. J. ANGLIN.

wharfs and a well equipped saw-mill and planing-mill, fitted with the usual saw-mill machinery. The sawdust and refuse of the mill is carried direct to the boiler-room by a number of chutes, keeping the planing factory and the saw-mill free from refuse. The yards, covering about three acres, are well supplied with shed room for finished material, and have good railway shipping facilities, with switch lines from both the Grand Trunk and the Kingston and Pembroke railways. A commodious and nicely finished office building has lately been erected, being isolated from the other buildings as a precaution against fire. The firm have also a large up-town yard and wharf at the foot of Ontario St., adjoining the Kingston Water Works.

Mr. Anglin constantly strives to keep all his equipment up-to-date, and has lately installed one of the largest-sized McGregor, Gourlay & Co.'s stickers to meet the requirements of his increasing trade.

UTILIZING SAWDUST.

The following receipt for utilizing sawdust and shavings is taken from an English exchange:

Take two pounds of pitch and six pounds of resin; melt over a slow fire, add half a pint of turpentine and mix thoroughly with a quantity of sawdust and shavings. When cold break into pieces to be used for lighting fires, a small piece being all that is necessary to light a fire. In England this method of utilizing sawdust is said to give profitable returns, and might, we think, be adopted by lumber manufacturers in Canada.

In recent issues we have presented the facts showing the development of quite a demand for sound, straight-grained hickory with which to build sleighs for transporting passengers and freight through the Yukon country, says the Lumberman's Review. Most of this lumber goes to Tacoma, where the sleighs are built, and several carloads have already been shipped to that point from Tennessee. It is mostly five, six and eight-quarter stock.

THE DUDE IN THE LUMBER CAMP.

A Narrative of Facks, by "Josiah the Truthful."



ROUND the lumber shanty fire, one cold and stormy night,
The boys were gathered to enjoy the genial heat and light;
And pipes of sundry shades and strengths were sending forth a cloud,
That filled the place with fragrance blue and nearly hid the crowd.

A rude and wholesome supper had, as usual, closed the day,
And now for these big brawny chaps has come the hour of play;
And the special form of pastime to-night is spinning yarns,
At which the champion, sans dispute, is huge Josiah Barnes.

Josiah had a giant form and a very solemn face,
And told the toughest stories that found utterance in the place;
But he told 'em as the gospel truth, with ne'er a ghost of smile,
As "ackshell facks he'd know'd hisself," and air devoid of guile.

"I guess I never tole you 'bout that dude we had up here,
A-livin' in the shanty as a hand the other year?"
And looking slowly round the crowd he met a general shout
Of negatives, politely backed with cries of "Spit it out!"

"Well," said Josiah the Truthful, "You see His Dandyship,
He came up to the limit that summer for a trip,
And camped out with a party of o'her dudes from town,
Jest nigh the river yender, to git their skins done brown.

"You'd see 'em out a-fishin', or bathin'—every one
A-holdin' up their faces and bare arms to the sun;
They on'y had a fortnight, and wanted it to 'pear
They'd bin away a-roughin' it abroad fer 'bout a year.

"Well, in about two weeks or so they all went back agin
Exceptin' this here rooster, a feller small and thin,
With legs jes like two matches and a little red mustache,
A-wearin' a blazer jacket and a belly-band, or sash.

"He took a sort of notion he'd like the shanty work,
And it would be more helthy ner bein' a bank clerk,
So our foreman reely hired him—to let him have his sling—
A-loggin' all the winter and a-drivin' in the spring.

"Fast night he said he liked it, tho' he did feel ruther tired,
But he was bound to stick it through all season now he'd hired;
And yit, tho' he was hungry es a wolf from extry work,
You'd ought to saw him squirmin' at the fat and salty pork!

"He couldn't go it nohow, and the thick merlasses stuff
Was too many fer his feelins," he sed 'twas "wather wuff,"
So he riz up from the table and went and told the chief,
He'd take some maple syrup, or tenderloin of beef.

"I grieve to state our fellers didn't seem to symperthise
With him, and frequent used to knock his eyeglass off his eyes;
And when that fust night he sot down and lit a cigarette,
Jim Bludso held a pistol, boys, and made him swaller it!

"Our chaps they didn't like his ways—too much of lawdy-daw,
And it made 'em mad and vicious whenever he said 'aw!'
So they done their best to cure him and make him walk aright,
By tossin' him in blankets and so forth every night.

"And then their efforts at reform in day-time didn't slack,
Out in the woods they'd frequent drop a snowball down his back;
Or set him hitchin' up the mules, not mentionin' their tricks,
Which led, es they intended, to a few improvin' kicks.

"Now, thinkin' it all over I'm free to say that Dude
Was treated in a manner that bordered on the rude,
And I can't help a-feeling some pity in my heart
When I remember how he finally—er—sorter—went apart.

"He never was a favorit aroud the lumber camp
Es you kin guess from wot I've said—too much of "swagger" stamp;
But then agin the luck he had, jes' like hisself, was slim,
And I am reely sorry fer—wot is left of him.

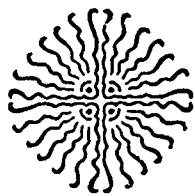
"He's livin' in the city now, or leaswise his remains
Resides down there quite healthy, his body, head and brains—
The rest of him is scattered round the limit more or less,
Tho' they've got a portion of him at the hospertal, I guess.

"The fust slight break he made wus when he went to cut a tree
And let the ax slip somehow and chopped a foot off, see?
And as he lay a-groanin' he didn't lay quite clear,
And another bit of timber fell and kinder took an ear.

"Yet still he didn't leave us, he certainly had grit,
But about a fortnight later his skull got somewhat split;
I can't tell how it happen'd fer the facks got mixed, you know,
With his losin' of the other leg by an accidental blow.

"And yet he stayed on with us and seemed to gain and thrive,
Till in the spring we started down the river with the drive,
But when we struck the rapids the logs jammed, as they will,
And he got both arms a-mangled in the mix-up and the spill.

"They took him to the city where them arms was amputated,
And subsequent he lost an eye—or so I've heerd it stated.
There's nothin' left to tell about, 'till close right here
By statin' thet he hain't a dude no more in the sense that same year."



—J. W. BENGOUTH.

EXPORT OF SAW-LOGS.

Future Ontario Licenses will Provide for the Manufacture of the Timber in Canada.

ON Monday, December 20th, the Ontario government submitted the timber bill to the House. This bill, in brief, provides that Ontario saw-logs shall in future be manufactured within the borders of the Dominion, a provision which will meet with the hearty approval of lumbermen and Canadians in general. Hon. Mr. Gibson, Commissioner of Crown Lands, introduced the measure, and accompanied it with a somewhat lengthy statement of the situation. It is entitled "An Act Respecting the Manufacture of Pine Cut on the Crown Domain," and reads as follows :

THE TIMBER BILL.

1. All sales of pine timber limits or berths by the Commissioner of Crown Lands which shall be hereafter made, and all licenses or permits to cut pine timber granted by the Commissioner, shall be so made or granted subject to the condition set out in the first regulation of schedule A of this Act, and it shall be sufficient if such condition be cited or mentioned as 'The Manufacturing Condition' in all notices, licenses, and permits or agreements or other writing.

2. The regulations set out in schedule A to this Act are hereby approved.

3. The Lieutenant-Governor-in-Council may make any further or additional regulations necessary to enable the Commissioner of Crown Lands to carry into effect the object and intent of the regulations contained in schedule A.

4. This Act shall come into force on the 29th day of April, 1898.

SCHEDULE A.

1. Every license or permit to cut pine timber on the ungranted land of the Crown, or to cut pine timber reserved to the Crown on lands located, sold, granted, patented, or leased by the Crown, which shall be issued on or after the 30th day of April, 1898, shall contain and be subject to the condition that all pine which may be cut into logs or otherwise under the authority or permission of such license or permit shall, except as hereinafter provided, be manufactured into sawn lumber in Canada, that is to say, into boards, deal, joists, lath, shingles, or other sawn lumber, or into waney board or square or other timber, in Canada; and such condition shall be kept and observed by the holder or holders of any such license or permit who shall cut, or cause to be cut, pine trees or timber under the authority thereof, and by any other person or persons who shall cut or cause to be cut any of such pine trees or timber under the authority thereof, and all pine so cut into logs or otherwise shall be manufactured in Canada as aforesaid.

2. Should any holder of a timber license or permit, or any servant or agent of such holder, or any person acting for him, or under his authority or permission, violate or refuse to keep and observe the condition mentioned in the preceding regulation, then, and in such case, the license or permit to cut pine timber on the berth, territory, lot, or lots included in the license or permit, and on which or any part of which the pine was cut, and in respect of which or any part of which there was a breach of such regulation or a refusal to observe or keep the same, shall be suspended and held in abeyance, and shall not be re-issued, nor shall a new license issue, unless and until so directed by the Lieutenant-Governor-in-Council, and then only upon such terms and conditions as the Lieutenant-Governor-in-Council may impose.

The Commissioner of Crown Lands, his officers, servants, and agents, may do all things necessary to prevent a breach of the aforesaid condition or regulation, and to secure compliance therewith, and may, for such purpose, take, seize, hold, and detain all logs so cut as aforesaid, and which it is made to appear to the Commissioner of Crown Lands it is not the intention of the license, owner, or holder, or person in possession of, to manufacture or cause to be manufactured as aforesaid in Canada, or to dispose of to others who will have the same manufactured in Canada, until security shall be given to her Majesty satisfactory to the Commissioner that the said condition will be kept and observed, and that such logs will be manufactured in Canada as aforesaid; and in the event

of refusal on the part of the licensee, owner, or holder, or person in possession of such logs, to give such security within four weeks after notice of such seizure and demand of security by, or on behalf of the Commissioner, then the Commissioner may sell or cause to be sold such logs by public auction, after due advertisement, to some person or persons who will give such security to Her Majesty as the Commissioner may require that such logs shall be manufactured in Canada. The proceeds of such logs shall, after such sale, and after deducting all expenses of such seizure and sale, and any sum due and owing to Her Majesty for or in respect of any timber dues, trespass dues, ground rent, or on account of the purchase of any timber or timber berths by the owner, licensee, or holder of a permit, or other person who has cut or caused to be cut such logs, or who is the owner or holder of the same, be paid over to the person entitled to the same.

4. Provided, nevertheless, that nothing in the preceding regulations which requires pine logs or timber to be manufactured in Canada as aforesaid shall apply to logs or timber cut and in use in Canada for any purpose for which logs or timber in the unmanufactured state are or may be used.

5. Provided, further, that these regulations shall not apply to the east half of the township of Aweres, in the district of Algoma, containing 18½ square miles, nor to 22 square miles in the district of Thunder Bay, composed of berths 2, 3 and 4 of the timber sale of 1890.

6. The foregoing regulations shall not come into force unless and until they shall be approved by an Act of the Legislature.

MR. GIBSON'S SPEECH.

In introducing the bill, Mr. Gibson referred to the fact that not until recent years had the question of the exportation of saw-logs from the Georgian Bay called for special consideration. He submitted the following statement, compiled from the trade and navigation returns of the Dominion, showing how far these particular exports have been going on from Ontario from the year 1880 down to the end of last year :

Year.	Feet.	Value.
1880	72,000	\$ 784
1881	2,020,000	13,298
1882	2,632,000	20,208
1883	1,243,000	13,323
1884	1,641,000	11,397
1885	964,000	7,906
1886	378,000	2,284
1887	2,864,000	24,429
1888	6,349,000	49,000
1889	383,000	3,270
1890	10,834,000	94,254
1891	32,116,000	261,479
1892	36,699,000	313,281
1893	73,887,000	651,122
1894	125,837,000	1,050,550
1895	277,837,000	2,359,278
1896	211,745,000	1,859,369
Total	787,481,000	

Mr. Gibson pointed out that during the past 30 years the Dominion government had taken the following steps in connection with an export duty on saw-logs: The Canadian parliament in 1866 fixed an export duty on saw-logs of \$1 per thousand feet board measure. That remained the law of the land for about twenty years. In 1886 the Dominion parliament increased the export duty to \$2 per 1,000 feet, and by the same measure the Dominion government were authorized by order-in-council to increase it to \$3 per thousand if thought expedient. Then in 1888 the Dominion government were authorized by the Dominion parliament, whenever it was deemed to be advisable in the public interests, to reduce or remove the export duty on saw-logs. On Nov. 13, 1888, under the Act of 1888, the export duty was increased to \$3 per thousand feet board measure. Then again in 1889, by order-in-council, the duty was reduced to \$2 per thousand feet board measure, and on Nov. 11, 1890, a further order-in-council was passed entirely removing the export duty.

It was always considered, Mr. Gibson said, that there was more money for the country in a free export of lumber or manufactured timber from this country into the United States than there would be by the imposition of any duty upon the export of the unmanufactured material. That seems to have been the view by which the parliament of Canada and the Dominion government had been actuated, and he had no doubt that that was the correct view so far as this country was concerned, in realizing on the products of our forests, whether they be pine timber, cedar, tamarack, or any other variety of our timber resources.

The position remained as above described until a recent date, when the Dingley bill was passed by the American Congress, imposing a duty of \$2 per thousand upon lumber going into the United States from this country. That was, of course, a reversal of the policy of the previous Administration, and naturally a very important change in policy. But the feature of the legislation which has caused the trouble was the retaliatory clause, the effect of which was that while our mills, or lumbermen, after manufacturing their logs into lumber and taking that lumber to the American market, are charged \$2 per thousand, the Michigan lumbermen who tow the logs over to the American side and manufacture them into lumber in their mills there have an absolute advantage of \$2 per M over their Canadian competitors.

Referring to the cost of sawing logs, Mr. Gibson said: "It is urged that the main part of the industry is in the sawing of logs. That is not the case. Since taking charge of my department, the duties of which have necessarily brought me into contact with these questions, I have been surprised to find how small the proportion of the labor engaged in the conversion of saw-logs into lumber was to the whole cost of the production of lumber, from the cutting of the material as it stands in the tree. I have here a calculation showing pretty conclusively that four-fifths of the total cost of labor is expended in the cutting of the trees in the woods, piling them, hauling them out to the streams, running them down the streams to the lake, and putting them into rafts for towing. I have a statement from a lumberman of great experience, one whose testimony on such matters would, I am sure, not be gainsaid for a moment in this House, as to the actual cost of milling. It is as follows:

Cost of sawing lumber at Peter's mill, including repairs, breakages, breakdowns, oil, fitting up in the spring, labor, and everything else—17,000,000 feet being shipped—\$1.14½ per M.

Cost of shipping, freight and loading on ship, \$1.12½ per M., the shippers themselves loading it from the front rows of piles.

In years when we did the loading ourselves the entire cost was about 17 cents per M. So that the moving of the rear piles to the front would be from 8 cents to 10 cents, or in all:

Sawing.....	\$1.14½
Loading (if all done).....	17

\$1.31½

If, in loading, the shippers as part of freight load the front piles, the moving to the front would not cost more than 10 cents, thus, deducting from above..

7

\$1.24½

If freight is per Canadian vessels, then there is to be added freight

1.12½

\$2.37

The speaker then referred to the fact that the Michigan lumbermen themselves, who were

dependent upon Canada for their raw material, had assisted in bringing about the condition of affairs now existing. The rights of limit holders were then dealt with. It was admitted by a large majority that it would have been unfair on the part of the government to apply the manufacturing clause to licenses that are current at the present time. Moreover, the government had to consider what would be the effect of such a course upon the interests of those who have been in the habit every winter of receiving employment in connection with the lumbering operations on the Georgian Bay limits. Had these conditions been imposed, practically no logs would have been taken out during the present winter, and that would have meant almost starvation to large numbers of settlers in the communities who live in the neighborhood of these lumbering regions and who depend from year to year upon the work they themselves and their teams are able to get during the winter's lumbering operations. There had been changes on previous occasions during the existence of licenses, but they had not been so serious in nature as the present one. The government had raised the Crown dues on logs from 75 cents to \$1 per thousand feet, and increased the ground rent from \$2 to \$3 per square mile. Every limit that was sold from time to time now was sold on the distinct and thorough understanding that the dues might be increased. But for reasons which he had stated, the government had felt that it would be a confiscation to have interfered with the operations of lumbermen under licenses existing during the present year.

Mr. Gibson then compared the position of the Georgian Bay and Ottawa lumbermen. The latter were nearer the eastern market, and were in a position to pay the two-dollar duty. They were therefore opposed to anything that would have the appearance of retaliation. Other arguments against the manufacturing clause were that it would depreciate the value of Canadian limits, and would prejudicially effect Canadian capital, seeing that the limits held by Americans were largely carried by Canadian banks; also that it would lead to the suspension of the operations of Americans in this province, thereby throwing a great many men out of work, and causing a stoppage of the expenditure heretofore made for teaming and supplies. All these considerations had to be carefully considered by the government, but while no doubt there were risks to be run, the government concluded that the objects to be gained, viz., the preservation of our timber supply, the decreased annual cuttings, and the home manufacture, were worth the risk.

Mr. Gibson, in conclusion, stated that the new regulations might serve the useful purpose of ultimately leading to the adoption of some practical forestry scheme whereby the amount of the timber cut each year might be controlled.

Mr. Whitney, leader of the Opposition, asked if the intention was that all licenses hereafter renewed will contain provisions compelling the sawing of the logs in Canada, but that they will not be interfered with during the present year. He was given a reply in the affirmative.

Mr. Reid inquired regarding the restriction of the present winter's cut.

Mr. Gibson replied that, from information received of the probable cut, they had not thought it necessary to impose any restrictions.

INTERVIEW WITH THE ATTORNEY-GENERAL.

A DEPUTATION of Canadian lumbermen waited upon the members of the Ontario Cabinet on Friday, December 10th, and renewed their request that such measures be adopted as would compel the manufacture of saw-logs in Canada. The chief speakers were Messrs. James Scott, John Waldie, John Bertram and E. W. Rathbun, comprising the committee appointed at the previous meetings of lumbermen in Toronto to wait upon the government.

Ald. Scott gave the following reasons why all new licenses issued after April 30th, 1898, should contain a regulation that all timber cut on the Crown lands of Ontario shall be sawn, made into square timber or otherwise manufactured in Canada:

(1) The retaliatory clause of the Dingley bill passed by the United States has made it difficult for the Dominion government, without grave hardship and dislocation of trade being threatened, to place an export duty on saw-logs.

(2) Under present conditions of free logs for export and a duty of \$2 per thousand feet, sawing on the Georgian Bay for the American market could not be continued; the business of sawing lumber would, of necessity, be transferred to Michigan.

(3) This would effect not only Canadian operators, but also Americans who have established their saw mills in Ontario, and who are certainly entitled to consideration.

(4) It would be a ruinous policy to provide the raw material free from our forests for competition against our own mills, who would be handicapped by the \$2 duty.

(5) If the exportation of logs cut on Crown lands was entirely stopped, Canadian lumbermen would enter no complaint of the \$2 duty, considering it entirely a matter under the jurisdiction of the United States.

(6) While fully recognizing the rights of proprietorship, both of Canadians and Americans, in all licenses issued by the Crown, we consider the retaliatory clause an interference with our rights, and as Americans have induced the situation, it is for them to apply the remedy.

(7) What Canadian lumbermen want is simply equality and fair play in the work of utilizing the product of their own forests.

(8) If a duty of \$2 is charged on lumber entering the United States, then an equal export duty should be charged on logs.

(9) Until the privileges contemplated by clause 7 be enjoyed, the only remedy is to prohibit the export of logs cut on Crown lands, and place American stumpage owners on the same footing as Canadians.

(10) Whenever, therefore, an equalization of conditions is brought about the embargo placed on the export of logs should be taken off.

This statement was signed by Messrs. J. Scott; Huntsville Lumber Co., N. Turnbull, sec'y.; E. W. Rathbun, Wm. Irwin, John Bertram, Thos. M. Sheppard, Imperial Lumber Co., C. D. Warren, president; J. & T. Conlon, James Playfair, W. J. Sheppard, Chew Bros., Burton Bros. and J. S. Playfair, on behalf of the deputation.

Ald. Scott supplemented the statement with a few observations. He said that the lumbermen of the province had not changed their views in regard to the matter, and did not take back nor modify anything that they had said on former occasions. He stated that he had never taken the position that Canadians were not willing to trade with the Americans under a free exchange of forest products. He did not think the lumbermen of the country took the view that under no circumstances should the export of logs be permitted.

Mr. Gibson: The Government are being told every day that every log should be manufactured in the country.

Ald. Scott replied that he did not think the former deputations had urged that there should be no exception to the rule.

Mr. John Bertram favored a policy that would secure the free entry of all our products into the United States. There was a large quantity of timber other than pine, such as spruce, hemlock and cedar, standing on the lands which had been sold, the cutting of which into ties, posts and other articles would give work to Canadians. If free entry into the United States market could be secured for this, great advantage would result to this country. The utilization of the coarse products of the forest with free entry into the United States would be worth more to the country than all the logs that Americans had purchased.

Mr. E. W. Rathbun thought the recommendation of very mild form. It was not a question of how much standing timber we had, but of the quantity of white pine and spruce there was in the United States which could be put in a marketable form to compete with similar kinds of Canadian timber on the markets of the world. Accepting the statements of authorities in the United States and in the Old World, the supply from both sources was very limited. Therefore the important question for us to de-

cide, bearing in mind our own resources, and the resources of our competitors, the industries that the forests would sustain, and the demands of foreign markets for the products of these forests, was whether we were not justified in taking the position that Ontario timber should be manufactured within our own borders. He approved of the principle of not restricting the sale of timber limits, and not excluding anyone who would bring capital into the country, but he believed that if the whole of the timber was required to be manufactured here, capitalists and enterprising men would be attracted to Canada from the United States to a greater extent than ever before.

Mr. Hardy: The Michigan lumbermen are very powerful in their own state. Does it occur to you, Mr. Rathbun, that the Michigan Legislature might throw obstacles in the way of Canadian trade, in connection with railway traffic, etc.?

Mr. Rathbun replied that these things should be considered. He was strongly opposed to retaliation, but did not anticipate any danger from restrictions such as Mr. Hardy mentioned.

Mr. Hardy asked if any estimate had been made of the quantity of lumber cut by small local mills.

Mr. Rathbun could give no accurate figures. He admitted that the smaller mills were too apt to be lost sight of. Pine was not everything. Our cedar, hardwoods, spruce, etc., were more and more wanted in the markets of the world. The demand for box shooks and similar stock was rapidly increasing. Replying to a question by Mr. Hardy, he stated that he did not think there would be any slump in the value of timber limits by compelling timber to be manufactured in this country.

Mr. Waldie followed, also touching upon the bonding question. He was strongly in favor of compelling the manufacture of saw-logs in Canada, and gave the following reasons therefor:

1st. As I believe it is the only name by which we can retain any portion of the business of sawing lumber in the Georgian Bay, and prevent the depopulation of our towns in that district.

2nd. It is the only available means that will tell as a factor if Michigan mill men desire to influence legislation at Washington. The lumbermen of Canada having already asked the Dominion government to take power to put an export duty on logs, and that power not being exercised, has prejudiced the position of Michigan men at Washington, who ask that the agreement covering the \$1 duty on lumber and free logs between the two countries should be restored. I firmly believe that an absolute restrictive condition should be inserted in all the licenses that will be issued on the 30th of April next, and to prevent if possible the impression that has by some means gained a footing in the United States, that Canada will do nothing to retain the manufacture of the logs within the Dominion.

3rd. If the Georgian Bay is to obtain a fair share of the export trade to England, it must be by increasing the manufacture at certain points, so that a sufficient quantity can be supplied by the foreign trade in competition with such points as Albany, Tonawanda and Saginaw. What the English buyer requires is to get a large quantity of a certain class of lumber at one point; and this condition not only applies to the lumber trade, but to all other manufacturing industries in Ontario which are looking to an export market for their products.

Some remarks by Mr. Loughlin, M.P., brought up the question of the utilization of the coarse forest products. Mr. Rathbun held that a greater manipulation of the coarse timber should be encouraged in this country. There was a wide market in England for box shooks.

Mr. Hardy: How much lumber could Great Britain use for box shooks?

Mr. Rathbun: All we can manufacture in Canada from cull lumber.

The question of an import duty on lumber was then raised. Mr. Ross asked: Is it a fact that coarse lumber manufactured in Michigan mills from Canadian logs is being shipped into Canada, competing with Canadian lumber?

Mr. Waldie replied that it was a fact. This lumber was being brought into Sarnia, Windsor, Chatham, London, Hamilton and Toronto. He believed from twenty to thirty million feet were imported annually.

Upon being asked, Mr. R. Laidlaw, of Toronto, stated that this year he had brought to Sarnia from Duluth some 4,000,000 feet.

Mr. Hardy said he had noticed that Manitoba took 14,000,000 feet of lumber. What was the duty, he enquired.

Mr. Bertram: None.

Mr. Hardy: Would it be practicable to put a duty on in Ontario and the eastern provinces, and not in Manitoba?

Mr. Bertram replied that it would not. Any duty imposed would have to apply to the whole of Canada. He pointed out that the mill owners in Northwestern Ontario who sold their output in Manitoba, would at once request the same protection for that province as was given Ontario.

Mr. Waldie said that the Georgian Bay mills could supply the Manitoba market if the C.P.R. would give reasonable rates, but they could not be induced to do so.

MACHINE FOR CUTTING SLABS AND EDGINGS INTO FIREWOOD.

MANY lumber manufacturers have experienced considerable inconvenience in disposing of their lath edgings and slabs, owing to the difficulty in getting the material to the furnaces to be burned. This induced Mr. Kilgour Shives, of Campbellton, N.B., to design a machine for cutting slabs and edgings into firewood. This machine, of which an illustration is presented herewith, is said to give exceedingly good results. Referring to its construction, Mr. Shives writes as follows:

"This machine was built to cut 4-foot slabs or edgings into 16-inch or 12-inch lengths, as may be desired. It is a strong, heavy, substantial machine, built to do very heavy work and stand lots of rough usage. It is a self-contained machine, requiring only one belt to drive from shaft, the feed being driven by a small belt from end of arbors. The arbor is of 3-inch steel, and the driving pulley 12-inch diameter and 9-inch face. The saws are 30 inches diameter, and make 1,350 revolutions per minute.

The chains that carry the wood through the saws and the sprockets are very heavy for the work, No. 85 Ewart chain and F' attachments being used. The saws, being on the arbor above the table, do not break as they frequently do when the saw arbor is placed under the table, and there is no danger of the operator being injured by pieces of wood flying towards him, as is the case when the arbor is placed under the table."

Mr. Shives is prepared to build these machines for any persons desiring same, and will be pleased to give further particulars and quote prices upon application.

A DOUBLE-ACTING BAND SAW.

The idea of utilizing a band saw so that a board will be taken off from the log at both the forward and backward movement of the carriage is not entirely new, although it has not been heretofore considered practicable. Now a Minneapolis firm claim to have attained success. They took an old discarded band saw and cut teeth on the smooth side. The double-acting band saw was then swung over the wheels of the Allis band on the "long side" and put in operation. At first the men on the carriage were a little slow in getting onto their job. It made them hustle to have to set the logs over at both ends of the track, but when they got used to it very little time was lost, excepting, of course, that the carriage would not return as fast with the saw cutting its way through the log as it would be in the old way doing no sawing at all.

The experiment was declared satisfactory, and next year the firm hope to be able to increase their output by 75 per cent. All the changes that will have to be made in the mill will be to move the sawyer's lever back a little to permit of the live rolls being extended between the two sides of the band saw, and along in front of the log deck for a distance of about 14 feet, in order to bring back the board sawed off on the return of the carriage. The live rolls will have to be extended to this distance. The reason why this method of sawing has not been successful hereto-

fore is the fact that it was not possible to keep the saw on the wheels. In other words, the tension was not strong enough at the right point. While sawing in the ordinary way, the large wheels of the band saw are tilted toward the log, and the saw is rolled a little shorter on the teeth side in order to hold the saw to the wheels. Now, with the log coming against both sides of the saw, it will be necessary for the wheels to be placed perfectly straight, but the face of the wheel will have to be made convex, and the saw will have to be so rolled that it will be longer in the centre, and shorter and having greater tension on the teeth sides. This will hold the saw to the wheels, no matter which way the pressure of the log is against the saw.

SECOND-HAND MACHINERY.

FROM various causes, such as death of proprietor, insolvency, fires, dissolution of partnership, etc., there is always a large amount of second-hand machinery for sale all over the



MACHINE FOR CUTTING SLABS AND EDGINGS INTO FIREWOOD.

country. The objective "second-hand," when applied to machinery, takes from it whatever of distinctive price may have attached to it when new. The further description that it is "as good as new" adds but little to its value, and if one has been used only a day, a week, a month, or a year, no wear may be perceptible, but it is logically true that much of its life and usefulness is spent.

There is perhaps more second-hand saw mill, wood-working and cooperage machinery for sale now than at any previous time. The improved prospects in the lumber, cooperage and wood-working trades are also creating a larger demand for it.

Very many widows and orphans have the most part of their inheritances left them in the form of machinery plants, either as whole or part owners. Where the surviving parties are competent to carry on the business successfully, and are honest, the widow and the orphans may secure an income. But at best the widow owner of stock in a machinery plant is at a disadvantage, and nine times out of ten it is better that she sell out and put her means where she can control it. Where a widow, suddenly bereft of her husband, is left a saw or planing mill or other machinery plant as sole owner, she will find it about the

most unsatisfactory of all species of property. She cannot operate it herself, and it is next to impossible to find anyone else who can or will operate it successfully, or who will take proper care of it. The remedy in such a case is to sell the plant as soon as possible. Of course, there are some widows who can and do operate the plants their husbands left them with fair success, but their number is but one out of two thousand. We can call to mind only two or three in all the southern states.

A large proportion of the idle second-hand wood-working machinery is the result of financial embarrassments. It generally falls into the hands of bankers or capitalists who advanced money to the original operator. As a rule the banker or the capitalist will hold on to the machinery in the hope of getting at least a large per cent. of his money back, until it so deteriorates that it becomes a question whether he can sell it at all. The writer has in mind one wood-working plant, consisting of a saw mill, planing mill and attachments for producing all sorts of finished wood-

work for the wholesale or retail trade, said to have cost originally \$25,000, that fell into the hands of a banking firm early in 1893, and has been held awaiting a purchaser since. No effort was made to advertise the plant for sale, as the bank officials felt confident that the plant would bring the small sum of \$5,000 or \$6,000 that had been advanced upon it. After four years of idleness the machinery has deteriorated greatly in value, the cost of a watchman and insurance has enlarged their claims against the plant, and now they are looking for someone to take the entire plant off their hands at \$2,000. As a rule, machinery that has been run for any length of time deteriorates more rapidly in value by standing idle than it would under constant operation in careful hands.

It is not difficult to sell a small saw mill plant to a neighbor for a fair price on good terms, because in every locality there is always someone anxious to embark in the lumber manufacturing business, and generally the less he knows of the business the more enthusiastic he is on the subject. But for large plants buyers are few, and their views on prices, if based on experience, are very low. Parties finding themselves with a large amount of second-hand machinery on their hands as assets to be realized on should lose no time in seeking a purchaser. If there is not one in the neighborhood able and willing to buy it at a fair price, and the owner has no acquaintance or but a limited acquaintance with people engaged in the trade for which his second-hand machinery is suitable, he should immediately proceed to cultivate their acquaintance. This can be done by a judicious advertisement in the trade papers that represent the interests that use the class of machinery to be sold. Pick out the right sort of an advertising medium and go in to win. Remember that while there is a fixed price on all standard new machinery, there is none on it at second-hand. It is worth only what it will bring. The more bidders the better offers will be had.—The Tradesman.

MR. GEORGE MCKEAN.

The shipping and lumbering reports of the North Atlantic coast bear the names of men who have achieved a success unrivalled in other branches, and who have been among the most important factors of our commercial and industrial progress. The subject of the present sketch, Mr. Geo. McKean, of St. John, N.B., is one of the three or four shippers who take undoubted precedence in the exportation of lumber from the Maritime Provinces to the markets of Great Britain.

Mr. McKean was born in Newry, Ireland, in the year 1841. As he grew to manhood he became interested in the lumber trade, and in 1867 came to St. John as the representative of Francis Carvell & Co., of Liverpool and Newry, who were at that time heavy importers. He afterwards became a member of the firm and continued with them until early in the eighties, when they ceased business. Mr. McKean then became identified with the large firm of Jas. Smith & Co., acting as their agent, and about the first of the present decade launched into the shipping business for himself. He is now the representative of the large importing firm of Liverpool, Price & Pierce.

Mr. McKean's shipments from St. John for the years 1890 to 1895, averaged over twenty million feet annually. For the past two years they have not been so large from that port, but his St. John shipments are small in comparison with those from other ports in New Brunswick and Nova Scotia. From Parrsboro alone, a small shipping town in the latter province, he has shipped between twenty and twenty-five million feet in one year. He has been doing business there since 1885, through his well-known agent, Capt. Norby. He also ships largely from Grindstone Island, Baie Verte, Shediac, Pugwash and other points in their vicinity.

Mr. McKean deals exclusively with the European markets; his vessels are all transatlantic, and are chartered sometimes to the extent of 60 and 70 in a year.

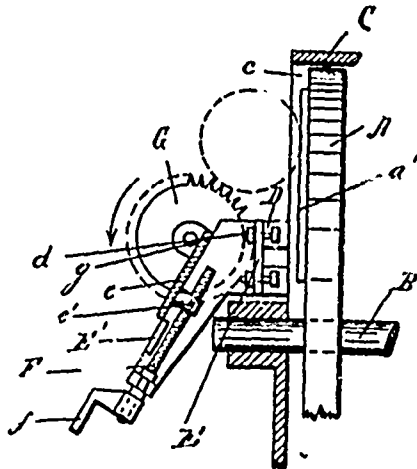
In April, 1854, Mr. McKean married a daughter of the late P. P. McGivern, of St. John. They have a residence on Sewall Street and a beautiful summer home at Rothsay. Though never courting publicity in personal matters, Mr. McKean is always considerate to those calling upon him. He is extremely popular in business circles, and is frequently spoken of as a perfect business man.

THE SAND BLAST FOR SHARPENING FILES.

J. J. Holtzapffel, in a paper recently read before the Society of Arts on the uses of the sand blast, alluded especially to the value of the process in sharpening files and the superiority of the process, the sand blasted file doing twice the work of the ordinary file in the same time, this superiority being now so fully recognized that 240,000 dozen files are so prepared in Sheffield yearly. They can also when worn be resharpened over and over again, without grinding out the old marks, for about 2½ per cent. of their value. He also spoke of the efficacy of the blast in removing every trace of scale from iron castings so that the finest tools may be applied at once to the metal, and of its usefulness in refacing grindstones and emery wheels, cleansing bicycle tube surface before brazing, granulating or frosting electric plate, gilding metals, gold and silversmith's work, and jewelry, and many other purposes suggestive of a widely extended field for the sand blast in metallurgy.

RECENT PATENTS OF INTEREST TO LUMBERMEN.

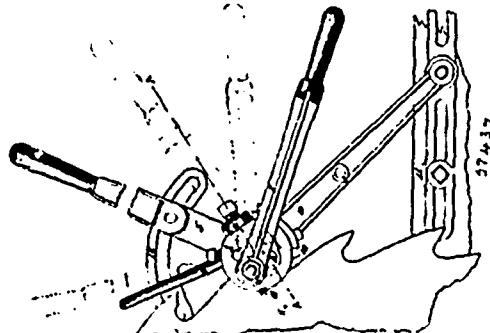
PATENTS have recently been granted in Canada for the following devices, which will be found of interest to lumbermen and woodworkers:



BARK CUTTER.

Patentee: S. W. Butterfield, Three Rivers, Que.; granted September 4th, 1897; 6 years.

The claim is for a bark cutter, the combination, with a revoluble disc provided with knives on its face, and a casing provided with an opening at its upper part, of a carriage secured to the front end of said casing, and provided with an inclined support, a bracket slidable on the said support, toothed wheels journaled in the said bracket and arranged to support the logs in front of the cutters, and driving mechanism for revolving the said wheels. The slidable bracket carries the shaft and wheels, being supported by the carriage. The driving pulley is carried by the said carriage, which pulley drives the shaft and intergearing bevelled toothed wheels, with an intermediate shaft, and universal joints coupling the adjacent ends of the two shafts.



SWAGE FOR UPSSETTING TEETH OF SAW-MILLS.

Patentee: J. H. Steedman and G. F. Steedman, St. Louis, U.S.; granted 16th September, 1897; 6 years.

The claim therefor consists in a saw swage wherein the saw tooth is swaged by the rotation of an eccentric die, swaging out the tooth against an anvil the combination of the head 1, having slot 10, the eccentric die 2, the cylindrical anvil 3, clamping screws 4, the lever 5, set screw 6, the clamping lever 7, the adjusting stop 8, the arm 9, the adjustable slide 11, and the adjustable arc 12.

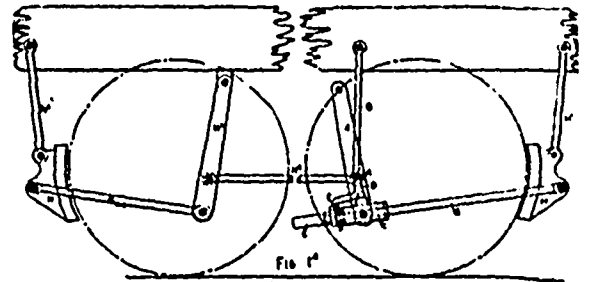


CLAPBOARD MACHINE.

Patentee: Patrick Conroy and Jere Neterer, of New Whatcom, U.S.; granted 22nd September, 1897; 6 years.

This clapboard machine consists in a reciprocating bolt-carrier, consisting of an open rectangular frame having inwardly-projecting teeth on one end of its walls, and a flange extending from side to side in advance of the other end wall and parallel therewith, a toothed dog arranged in front of the flange and having a stem projecting inwardly through the flange, and the end wall of the carrier, a spring on the stem abutting against the end wall and tending normally to force the dog forward, an arm extending rearwardly from the dog through the flange and bent upwardly, a lever pivoted at one end to one side of the carrier and connected intermediate at its ends with the said

arm, and a fixed stop on the machine-frame to engage the free end of the lever and cause it to retract the dog. In a tilting table provided with central end journals, one being supported in end of machine-frame and projecting outwardly beyond it, and the other in a suitable bearing within the frame, a segmental rack 21 secured to the outer face of the said end bar-concentric with the projecting journal, with a spring arm to rock the table and lock it in its adjusted position, combined with a reciprocating bolt-carrier and means to release the bolt from the carrier to permit it to drop onto the table.



LOG PEELING MACHINE.

Patentee: John Moravce, Chatham, N.B., granted 25th September, 1897; 6 years.

The points claimed by the patentee are the combination, with a bed, a head stock and tail stock mounted on said bed, and a chuck, of a hollow live-spindle carried by the head-stock and arranged to operate the chuck, a plurality of centre-points carried by the tail stock, a slide rest, a tool pivotally mounted on the slide, rest and means for keeping the tool at a uniform distance from the periphery of the log. In a means for holding and revolving the log, of a tool-holder, a pair of knives placed in said tool-holder, one knife being arranged to cut at right angles to the other, and means for holding the knives in a predetermined relation to the periphery of the log, whereby one knife rips the periphery of the log and the other knife cuts a strip therefrom. In a bed having channelled extensions, of a slide-rest provided with brackets, and a series of balls running in the channelled extensions and supporting the brackets, and a hollow cylinder forming a live spindle mounted in uprights and rotatable on the balls.

TIMBER IN THE KLONDIKE.

The following interesting letter on the timber resources of the Klondike region is from the pen of Mrs. Alice Palmer Henderson, and appeared in a recent number of the *Timberman*.

If sawdust is gold dust, why dig in the mines? Why not live in town, even if it is the wickedest town on earth—Dawson, the river metropolis for the Klondike, fourteen miles back in the mountains? It is safe to assert that Harper & Ladue, owners of that saw mill, haven't a more profitable gold mine than that same little engine, working away 20 hours out of 24 under the shed roof. It was netting them about \$1,000 a day when I was there in August and must be making much more now, for lumber prices are much advanced, I hear, and the mill is run the other four hours. This is the same mill that was erected at Forty-mile, the first on the Yukon, but was removed when the rush to the Klondike began a year ago. When I was at Dawson they were working two shifts ten hours each and couldn't get enough logs for the rest of the day. They averaged 7,000 to 8,000 feet cut a day and employed seventeen men. The engineer and sawyers received \$15 a day, the others \$10. One of the sawdust haulers is an ex-mayor of Seattle. The firm is obliged to pay \$3 a thousand tax to the government. When I was there they were paying \$50 a thousand for logs and charging \$150 for the sawed lumber and as much for slabs, but some months before they were receiving the modest sum of \$750 a thousand.

The only other saw-mill in the Yukon Valley is at Anvik, where one is owned by the Episcopal mission and leased by the year.

Several new saw mills will doubtless go in next season. They are needed now, and will be imperatively so next summer. The only one I know of so far, however, is that to be taken in ready to set up at once and capable of turning out enough "to build a town in a day," as early as possible in the spring. It is part of the project of the million-dollar company, formed of rich and practical mine owners from Colorado, recently formed.

Loggers are in demand there and are paid \$15 to \$20 a day. They float their logs down the river in small rafts. There is a curious current in front of Dawson, part of the river flowing up and part down, so that it is a difficult thing to land the rafts there.



MONTHLY AND WEEKLY EDITIONS

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ADVERTISING RATES FURNISHED ON APPLICATION

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

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

Special correspondents in localities of importance present an accurate report of prices and the condition of the market, but also of other matters specially interesting to our readers. But correspondence is not only welcome, but is invited from all who have any information to communicate or subjects to discuss relating to the trade or in any way affecting it.

Even when we may not be able to agree with the writers we will give them a fair opportunity for free discussion as the best means of eliciting the truth. Any items of interest are particularly requested, for even if not of great importance individually they contribute to a fund of information from which general results are obtained.

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

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

TO VISITING LUMBERMEN.

Lumbermen visiting Toronto are invited to use the office of the CANADA LUMBERMAN as their own. We shall take pleasure in supplying them with every convenience for receiving and answering their correspondence, and hold ourselves at their service in any other way they may desire.

OUR REVIEW NUMBER.

FOLLOWING our custom in past years, the next issue of THE LUMBERMAN will contain the annual review of the lumber trade for the year 1897. This we desire to make even more complete than heretofore, and would ask the assistance of our readers to this end. In order to secure the required information, printed circulars have been mailed to a large proportion of the saw mill owners throughout the Dominion, and it is earnestly hoped that manufacturers will answer as many as possible of the enquiries and return the circular to this office at their earliest convenience.

Those who through inadvertence may not receive the circular are asked to send us particulars of the season's trade, including volume of output as compared with the previous year, quantity of lumber in stock, and such other information as will assist us in compiling a review which will be of interest and value to the trade generally. A copy of the circular will be sent on application to any manufacturer who may have failed to receive one. Whenever a wish is expressed that the name of the manufacturer should not appear in connection with the particulars supplied, the request will be complied with.

Manufacturers are asked not to confine their remarks to answering the questions asked in the circular, but to supplement these with any comment which they may feel disposed to offer regarding the season's trade and the outlook for the new year. By the kind assistance of lumbermen we hope to present in our February number a more complete review than ever before.

TIMBER POLICY OF THE ONTARIO GOVERNMENT.

It was generally understood that the Ontario Legislature was convened earlier than usual this year for the purpose of dealing with the timber question, public sentiment having demanded that some action should be taken. In the speech from the throne on November 30th, the Lieutenant-Governor announced that among other measures to be submitted to the House would be a bill relating to timber and timber licenses. The question was also referred to at length by both the mover and seconder of the address, and the debate thereon continued for several days. Mr. Whitney, the leader of the Opposition, led a vigorous attack upon the Government for not having immediately announced its policy, his contention being that no saw-logs should be allowed to be exported from the country.

While this discussion was in progress, a deputation of Georgian Bay lumbermen interviewed the members of the Cabinet, reiterating their claims for the compulsory manufacture of the timber in Canada. By a report of this conference, published elsewhere in this number, it will be observed that the deputation urged that whenever conditions between the United States and Canada were equalized, then the Government should have power, by order-in-council, to remove the manufacturing clause.

The Government remained sphinx-like, and not an intimation was given as to what course was likely to be pursued. The report gained currency that an effort would be made to relieve the situation by imposing increased stumpage dues on all logs intended for export. This proved to be without foundation. The Opposition also claimed that the delay in presenting the bill was the result of a faint hope on the part of the Government that such reciprocal arrangements might be entered into between the authorities at Ottawa and Washington would relieve the Provincial Government of the necessity of providing a remedy.

When, therefore, on the 20th of December, the Government brought forward a bill which provides that all licenses issued after April 29th next shall contain a provision that the timber must be manufactured in Canada, it came somewhat in the nature of a surprise. That the bill will be passed by the House may be said to be certain, as from no direction is there reason to expect opposition. The firm and decisive stand taken by the Government must be commended, and will, we feel assured, meet with the approval of lumbermen in general. The application of the manufacturing clause to current licenses has some advocates, but the majority are free to admit that it would be an injustice to interfere with the present winter's log production. From statistics received it is shown that the cut by American operators has thus far only slightly exceeded that of last year, and the season is now

too far advanced to admit of any material increase.

The nature of the legislation is different in character from any heretofore adopted affecting the export of saw-logs. In some instances in the past a provision has been made at the time of the sale that the timber should be manufactured in Canada, but the present regulation provides that in future no timber shall be allowed to be taken out of the country in its raw state. Furthermore, no provision is made for changing the regulation by order-in-council, and it will therefore require another Act of Parliament to remove it from the Statute Book.

The legislation as framed at Washington has for years contained a retaliatory clause, by which it was hoped to retain free access to the timber of Canada, while at the same time compelling our manufacturers to pay a duty for the privilege of selling lumber in the United States market. We do not underestimate the value of this market to the lumbermen of Canada; on the other hand, we recognize the advantages of free interchange, but when it is presumed to so legislate as to place all the advantages on one side of the line, then the time for action here would seem to have arrived. The step that has now been taken may serve to bring our neighbors to a realization that there are mutual interests to be considered.

SPAIN AS A MARKET FOR CANADIAN LUMBER.

Mr. William Wyndham, consul at Barcelona, in a communication to the Department of Trade and Commerce at Ottawa, draws special attention to Spain as a possible market for Canadian lumber. The Spanish forests have been depleted, and supplies are now obtained from Russia, Norway and Sweden. It is gratifying to learn that this market has already received the attention of Canadian lumber shippers. During the past summer the first cargo to Spain was shipped from Quebec, and a second within the past month, while several smaller cargoes have gone forward from New Brunswick ports.

Particulars of only the first shipment from Quebec are to hand. The cargo consisted of 680 standards of 3-inch deals for Barcelona and 166 standards for Valencia, or a total of 1,675,080 feet. The freight from Quebec per standard of 1,980 feet was \$13.20 for deals and \$8.80 for ends, 9 feet and under. The deals were mostly 12 to 16 feet, and 3x6, 3x7, 3x8 and 3x9. The cargo for Barcelona was valued at \$13,810, the manifest value being given as \$15,677, and the 166 standards delivered at Quebec were invoiced at \$3,696. Although we have no particulars of the prices at which the goods were sold, it is believed that the venture proved quite satisfactory to the shippers, as the fact of another shipment being made would indicate. Next season further efforts will no doubt be made to capture this market.

A correspondent of the Northwestern Lumberman furnishes some information regarding freight rates and duties which may be of interest to intending shippers. Rates of freight to Barcelona from Russia and Norway and Sweden rule from \$9.75 to \$12.25 per standard, and from the United States about \$18. The customs duty on a cargo is three pesetas (59 cents) per cubic foot. The duties payable by ship are 4.875 pesetas (94 cents) when coming from Europe and 8.75

pelas (\$1.69) when coming from other parts of the world, for each 1,000 kilogrammes, or 2,240 pounds, of cargo discharged.

Prices of timber in Barcelona are from \$6.30 to \$7.50 a dozen pieces of planks, which is about 60 per cent. more than quotations in Norway and Sweden.

EDITORIAL NOTES.

The construction of the Ottawa and New York Railway, now nearing completion, will doubtless prove of great benefit to the lumber industry of the Ottawa valley and Eastern Ontario, shortening, as it will, the distance to the New York market. The distance by this road from Ottawa to New York, via Cornwall, will be 424 miles, while the distance via the Canada Atlantic, Delaware and Hudson, and New York Central railways is 469, 504 and 590 miles respectively. The new road will cross the St. Lawrence at Cornwall.

The contention that carrying charges will prevent the shipment from Ontario to European countries of anything but the better grades and highest-priced lumber meets contradiction in the facts as they exist to-day. Already some of our largest manufacturers have been shipping box shooks to England, and we are informed that the Buckley & Douglas Lumber Company, of Manistee, Mich., recently loaded eight cars of two-inch hemlock, dressed, for shipment to South Africa. This shipment stands as an evidence of the new markets that are daily opening up for the timber products of the American continent.

A RECENT number of an English exchange states that sufficient attention is not paid by the wood-working establishments of Great Britain to the manufacture of trifles. This remark is equally applicable to Canada, and touches the point upon which hinges much of our future success in the disposition of our timber. The markets of foreign countries are limited, and when the supply exceeds this limit, the buyer is in a position to dictate to the seller, and prices immediately weaken. To guard against this condition, we should endeavor to manufacture as much of our lumber as possible into articles of woodenware, and by this means afford employment to a greater number of workmen. As an instance, the United States exports annually hundreds of thousands of stepladders to Great Britain, France, Germany, South America, and other countries. These stepladders are made of spruce or pine, from material which in many mills is allowed to go to waste or finds its way to the furnace to be used as fuel.

We have recently heard the complaint that the insurance rate on saw mill property and lumber was too high, and in view of the excessive rate, some lumbermen have been carrying their own insurance. Owing to the inflammable nature of saw mills and the lumber in surrounding yards, the losses by fire are greater, perhaps, than in any other line of industry, and to this is attributable the high rate charged by the insurance companies. Saw mill owners would no doubt find it profitable to equip their mills more thoroughly with fire-fighting appliances, of which

there are a number on the market. Among the most efficient methods of protection is the ball nozzle system, controlled by the Ball Nozzle Company, of Toronto, which can be arranged to protect the lumber yard as well as the saw mill. The provision of such apparatus would lessen the danger of loss from fire, and, by reducing the percentage of loss in proportion to the value of property insured, eventually secure a reduction by the insurance companies of the rate charged on saw mills.

ADVERTING to the remarks in our last issue pointing out the wisdom of making a forestry display at the Paris Exposition in 1900, we have been advised by the Honorable the Minister of Agriculture that it is the intention of the Dominion government to make a special exhibit of forest products at this Exhibition. Just what steps the provincial governments will take to assist this commendable movement is somewhat problematical, although, in view of our rapidly increasing export trade, we feel reasonably certain that the matter will receive the consideration which its importance demands. In this connection, we observe the somewhat singular but undoubtedly correct statement, made by Major Moses P. Handy, special United States Commissioner to the Paris Exposition Universal, that South American purchasers go to Paris to buy. Thus, not only will a creditable exhibit of forest products tend to popularize our manufactures in the European markets, but visitors from almost the whole world will view the exhibit. At a time when so much attention is being directed to the pulp industry of Canada, we hope the opportunity to make known our possibilities in this direction will be taken advantage of.

CANADIAN WEST INDIA TRADE

HALIFAX, N. S., Dec. 24th, 1897.

To the Editor of the CANADA LUMBERMAN:

DEAR SIR,—In your issue of this month "Progress" writes a long article on Canadian West Indian trade, which contains statements so wholly inaccurate and contrary to facts, so far as the steamship service to the West Indies is concerned, that we feel called upon to put you and the public in possession of facts.

Irregularity of sailings seems to be the chief grievance so far as we, who are managers of the steamers, are concerned. In refutation of this alleged irregularity, we would tell "Progress" that since the spring of 1891, when we became managers of the steamers performing the work, they have sailed in accordance with contract with the government regularly each month both from St. John and Halifax, and also on fixed dates from Georgetown, Demerara, on the passage north. As evidence of this we enclose the company's Windward Island sailing cards for portions of years 1894, 1895, 1896, 1897, the previous to 1894 having been destroyed. The Jamaica service has been as regular as clock-work since 1888.

So far as the lumber trade is concerned, we refer "Progress" to the lumber producers and sellers of Ottawa and other western cities, who will probably tell him the true reason for Canadian pine finding its way to the West Indies via

United States ports. The fault does not lie at the doors of the Canadian subsidized steamers.

Yours respectfully,

PICKFORD & BLACK.

NEW BRUNSWICK LETTER.

[Regular Correspondence of the CANADA LUMBERMAN.]

Now that nearly all the exporting for the year has been completed, shippers find more time to review their season's work, to cash up their accounts and reckon gains and losses. The confident feeling of the early part of the summer has in a measure been sustained by the large shipments, and it is probable that the losses will be found in the background.

It is safe to conclude that during the year at least 50,000,000 feet has been shipped from St. John in excess of the output of 1896, and as last year exceeded 1895 by 40,000,000 feet, the increase of the two years will be appreciated.

In making the following detailed review of the three years, the chief importing ports are given. The item set down opposite Manchester in the list of 1897 shipments shows some benefit to have been derived by Canada on account of the new ship canal.

The lumber shipments from St. John, N. B., to United Kingdom and continent of Europe were:

Ports.	1895.	
	Spruce Deals (Superficial Ft.)	Birch Pine. (Tons.) (Tons.)
Liverpool.....	46,003,954	7,774 324
Fleetwood.....	5,017,199	
Bristol Channel.....	23,973,809	
Other Ports (British).....	15,001,004	945
Ireland.....	37,491,843	
Continent.....	1,039,139	
Total.....	129,426,848	8,719 324

Ports.	1896.	
	Spruce Deals (Superficial Ft.)	Birch Pine. (Tons.) (Tons.)
Liverpool.....	67,292,634	8,740 128
Fleetwood.....	8,695,446	
Bristol.....	37,797,014	
Other Ports (British).....	22,866,977	2,120
Ireland.....	27,350,795	
Continent.....	4,657,174	
Total.....	168,659,950	10,860 128

Ports.	To October 31st, 1897:		
	Spruce Deals (Superf. Ft.)	Birch Deals (Super. Ft.)	Birch Pine. (Tons.) (Tons.)
Liverpool.....	55,854,896	1,906,852	7,801 92
Fleetwood.....	14,167,369	334,656	
Bristol Channel.....	52,019,207	574,289	
Ireland.....	51,208,528	31,637	40
Continent.....	7,139,961		
Manchester.....	26,069,577		
Glasgow.....	11,080,677	1,599,447	314
London.....	3,950,955		
Other Ports.....	3,323,661	112,559	
Total.....	224,813,931	4,559,440	8,155 92

A shipment was sent last month to Spain by A. Cushing & Co., through Mr. Geo. McKean, as shipper, amounting to 600,000 feet of deals and ends. Very little, I am informed, has been sent to that country heretofore. Malcolm McKay sent two cargoes of 250 standards each this year to Valencia, Spain. He also sent a couple of small cargoes to Cartagena, Spain. I am also informed that Hon. J. B. Snowball, of Chatham, N. B., shipped two small cargoes to Valencia this season. Shippers report a number of inquiries for lumber from Spain and France. They think the continental lumber outlook is quite promising. St. John also sent 1,930,643 feet of spruce deals to Australia this season.

ST. JOHN, N. B., Dec. 22nd, 1897.

The following table shows the amount of timber lands placed under license in Ontario to this date, both before and since Confederation:—

	Sq. miles.
Before Confederation.....	12,465
Sold by Sandfield Macdonald's government.....	635
Sold by the Blake government.....	5,031
Sold by Oliver Mowat's government during 4 years:	
Under Mr. Pardee as Commissioner, 3,226 }	4,235
Under Mr. Hardy as Commissioner, 1,009 }	
Sold under the present government.....	159 1/4
Total.....	22,525 1/4

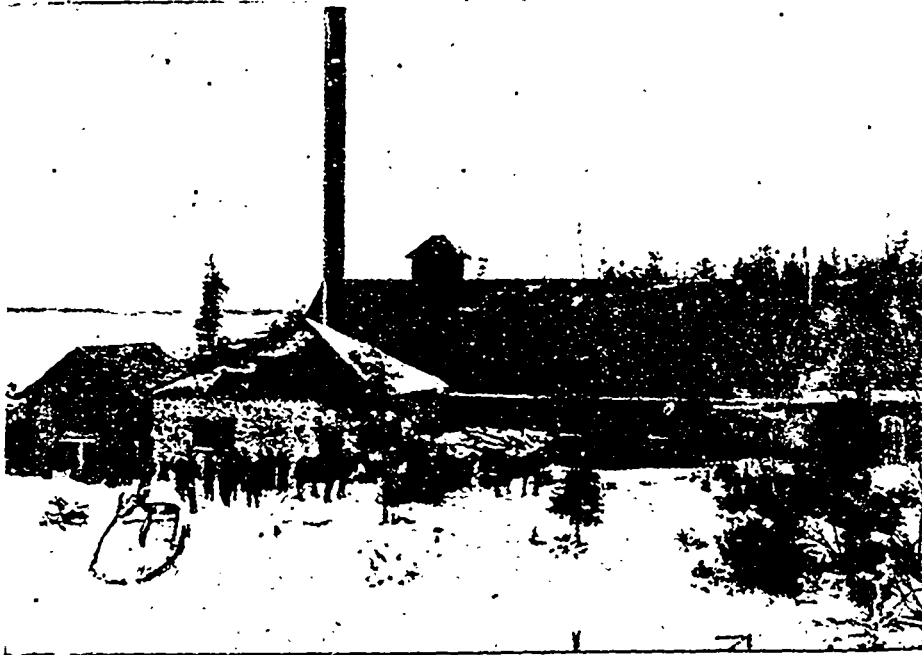
THE PATENT CLOTHBOARD COMPANY.

The organization of the Patent Clothboard Company was recently referred to in this journal. This company is now located at Parry Sound, on the Georgian Bay, at the terminus of the Ottawa, Arnprior and Parry Sound railway, which gives them excellent facilities for direct shipments and export trade.

The manufacture of cloth boards (which are used for rolling cloth and other fabrics) is the object of the company. These are exported to European and American markets, and are made of basswood, which, from its lightness and freedom from knots and resin, is much in demand. The process of manufacturing is a new one, and turns out a smooth, clean board, much superior to those made from pine and other heavy woods which are subject to knots, resin and sap. The company will also export hardwood veneers to the European market.

The mill proper has been planned and built for its special purpose, and is so arranged as to save labor at every possible point. The main building is 50 x 100 feet, with addition 65 x 35 feet containing steaming vats, etc. The boiler and engine house, 32 feet square, is erected of stone and brick, and is entirely separated from the main structure. The company have also erected a wharf, with tramway, to facilitate the loading and unloading by water transport.

The factory is unique in many respects, and is thoroughly equipped with modern machinery, many of the



PATENT CLOTHBOARD COMPANY'S FACTORY, PARRY SOUND, ONT.

machines being the first and only ones brought into Canada, and of the best and up-to-date manufacture.

The process of manufacturing is about as follows: The logs are drawn up the ladder, cut in two, put into steam vats and thoroughly steamed. They then go through a 16-ton Keeley veneering machine, claimed to be the largest of its kind in Canada. By this machine the logs are sliced into quarter-inch or three-eighths inch boards, according to order. These boards are then passed through an automatic jointer, which cuts them the proper width, then twice through a six ton giant wringer, which squeezes out all the water absorbed in steaming; then into an automatic drier, which is a marvel of its kind, contains seventy-two steam drying chambers and works like a bellows, the automatic motion of opening and closing being regulated by electric batteries; when dry the cloth-boards are taken from the drying machine, passed through champing machines, then to the frizzing machines and finally to the sand paper machine, when they are ready for packing. The logs are pared by the veneer machine down to eight inches and the cores are run through a slab re-sawer and cut up into box shooks. There is also an automatic knife grinder, a saw table and other machinery, and the logs are handled from the steam vats to the veneer machine by pulleys and an overhead railway.

The machinery is propelled by a steam engine of 125 h. p., steam being supplied by a battery of two 60 h. p. tubular boilers. The factory was built by A. Logan,

contractor, and the machinery was all put in under the supervision of Mr. E. T. Henry, foreman of the works, late of Honox, Michigan, and an expert in his line, assisted by Mr. Thomas Yates, of Parry Sound. The capacity of the factory is 20,000 pieces in a day of 10 hours.

Trial shipments of cloth-boards in car load lots have been made to American and English cloth makers. The company expect to work up a large trade and intend running day and night.

The concern is a limited joint stock company, the capital being held by Canadian and American gentlemen. Mr. W. H. Marcon, late of Steele, Briggs & Marcon, Toronto, is president, and Mr. W. W. Keighley, late of Smith & Keighley, Toronto, secretary-treasurer. The company have given contracts for large quantities of basswood timber and expect to manufacture largely. At a later date we hope to give a more complete description of this new enterprise.

LAKE OF THE WOODS MILLS.

To a representative of the Commercial, Mr. D. C. Cameron, of Rat Portage, said that business had been very good this season with the Lake of the Woods mills. Sales had been larger and payments better. Another favorable feature was the large reduction in stocks. This winter the mills were carrying over much lighter stocks than have been carried for many years, and this meant more money in hand and reduced interest and insurance

think there was anything in it. The party who had given out these reports, and whose name, with others had been mentioned in the proposed enterprise, had, understood, since taken an interest in a mill at Rat river, in connection with the former proprietors.

NEW PULP MILL IN NEW BRUNSWICK.

Wood Pulp, of London, Eng., in a recent issue, contains particulars of a Scottish-Canadian company, formed to erect pulp mill at Mispec, N. B. This journal says:

The St. John Sulphite Pulp Company, Limited, has been registered, with a capital of £60,000. The directors are: John Galloway, of Seggie, Managing Director of the Grand Bridge Paper Co.; Charles Anderson, of Fettykil, Leslie, and Thame Paper Mills, Purfleet, London; William Denison Dickson, Markinch; Forbes T. Wallace, Banker, Director of the Grand Bridge Paper Company, and Phillip Grosset, Leven, the latter being Managing Director.

The prospectus states that the company has been formed for the manufacture in Canada of sulphite pulp for the European market. Within the last few years the manufacture of paper has been completely revolutionized by the substitution of wood pulp for esparto and rags as a paper making material, and it is probable that at the present time there is no other industry offering such certain and lucrative results as the production of wood pulp, for which a great demand exists.

A site for the works has been secured at Mispec, extending to 24 acres or thereby, with valuable water power equal to 600 horse power, taken at a minimum flow. Mispec is in the parish of Simonds, in the county of St. John, N. B., and situated on the Bay of Fundy, about 7 miles to the eastward of St. John. The site, including water rights, was recently acquired by Mr. M. F. Mooney, of St. John, a practical pulp-maker, who has had a long experience in the manufacture of sulphite pulp both in Canada and the United States, and has been sold by him to the company at the price of £2,000, which sum he is to invest in shares of the company. The Mispec river receives its supply of water from four lakes, one of which, Loch Lomond, is about 12 miles long and one mile broad, and the quality of the water, which has been analyzed, is pronounced as most suitable for the manufacture of pulp. These lakes are surrounded by spruce forests, which are mostly in the hands of small farmers, from whom the wood can be purchased as cheaply as anywhere else in Canada. The principal supply of timber will be drawn from a woodland the whole length of New Brunswick, part of the province of Quebec, and part of the state of Maine. There are, moreover, numerous tributaries flowing through woodlands into the St. John. The supply of timber is thus practically unlimited.

Buildings will be erected to accommodate plant to produce 40 tons of dry pulp per day, but, in the meantime, machinery for 20 tons per day only will be put in. The buildings will be of stone and brick, and are estimated to cost £6,500. The machinery, plant and utensils are estimated to cost £24,500. The details have been carefully considered, and the cost fairly estimated. The cost of the machinery to double the output is estimated at £15,000. The erection of buildings and placing of machinery will be superintended by Mr. Mooney, along with Mr. Philip Grosset, of Penobscot, Canada, who has also a thorough knowledge of the manufacture of first-class sulphite pulp. These gentlemen will manage the works after erection.

Among the many souvenirs to hand is a paper weight, in the form of a horse-shoe, bearing the inscription, "Thomas Meaney & Co., wholesale lumber, 103 Bay street, Toronto, Canada."

The author of a paper presented to an English society says that in the only case of a split steam pipe within his recollection, the accident was caused by the boiler water having been allowed to prime into it, producing, probably, sudden contraction. It is difficult to see how water of the same temperature as the pipe could produce contraction. Water hammer would be a better explanation.

By a recent concession of the French government, Canadian exports of wood pulp via New York will have the benefit of the minimum French tariff. Under the commercial treaty between France and Canada pulp from this country is entitled to admission at the minimum tariff rate, but as most of the shipments made from Canada to France must go via New York—there being no direct steamship connection—the pulp was likely to be classed as American and taxed the maximum rate of duty.

charges. Prices obtained for lumber this season, however, were lower than ever before in the history of the lumber trade in this territory. Profits were small and the lumber trade generally was being done on a very close margin. If business continues to increase, however, they could afford to work on a closer margin. The cut of logs in the woods would be the largest, Mr. Cameron said, since away back in the "boom" days. He thought about 70,000,000 feet of logs would be taken out this winter. One year back in the "boom" period, the cut was reported to have reached about 80,000,000 feet, but it proved to be twice as much as was needed, and it broke the back of the lumber trade to carry the load, which remained a drug on the market for years. For the last couple of years the annual cut has been about 40,000,000 feet. Mr. Cameron said the mills were, of course, all closed, but they were working full force at their sash and door factory. They kept a large force of men busy all winter in the factory and they would be in good shape to handle the Manitoba and western trade in sash and doors, and supply the market with home manufactured goods equal in quality to the best imported lines. They were building up a large home industry in this branch, which would render it unnecessary to bring in imported goods. Their supplies came largely from Winnipeg and Manitoba, thus making their industry a benefit to the people here. Regarding the talk a short time ago about the proposal of certain Minnesota people to start large saw mills in Winnipeg, Mr. Cameron said he did not

DOUR DAVIE'S DRIVE.*

PINNAGER WAS ON snow-shoes, making a bee-line toward the end of saw-logs dark on the ice of Wolverine River. He crossed shanty roads, trod heaps of brush, forced his way through the tops of felled pines, jumped from little ledges into seven feet of snow—Pinnager's men called it "a terror on snow-shoes." They never knew the direction from which he might come—an ignorance which made them all busy with axe, saw, cant-hook, and horses over the two square miles of forest comprising his "cut." It was "make or break" with Pinnager. He had expected to put on the ice all the logs he might make; but every one left in the woods he must pay stumpage and forfeit. Now his axe-men had done such wonders that Pinnager's difficulty was to get his logs hauled out. Teams were scarce that winter. The shanty was forty miles from any settlement; ordinary teamsters were not eager to work for a small speculative jobber, who might or might not be able to pay in the spring. Pinnager had some extraordinary teamsters, sons of lumberjacks who neighbored him at home, and who were sure to work for him, though he should have to mortgage his land.

The time was late February; seven feet of snow, crusty on the level; a thaw might turn the whole forest floor to slush; but if the weather should "hold hard" for two weeks longer, Pinnager might make and not break. Yet the chances were heavily against him.

Any jobber so situated would feel vexed on hearing that one of his best teams had suddenly been taken out of his service. Pinnager, crossing a shanty road with the side of a moose, was hailed by Jamie Stuart with the news:

"Hey, boss, hold on! Davie McAndrews' leg's broke. His load slewed at the hill—log caught him against a tree."

"Where is he?" shouted Pinnager furiously.

"Carried him to shanty."

"Where are his horses?"

"Stable."

"Tell Aleck Dunbar to go get them out. He must take Davie's place—confound the lad's carelessness!"

"Davie says no; won't let any other man drive his horses."

"He won't. I'll show him!" and Pinnager made a bee-line for his shanty. He was choking with rage, all the more so because he knew nothing short of breaking Davie McAndrews' neck would break Davie McAndrews' stubbornness, a reflection that cooled Pinnager before he reached the shanty.

The cook was busy about the caboose fire, getting supper for fifty-three devourers, when Pinnager entered the low door, and made straight for one of the double-tiered dingy bunks. There lay a youth of eighteen, with an unusual pallor on his weather-beaten face, and more than the usual sternness about his formidable jaw.

"What's all this, Davie? You sure the leg's broke? I'd a thought you old enough to take care."

"You would?" said Davie grimly. "And yourself not old enough to have your piece of road mended—you that was so often told about it!"

"When you knew it was so bad, the more you should take care."

"And that's true, Pinnager. But no use in you and me choppin' woods. I'm needin' a doctor's hands on me. Can you set a bone?"

"No, I'll not meddle with it. Maybe Jack Scott can; but I'll send you out home. A fine loss I'll be at. Confound it—and me like to break for want of teams!"

"I've thocht o' yer case, Pinnager," said Davie, with a curious judicial air. "It's sore hard for ye; I ken that well. There's me and me feyther's horses gawn off, and you countin' on us. I feel for ye, so I do. But I'll not put you to any loss in sendin' me out."

"Was you thinking to tough it through here, Davie? No, you'll not chance it. Anyway, the loss would be the same—more, too. Why, if I send out for the doctor, there's a team off for full five days, and the expense of the doctor! Then he mightn't come. Wow, no! it's out you must go."

"What else?" said Davie coolly. "Would I lie here till spring and my leg mendin' into the Lord kens what-like shape? Would I be lettin' any ither drive the horses my feyther entrustit to my lone? Would I be dependin' on Mr. Pinnager for keep, and me idle? Man, I'd eat the horses' heads off that way; at home they'd be profit to my feyther. So it's me and them that starts at gray the morn's morn."

"Alone!" exclaimed Pinnager.

"Just that, man. What for no?"

"You're light-headed, Davie. A lad with his leg broke can't drive three days."

"Maybe yes an' maybe no. I'm for it, onyhow."

"It may snow, it may——"

"Aye, or rain, or thaw, or hail; the Lord's no in the habit o' makin' the weather suit ony but himself. But I'm gawn; and the cost of a man wi' me would eat the wages ye're owing to my feyther."

"I'll lose his team, anyhow," said Pinnager, "and me needin' it bad. A driver with you could bring back the horses."

"Nay, my feyther will trust his beasts to name but himself or his sons. But I'll have yer case in mind, Pinnager; it's a sore necessity you're in. I'll ask my feyther to send back the team, and another to the tail of it; it's like that Tam and Neil will be home by now. And I'll spread word how ye're needin' teams, Pinnager; it's like your neighbors will send ye in sax or eight spans."

"Man, that's a grand notion, Davie! But you can't go alone; it's clean impossible."

"I'm gawn, Pinnager."

"You can't turn out in seven feet of snow when you meet loading. You can't water or feed your horses. There's forty miles the second day, and never a stopping-place; your horses can't stand it."

"I'm wae for the beasts, Pinnager; but they'll have no force but to travel dry and hungry if that's set for them."

"You're bound to go?"

"Div you tak' me for an idjit to be talkin' and no meanin' in it? Off wi' ye, man! The leg's no exactly a comfort when I'm talkin'."

"Why, Davie, it must be hurting you terrible!"

Pinnager had almost forgotten the broken leg, such was Davie's composure.

"It's no exactly a comfort, I said. Get you gone, Pinnager; your men may be idlin'. Get you gone, and send in Jack Scott, if he's man enough to handle my leg. I'm wearin' just now for my ain company."

As Davie had made his programme, so it stood. His will was inflexible to protests. Next morning at dawn they set him on a hay-bed in his low, unboxed sleigh. A bag of oats supported his back; his unhurt leg was braced against a piece of plank spiked down. Jock Scott had pulled the broken bones into what he thought their place, and tied that leg up in splints of cedar.

The sleigh was enclosed by stakes, four on each side, all tied together by stout rope. The stake at Davie's right hand was shortened, that he might hang his reins there. His water-bucket was tied to another stake, and his bag of provisions to a third. He was warm in a coon-skin coat, and four pairs of blankets under or over him.

At the last moment Pinnager protested: "I must send a man to drive. It shan't cost you a cent, Davie."

"Thank you, kindly, Pinnager," said Davie, gravely, "I'll tell that to your credit at the settlement. But ye're needin' all your help, and I'd take shame to worsen your chances. My feyther's horses need no drivin' but my word."

Indeed, they would "gee," "haw," or "whoa" like oxen, and loved his voice. Round-barrelled, deeply-breathed, hardy, sure-footed, active, gentle, enduring, brave, and used to the exigencies of "bush roads," they would take him through safely if horses' wit could.

Davie had uttered never a groan after those involuntary ones forced from him when the log, driving his leg against a tree, had made him almost unconscious. But the pain-sweat stood beaded on his face during the torture of carrying him to the sleigh. Not a sound from his lips, though! They could guess his sufferings from naught but his hard breathing through the nose, that horrible sweat, and the iron set of his jaw. After they had placed him, the duller agony that had kept him awake returned; he smiled grimly, and said, "That's a comfort."

He had eaten and drunk heartily; he seemed strong still; but what if his sleigh should turn over at some sidling place of the rude, lonely, and hilly forest road?

As Davie chirruped to his horses and was off, the men gave him a cheer; then Pinnager and all went away to labor fit for mighty men, and the swinging of axes and

the crashing of huge pines and the tumbling of logs from rollways left them fancy-free to wonder how Davie could ever brace himself to save his broken leg at the cahots.

The terrible cahots—plunges in snow-roads! But for them Davie would have suffered little more than in a shanty bunk. The track was mostly two smooth ruts separated by a ridge so high and hard that the sleigh-bottom often slid on it. Horses less sure-footed would have staggered much, and bitten crossly at one another while trotting in those deep, narrow ruts, but Davie's horses kept their "jog" amiably, tossing their heads with glee to be travelling towards home.

The clink of trace-chains, the clack of harness, the glide of runners on the hard, dry snow, the snorting of the frosty-nosed team, the long whirring of startled grouse—Davie only heard these sounds, and heard them dreamily in the long, smooth flights between cahots.

Overhead the pine tops were a dark canopy with little fields of clear blue seen through the rifts of green; on the forest floor small firs bent under rounding weights of snow which often slid off as it moved by the stir of partridge wings; the fine tracery of hemlocks stood clean; and birches smuggled in snow that mingled with their curling rags. Sometimes a breeze eddied downward in the aisles, and then all the undergrowth was a silent commotion of snow, shaken and falling. Davie's eyes noted all things unconsciously; in spite of his pain he felt the enchantment of the winter woods until—another cahot! he called his team to walk.

Never was one cahot without many in succession; he gripped his stake hard at each, braced his sound leg, and held on, feeling like to die with the horrible thrust of the broken one forward and then back; yet always his will ordered his desperate senses.

Eleven o'clock! Davie drew up before the half-breed



Peter White duck's midwood stopping-place, and briefly explained his situation.

"Give my horses a feed," he went on. "There's oats in this bag. I'll no be moved myself. Maybe you'll fetch me a tin of tea; I've got my own provisions." So he ate and drank in the zero weather.

"You'll took lil' drink of whiskey," said Peter, with commiseration, as Davie was starting away.

"I don't use it."

"You'll got for need some more you'll see de Widow Green place. I pass twenty-tree mile."

"I will need it then," said Davie, and was away.

Evening had closed in when the bunch of teamsters awaiting supper at Widow Green's rude inn heard sleigh-bells, and soon a shout outside:

"Come out, some one!"

That was an insolence in the teamsters' code. Come out, indeed! The Widow Green, bustling about with fried pork, felt outraged. To be called out!—of her own house!—like a dog!—not she!

"Come out here, somebody!" Davie shouted again.

"G' out and break his head one of you," said fighting Moses Frost. "To be shoutin' like a lord!" Moses was too great a personage to go out and wreak vengeance on an unknown.

Narcisse Larocque went—to thrash anybody would be glory for Narcisse, and he felt sure that Moses would not, in these circumstances, let anybody thrash him.

"What for you shout lak' dat? Call mans hout, hey?"

* From "Between Earth and Sky," by permission of the publisher, William Briggs. Copyrighted, 1897.

said Narcisse. I'll got good mind for broke your head, me!"

"Hi, there, men!" Davie ignored Narcisse as he saw figures through the open door. "Some white man come out. My leg's broke."

Oh, then the up-jumping of big men! Moses, striding forth, ruthlessly shoved Narcisse, who lay and cowered with legs up as a dog trying to placate an angry master. Then Moses carried Davie in as gently as if the young stalwart had been a girl baby, and laid on the widow's one spare bed.

That night Davie slept soundly for four hours, and woke to consciousness that his leg was greatly swollen. He made no moan, but lay in the darkness listening to the heavy breathing of the teamsters on the floor. They could do nothing for him; why should he awaken them? As for pitying himself, Davie could do nothing so fruitless. He fell to plans for getting teams in to Pinnager, for this young Scott's practical mind was horrified at the thought that the man should fail financially when ten horses might give him a fine profit for his winter's work.

Davie was away at dawn, every slight jolt giving his swollen leg pain almost unendurable, as if edges of living bone were grinding together and also tearing cavities in the living flesh; but he must endure it, and well too, for the teamsters had warned him he must meet "strings of loadin'" this day.

The rule of the long one-tracked road into the wilderness is, of course, that empty outgoing sleighs shall turn out for incoming laden ones. Turn out into seven feet of snow! Davie trusted that incoming teamsters would handle his floundering horses, and he set his mind to plan how they might save him from tumbling about on his turned-out sleigh.

About nine o'clock, on a winding road, he called, "Whoa!" and his bays stood. A sleigh piled with baled hay confronted him thirty yards distant. Four others followed closely; the load drawn by the sixth team was hidden by the woodland curve. No teamsters were visible; they must be walking behind the procession; and Davie wasted no strength in shouting. On came the laden teams, till the steam of the leaders mingled with the clouds blown by his bays. At that halt angry teamsters, yelling, ran forward and sprang, one by one, up on their loads, the last to grasp reins being the leading driver.

"Turn out, you fool!" he shouted. Then to his comrades behind, "There's a blamed idjit don't know enough to turn out for loading!"

Davie said nothing. It was not till one angry man was at his horses' heads and two more about to tumble his sleigh aside that he spoke:

"My leg is broke."

"Gah! G'way! A man driving with his leg broke! You're lying! Come, get out and tramp for your horses! It's your back ought to be broke—stoppin' loadin'!"

"My leg is broke," Davie calmly insisted.

"You mean it?"

Davie threw off his blankets.

"Begor, it is broke!" "And him drivin' himself!" "It's a terror!" "Great spunk entirely!" Then the teamsters began planning to clear the way.

That was soon settled by Davie's directions: Tramp down the crust for my horses; on-hitch them; lift my sleigh out on the crust; pass on and set me back on the road."

Half an hour was consumed by the operation three repeated before twelve o'clock. Fortunately Davie came on the last "string" of teams and halted for lunch by the edge of a lake. The teamsters fed and watered his horses, gave him hot tea, and with great admiration saw him start for an afternoon drive of twenty-two miles.

"You'll not likely meet any teams, they said. "The last of the 'loading' that's likely to come in soon is with ourselves."

How Davie got down the hills, up the hills, across the rivers and over the lakes of that terrible afternoon he could never rightly tell.

"I'm thinkin' I was light-headed," he said afterward. "The notion was in me somehow that the Lord was lookin' to me to save Pinnager's bits of children. I'd waken out of it at the cahots—there was mair than enough. On the smooth my head would be strange-like, and I mind but the hinder end of my horses till the moon was high and me stoppit by McGraw's."

During the night at McGraw's his head was cleared by

some hours of sound sleep, and next morning he insisted on traveling, though the snow was falling heavily.

"My feyther's place is no more than a bittock ayont twenty-eight miles," he said. "I'll make it by three of the clock, if the Lord's willin', and get the doctor's hands on me. It's my leg I'm thinkin' of savin'. And mind ye, McGraw, you promised me to send in your team to Pinnager."

Perhaps people who have never risen out of bitter poverty will not understand Davie's keen anxiety about Pinnager and Pinnager's children; but the McAndrews and Pinnakers and all their neighbors of "the Scotch settlement" had won up by the tenacious labor and thrift of many years. Davie remembered well how, in his early boyhood, he had often craved more food and covering. Pinnager and his family should not be thrown back into the gulf of poverty if Davie McAndrews' will could save them.

This day his road lay through a country thinly settled, but he could see few cabins through the driving storm. The flagging horses trotted steadily, as if aware that the road would become worse the longer they were on it, but about ten o'clock they inclined to stop where Davie could dimly see a log house and a shed with a team and sleigh standing in it. Drunken yells told him this must be Black Donald Donaldson's notorious tavern; so he chirruped his horses onward.

Ten minutes later yells and sleigh-bells were following him at a furious pace. Davie turned head and shouted; still the drunken men shrieked and came on. He looked for a place to turn out—none! He dared not stop his horses lest the gallopers, now close behind him, should be over him and his low sleigh. Now his team broke into a run at the noises, but the fresh horses behind sped faster. The men were hidden from Davie by their crazed horses. He could not rise to appeal; he could not turn to daunt the horses with his whip; their front hoofs, rising high, were soon within twenty feet of him. Did his horses slacken, the others would be on top of him, kicking and tumbling.

The cahots were numerous; his yells for a halt became so much like screams of agony that he took shame of them, shut his mouth firmly and knew not what to do. Then suddenly his horses swerved into the cross-road to the Scotch settlement, while the drunkards galloped away on the main road, still lashing and yelling. Davie does not know to this day who the men were.

Five hours later, David McAndrews, the elder, kept at home by the snowstorm, heard bells in his lane, and looked curiously out of the sitting room window.

"Losh, Janet!" he said, most deliberately. "I wasna expectin' Davie; here he's back wi' the bays."

He did not hurry out to meet his fourth son, for he is a man who hates the appearance of haste; but his wife did, and came rushing back through the kitchen.

"It's Davie himsel'! He's back wi' his leg broke; He's come a' the way by his lone!"

"Hoot-toot, woman! Ye're daft!"

"I'm no daft; come and see yersel'. Wae's me, my Davie's like to die! Me daft, indeed! Ye'll need to send Neil straight awa' to the village for Doctor Aberdeen."

And so dour Davie's long drive was past. While his brother carried him in, his will was occupied with the torture, but he had scarcely been laid on his bed when he said, very respectfully—but faintly—to his father:

"You'll be sendin' Neil oot for the doctor, sir? Aye; then I'd be thankfu' if you'd give Aleck leave to tak' the grays and warn the settlement that Pinnager's needin' teams sorely. He's like to make or break; if he gets sax or eight spans in time he's a made man."

That was enough for the men of the Scotch settlement. Pinnager got all the help he needed; and yet he is far from as rich to-day as Davie McAndrews, the great Brazeau River lumberman, who walks a little lame on his left leg.

Timber, of Liverpool, Eng., says: We understand that Giles Loder (Ltd.), 36 Lombard street, London, shortly intend to enter the Canadian pine trade, and that their Mr. H. J. Carlisle will leave England early in the year to open up the new business.

We have received from Messrs. Darling Brothers, of Montreal, their 1898 pump catalogue, in which are illustrated and described various classes of steam pumps for special service. A copy of this catalogue may be obtained by any of our readers for the asking.

WANTS CANADIAN LUMBER.

Mr. Mariano Comas, of Buenos Ayres, South America, is at present on a visit to Canada. Mr. Comas represents a large shipping house in his native city, who are desirous of securing supplies of Canadian lumber. Heretofore their connection has been with Boston and New York concerns, but the new tariff of the United States having replaced the former higher duties on products of the Argentine Republic, the government of the latter country have retaliated, and have placed a 10 per cent. preferential tariff in favor of all nations, as against the United States, and so Mr. Comas has started out to look for new markets in which to purchase the lumber supply required by his firm.

QUEBEC CROWN LANDS.

THE total receipts from Crown lands in the province of Quebec during the year ending June 30th, 1897, according to the report of the Commissioner just to hand, were \$878,477.66, a decrease as compared with the previous year. Of this amount \$782,303.53 was derived from timber dues, ground rents, bonuses and transfers. The following is a comparative statement of the timber manufactured during the last two years, as compiled from the report:

	1896	1897
Pine at 26c. per 200 feet	307,105.70	289,157.400 feet B.M.
Spruce at 13c. per 200 feet	270,156.80	275,484.200 "
Small pine logs	110,050.844	95,484.200 "
Boom timber	417,016	67,275 "
White pine timber	1,443,354	430,000 cu. ft.
R-d pine timber	3,788	34,971 "
Birch, etc.	40,785	27,866 "
Cedar, etc.	203,191	154,783 liq. feet
Firewood	7,953	2,594 cords
Pulpwood	11,879	4,050 "
Poolwood	5,074	1,420 "
Railway ties	300,311	100,400 pieces
Lathwood	109	42 cords
Shingles	3,082	6,770 M.
Hemlock bark	202	49 cords
Rails	20,563	11,725 pieces
Telegraph poles	1,550	115 "
Pickets	14,677	25,174 "

If the above figures are nearly correct, there has been a considerable curtailment in every class of lumber except spruce, which shows a slight increase. We cannot believe, however, that the returns include the whole quantity cut on Crown lands in the province, as the production of pulpwood must greatly exceed 4,000 cords.

THE OAK AND THE ASH.

THROUGHOUT northern Europe, remarks an English publication, the leaves of the ash are held to be potent against the bite of vipers, and in Devonshire it used to be a common belief that if a circle be traced with an ash staff round a sleeping viper the reptile will be as unable to pass over it as if it had been made with the cactus twigs, so high in favor for a similar purpose in Mexico. Among the old Scandinavians, Yggdrasil, the great ash tree, represented the universe. Under its roots were the land of the frost giants and the land of metals, and under the shadows cast by it the gods were supposed to sit. It has been attempted to explain the love of the Northmen for the ash by imagining that its hardness gave it favor in the eyes of those tough warriors, who used it for so many purposes that Adam, of Bremen, refers to the Vikings of Norway and Denmark as "Ashmen," and Odin is pictured in the Edda as making the first man from a block of ash timber which he found upon the shore. But this does not pluck the heart out of the mystery. It only carries it a little further back, and fails to explain why the minds which evolved that strange northern mythology chose it in preference to the oak, or the linden, or the fir, or the birch, all trees familiar enough to these pre-historic folks. The oak is, indeed, associated with almost as many legends as the ash. The ancient Celts regarded it with such veneration that De Brosses derive the word "kirk," now softened into "church," from "Quercus," an oak. It used, in many parts of England, to be considered unlucky to cut down an oak; and Aubrey, the old Sulley antiquarian, whose works form such a mine of Carolinian legend, tells us that before a tree of this species falls under the woodman's axe "it gives a kind of shrieks or groans that may be heard a mile off, as if it were the genius of oak making."

Among the calendars received by the LUMBERMAN is one from T. Sullivan & Co., wholesale dealers in hardwood lumber, of Buffalo. This firm is making a specialty of elm and ash, and make shipments direct from Canadian mills.

THE RETAILER AND Wood-Worker

SAW-GRINDING.

The following suggestions contributed by Mr. Powis Bale, M. E., to the Timber Trades Journal, are presumed to represent the latest English practice:

For many years after the introduction of emery wheels or disks a prejudice existed against their use for sharpening saws; and, to some extent, this prejudice still survives. It arose chiefly from the fact that many of the wheels made were unsuited to their work, and the user had little knowledge as to the proper management. In the following paper some hints will be given as to their management, which may be found serviceable to users; and although these remarks relate chiefly to emery wheels for sharpening saws, they can, in most cases, be equally well applied to emery wheels used for other purposes. In the first place, it is important to secure an emery wheel of good quality and of a texture and hardness well suited to the work. This is not so simple a matter as it may at first appear, owing to the quantity of cheap, inferior wheels with which the market is flooded.

For saw-sharpening purposes a moderately soft wheel should be preferred, since it will cut quicker and heat and glaze less than a hard one; it will, however, wear out a little sooner. Some wheels are harder on their surface than further in, and they do not cut their best until they are worn a little; but the best class of wheels may be obtained of any required degree of hardness, as it is only necessary to vary the proportions of the compound used in their manufacture. Sometimes a good wheel will be condemned as bad when the fault may arise from its being unsuited to the work it is used for, or it may have been run at an improper speed. In establishments where a variety of work is done it will pay well to have a fair assortment of wheels, and not make one do duty for all kinds of operations. When the wheel is secured, before mounted it should be examined to see that it is perfectly sound. This may be ascertained by tapping it lightly with a hammer; if sound it will ring. If it does not ring it should be closely examined, and if any cracks or flaws are detected, however slight, the wheel should be discarded, as it would be dangerous to work.

To lessen the chance of accidents from cracks, the manufacturers of some wheels insert in them a web or webs of brass wire, proportioned in strength to the size and weight of the wheel. They claim that the insertion of the wire does not in any way affect the cutting power of the wheel, as it wears away in advance of the emery. The wheel should be mounted so that it fits easily on the spindle, and thus have room to expand should it become warm. Large washers or flanges, say about one-third the diameter of

the wheel, should be fitted on either side. These are preferably made slightly concave on their inner side, and a small piece of packing—rubber or leather will do very well—should be placed between them and the wheel. Care must be taken that they are not screwed too tightly, as thin wheels are liable to crack, especially if a little warped, and they are then, of course, exceedingly dangerous. The saw-sharpening machine in which the wheels are run should be well made and substantially built, the main frame being cast in one piece. In the best machines the emery wheel is mounted on a small steel spindle running in bearings or centres fitted in a counterbalanced swinging carriage. This carriage is brought down to the saw by hand, and, by means of a quadrant, can be set at an angle to give any desired lead to tooth; stops are also fitted to regulate the depth of the gullet and the pitch of the tooth. The counter-shaft is usually placed at the back of the machine, and the band (belt) giving motion to the emery disk passes over an idle pulley and then directly on to small pulley on the emery disk spindle. In the place of single pulleys the writer strongly recommends the use of adjustable pulleys of different sizes, or small cone pulleys, so that as the wheel wears less in diameter its speed can be increased in proportion.

The question of speed is a factor of immense importance in the successful working of emery wheels. The best cutting speed will vary somewhat in wheels of different character; but a speed of from 4,500 feet to 5,500 feet per minute at the periphery of the disk will usually be found suitable. A speed midway between the figures, say 5,000 feet per minute for the 12-inch wheel, which is generally used in sharpening saws, may be accepted as the standard.

THE SAGINAW BAND RE-SAW.

The growing scarcity of timber and consequent higher value of stumpage has caused lumber manufacturers to give greater attention to the adoption of such methods and appliances as will reduce the waste in the saw-mill to a minimum and produce the largest quantity of marketable lumber from a log. This condition no doubt accounts in a large measure for the success of the Saginaw band re-saw, an illustration of which appears on this page. The manufacturers thereof operate a large plant

at Saginaw, Mich., for the manufacture of lumber and boxes in shooks, sash, doors, blinds, etc. Some time ago the president of the company, Mr. E. C. Mershon, decided to build a machine for their own plant, and subsequently secured a patent therefor and arranged to place it on the market. The large sale which the machine has had has demonstrated the wisdom of this decision.

The Saginaw re-saw has proved very successful when used in connection with band and circular log mills in the United States, where the practice is to saw plank double the thickness required, and then re-saw them on the band re-saw, thus making the re-saw perform half of the work. In Canada the mill is also very popular, the manufacturers having placed resaws in the mills of the following well-known firms: W. C. Edwards & Co., Rockland, Ont.; Estate of Ross Bros., Buckingham, Que.; Estate of James McLaren, Buckingham, Que.; Hawkesbury Lumber Co., Hawkesbury, Ont.; Gilmour & Co., Trenton, Ont.; Georgian Bay Lumber Co., Waubesa, Ont.

The manufacturers state that they believe the Saginaw resaw to be the first machine designed from a thorough knowledge of the requirements of saw-milling. The feed works, they say, are designed so as to meet every imaginable requirement, whether self-centering or slabbing from one side, whether stock to be re-sawed is perfectly manufactured plank or deal, or thick on one edge and thin on the other, or even a slab or a waxy deal. Under any of the above circumstances the feed works will insure the stock being perfectly sawn. The set works is another valuable feature. Referring to the machine, Messrs. W. B. Mershon & Co. say: "We manufacture, including seven or eight styles of the Saginaw re-saw, no less than 14 practically different machines,



THE SAGINAW BAND RE-SAW.

adapted to as many different classes and conditions of work. We also remind you that we are wood-workers and operate eight of our own re-saws and rip saws about our own plant; hence, we claim that our machines are more practical than those manufactured in the ordinary machine shop. We claim that it will convert over 100,000 feet of 2 inch plank into one inch boards in a day of ten hours. The saw-kerf is but five sixty-fourths of an inch.

Persons desiring further information should communicate with the manufacturers, Messrs. W. B. Mershon & Co., of Saginaw, Mich.

Wm. Williamson, contractor, of Toronto, proposes erecting a wood-working factory.

The Arrowhead Saw and Planing Mills Company, of Arrowhead, B.C., has been incorporated, with a capital of \$150,000.

THE NEWS.

—J. Rochon has opened a lumber yard at Port Arthur, Ont.

—Wm. Sellers is opening a lumber yard at Holmfeld, Man.

—Malcolm McDonald is erecting a shingle mill at Duck Lake, Ont.

—C. W. Gimby, lumber, Cartwright, Man., has sold out to R. Stead & Son.

—S. McLeod, saw mill, Prince Albert, N. W. T., has sold out to Keith & Co.

—James Hunter & Son, of Pennfield, N. B., have lately added a shingle machine to their saw mill plant.

—It is announced that the Dickson Company, of Peterboro', have decided to build a saw mill at Lakefield.

—The enterprising firm of Knight Bros., Burks Falls, Ont., are rebuilding an addition to their planing factory.

—The Cowichan Lumber Company, of Cowichan, B. C., have been granted incorporation by the Dominion government.

—The Gravenhurst council has decided to offer the Longford Lumber Company a free site as an inducement to locate in that town.

—Broadfoot & Box, of Seaford, Ont., have lately sold \$20,000 worth of furniture to Hawke & Co., of 8 Cook street, London, Eng.

—The Rathbun Company, of Deseronto, are building an extension, 114 x 15 ft. and two stories high, in the rear of the joiners' department.

—The saw mill owned by Leopold Benz, of Wetasiwin, Alberta, was totally destroyed by fire recently. Some lumber and logs were burned.

—The cut of the Aberdeen mills, Fredericton, N. B., last season was about fourteen million feet. Clapboards and shingles will be sawn during the winter.

—The Gilmour Co., of Trenton, Ont., have recently shipped large quantities of box shooks and doors to Great Britain, and expect to do a much larger trade next season.

—Haley & Son., of St. Stephen, N. B., have had a much larger saw placed in their mill. They have received from the St. Croix Soap Mfg. Co. a large order for box shooks.

—Gardner Bros., of Leamington, Ont., are making extensive additions to their machinery and plant. They expect to make between 2,000,000 and 3,000,000 berry baskets next year.

—Mr. Alexander Fraser has taken an action in the Superior Court against the Hull Lumber Co. and Buell, Hurdman & Co. for \$172,543.52. This was the amount of a mortgage on Table Rock.

—Wakefield & Kellington's planing mill at Neepawa, Man., was considerably scorched by fire recently, which originated in the engine room. The main building was saved. The damage is about \$800, with no insurance.

—The saw mill of Ferdinand Bellavance, of Sayabec, Que., was recently destroyed by fire through the imprudence of an employee, who attempted to fill a coal oil lamp with oil while it was burning. The loss is estimated at \$3,000.

—John Breakey, lumber merchant, of Quebec, and others, are seeking incorporation as the Chaudiere Valley Railway Company, to construct a railway along the Chaudiere river to Scott's Junction. The capital stock is \$150,000.

—The lumber surveyors of St. John, N. B., have decided to form an organization. They say the shortness of the active season renders it necessary that they receive more pay. They will prepare a schedule of rates and submit it to the lumber shippers before spring business opens up.

—Imports of lumber from the United States to Manitoba for the twelve months ending October 1, 1897, were as follows: Dressed, 1,913,832 feet; undressed, 14,857,372 feet. Each year has shown an increase since 1893, when the figures were: Dressed, 136,306 feet; undressed, 1,174,747 feet.

—T. L. Pardo, M. P. P., of Blenheim, Ont., after having the brickwork about the boilers of his extensive mills torn down to rebuild, concluded to replace the old boiler with a first class new one, and has given an order to Trotter & McKeough, of Chatham, for one of their best 4 ft. shell boilers.

—The Department of Trade and Commerce has received two reports from Mr. E. E. Shepherd, Trade Commissioner for South America, in which he deals fully with the question of the possibilities of trade between Canada and Brazil and Uruguay. Last year about \$52,000 worth of Canadian lumber was imported into Brazil.

—It is understood that Stetson, Cutler & Co., of New York, Boston and St. John, who are heavy stockholders in the Ashland Manufacturing Co., are negotiating for a lease of the mill at Ashland for a term of years, and if satisfactory arrangements can be made with the railway regarding rates, etc., they will run the mill all the year round.

—The Goderich Lumber Company have purchased the saw mill at Golden Valley from Mr. Brooks. Fred Thompson, late head sawyer in the Goderich saw mill, will probably leave in the near future for the Bruce Peninsula, to take a like situation in the new establishment. The cut of the new mill will be handled by the Goderich Lumber Company.

—From Doaktown, N. B., comes the following news: H. & F. D. Swin are embarking in a large enterprise, viz., the cutting of six hundred thousand superficial feet of spool bars. The Messrs. Swin claim that they have a contract with parties in Scotland, and are starting out to engage in the work. They purpose putting up a mill in the woods on the Muzerall brook and sawing the birch into bars, and then haul the sawn wood to the track and pile it there until spring, when it will be shipped.

—The Department of Interior at Ottawa has taken up the question of lumber supply and forest preservation in the North-West. Mr. E. F. Stephenson, of Winnipeg, has been appointed a commissioner to go into the subject and enquire how the forests should be maintained. Suitable areas for permanent forest reserves will be selected, and it will be ascertained whether some lands in the West poorly adapted for agriculture could not be as well planted with trees. Information will be gathered as to what means are most effective in preventing forest and prairie fires.

—There appears to be a bright future for the Willow Creek Gold Mining and Development Company, which is capitalized at \$99,000. Mr. Eldoras Todd, lumberman, of Brantford, Ont., is president and general manager, and we are informed that it is the intention to combine lumbering and mining. The company have erected a large steam saw mill, with a capacity of 60,000 feet in twenty-four hours. It is their intention to run this as a custom mill, and also to saw and manufacture lumber to sell. Rough timber sells for \$16 per M feet, and dressed at from \$25 to \$35 per M feet. Slabs and sawdust will be used for fuel.

—Denmark is said to offer a market for Canadian timber. The total import by that country in 1896 was 19,965,000 cubic feet, most of which was supplied by Norway and Sweden. Oak is in good demand, and is used for furniture, shipbuilding and house building, and should be shipped in planks and boards. Pine is used for ship and house building; poplar for veneering, billboards and furniture, also in the manufacture of pianofortes and carriages. Poplar is also used largely for stoppers to beer kegs, liquor barrels, etc. Maple also has a future in Denmark for veneering and inlaid work. There is no duty on oak imported into Denmark. Other woods pay a duty of 13 oere (3½ cents) per cubic foot.

—Messrs. George St. Pierre & Co., of Fraserville, Que., have over fifty men in the woods, and will next season cut a large quantity of shingles. They are under contract to cut 2,000,000 feet of spruce and birch. Their machinery has lately been improved, and they now have one of the best equipped mills in the province, comprising a 75 h.p. engine, new, built by Carrier, Lane & Co., of Levi, last June, at a cost of \$1,200; one rotary, one steel gang saw, one Catharine, one double

edger, one planer and matcher, ten Small & Fisher machines, double action steam pumps, etc. The firm cut last summer 2,000,000 feet of spruce, mostly deals for the English markets, besides a few local contracts.

CASUALTIES.

—A man named Simard was accidentally killed in a shanty near Ste. Felicite, Rimouski county.

—Alphonse Cyr, who ran a nail into his foot while working in Booth's saw mill at Ottawa, died of lockjaw in the hospital.

—George Smith, of Wilberforce, while working in Brennan's shanty on the Petewawa, was crushed by a falling tree. His recovery, at time of last report, was doubtful.

—While running a power sawing machine at Buckingham, Que., Samuel Jamieson was killed by the breaking of the bar, a piece striking him on the head. Deceased was 63 years of age, and had been up-river agent for Ross Bros.' lumber firm for twenty-eight years.

—Napoleon Paquin, an employee of the Rat Portage Lumber Company, was badly injured whilst working in the load and died the following day. The deceased was a native of Andrews, Ottawa county. By an excellent system all employees of the Rat Portage Lumber Company are insured against accidents, and the relatives of the deceased will receive \$1,000.

PERSONAL.

Hon. R. R. Dobell, of Dobell, Beckett & Co., Quebec, returned a fortnight ago from England.

Mr. R. N. Wakefield, lumber merchant, of Seattle, Wash., has returned to Ontario, after an absence of eighteen years. He is visiting at his old home at Battersea.

Mr. Martin Allstadt, of the lumber firm of Allstadt & Mayer, Mannheim, Germany, is at present on the American continent, placing orders for oak, poplar and ash for export.

The LUMBERMAN regrets to learn of the recent illness of Mr. Hugh Grant at Pembroke, Ont. Mr. Grant was for many years a representative of the Hamilton Bros. firm.

Mr. T. H. DeCew, formerly of Essex Centre, but now of Arrowhead, B. C., was recently in Toronto, where he purchased an engine for his saw mill at the latter place.

The death occurred at Liverpool, N.S., last month, of Mr. R. W. Freeman, who had been long connected with lumbering operations on the Liverpool and Port Medway waters.

TRADE NOTES.

The S. Morgan Smith Co., of York, Pa., has recently shipped to H. Mc. Hart, for his pulp mill near Halifax, N.S., a 36 inch horizontal McCormick turbine on horizontal shaft, which will develop 350 h. p.

The Waterous Engine Company, of Brantford, have completed a new coal conveyor for the Ingersoll Packing Company which carries the coal 110 feet. Two men recently unloaded 87,000 pounds in five and a quarter hours.

The fame of the excellence of the lumbering tools manufactured by Thomas Pink, of Pembroke, Ont., is extending beyond the limit of this continent. Recently Mr. Pink received a large order for his celebrated skidding tongs all the way from Amsterdam, Holland, and enquiries have been received concerning them from even the steppes of Russia.

Referring to the international questions growing out of the seal negotiations with Great Britain and the Cuban situation, the American Monthly Review of Reviews says: "There is nothing that the world respects so much in a nation's attitude and policy as firmness and fixity of purpose. If the people of the United States wish to intervene in Cuban affairs they have the most abundant moral justification for doing so. The only thing that could condemn such a movement on the part of our country would be doubt in our minds as to the wisdom or justice of our policy. American intervention in Cuba at any time within the past year and a half would have been accepted by the whole world with even less of cavil or criticism than the Russian intervention on behalf of Bulgaria twenty years ago."

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And will offer the entire equipment or any part of it AT LOW PRICES, to save handling and storage. The Mill contains 12 Boilers, 7 Engines, 4 Pumps, 1 Gang, 2 Iron Husks, 2 Carriages, 2 Edgers, 2 Steam Niggers, 2 Trimmers, 1 Slasher, 1 Jacker, 2 Flippers, 2 Twin-Engine Feeds, 1 Refuse Grinder, Filing Room Outfit, Electric Light Plant, Machine Shop, and all Conveyors, Shafting, Pulleys, Belting, etc., required for above machinery.

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WOOD PULP DEPARTMENT

PULP AND PAPER MAKING IN NOVA SCOTIA.

Many people will be surprised to learn that as far back as 1837 papermaking was introduced in Halifax by one Robert Keswick, says the Halifax Herald. He located his mill at the foot of a lake just west of Moir's mills, Bedford. The factory was a little old-fashioned one. The inside was arranged in a wonderful way and a sketch of its appearance, were it possible to obtain one, would be a curiosity to the up-to-date people of sixty years later. The power was furnished by a twenty-foot breast wheel, eight feet wide, and one small over shot eight feet in diameter and four feet wide. No steam was used in the mill and the stock was cooked in a large open pot over a fire. It was then loft dried. The paper machine used was a 36-inch one with a fire drier.

Later on this mill was replaced by one a little further down the stream. This happened about thirty years ago. The business was continued after the death of Mr. Keswick by his sons, the latter subsequently selling out to Daniel Hughes and his sons. The mill was run under his direction until 1873, when it was totally destroyed by fire. It was never rebuilt, and thus ended the first attempt at papermaking in Nova Scotia.

About the time of the destruction of the Bedford mill a German named Ellerhausen erected Nova Scotia's first pulp mill on the St. Croix River, between Ellershouse and Newport. The machinery was brought out from Germany and England. In connection with the pulp mill a paper plant was also introduced. The pulp, after passing through the first process, was pumped for a distance of two hundred yards to the paper mill, where the article was completed. After running a short time a fire destroyed the pulp mill. The machinery and water wheels were sold for junk. Later on another mill was started on the same site, but it never was completed, and during the fifteen years it remained idle the plant rotted down.

In 1892 the property was offered for sale. It remained idle for a period of three years, and in 1896 the mills were put in a first-class condition for the manufacture of paper. This has been added to from time to time, and the latest extension comes in the shape of a ground wood mill for consumption only. It is the only paper mill in the provinces.

During the idle time of the mill at St. Croix there was built about 1881 at Mill Village, Queens county, a mechanical mill. This mill was

erected largely through the efforts of Emil Vossnack, who was very enthusiastic over the prospective profits. The grinders, eight in number, of five pockets each, taking stones eighteen inches by forty eight inches, of the Voelter screw feed pattern, were built in Halifax. Mr. Lawrence Howlett was general manager. It ran for some time, and was then shut down. About 1889 the mill was again started, with John S. Hughes as manager. The second year he was there he put in four new grinders and wet machines; this time two-pocket Scott & Roberts grinders were chosen. The mill is driven by two seventy-two inch wheels under about twenty feet head, and is located on the Port Medway River about one and one-half miles above Mill Village, at Salters Falls. The product is shipped from Port Medway during the winter, while in summer vessels approach nearer to the mill.

We next have the erection of a sulphite fibre mill on the East River, Sheet Harbor, about 1887, under the Partington process of lead lined digesters. This mill was in operation about four years, since which it has been idle, but has lately passed into other hands, who talk of starting it again. The output was about five tons per day.

The next advance in wood pulp grinding was about 1889, when H. McC. Hart put in an improved Voelter three pocket hydraulic feed grinder at his saw-mill at West River, Sheet Harbor, which has only been in operation when the saw-mill was idle. It has been dismantled.

About 1894 really the first start of any magnitude was made in grinding wood pulp in Nova Scotia. About the same time there went into operation two mills—one at Morgan Falls, on the La Have River, the other at Milton, on the Liverpool River. The Morgan Falls mill had three four-pocket grinders, with hydraulic feed, three 72-inch wet machines with Gotham screens, and was driven by two 33-inch Smith & McCormick wheels and one 18-inch Smith Success wheel, under 35 feet head. The production was about 20 tons per day, wet. The plant is now being generally remodelled and improved, and with the machinery added the product will be increased to 30 or 35 tons wet per day. The output is loaded on the Nova Scotia Central Railway and sent to Bridgewater in summer and Lunenburg in winter.

The Milton mill, located five miles above Liverpool, at Deep Brook, began operations with four four-pocket Voelter hydraulic grinders and four 72-inch wet machines with Gotham screens, driven by four 33-inch Smith & McCormick wheels, one 21-inch and one 15-inch Smith Success wheels under thirty-six feet head, with a production of thirty-five or forty tons per day. This is at present being increased to about sixty tons per day wet by the addition of three three-pocket Scott grinders. The output of this mill

is sent by steam tram to the shipping point at Live Brook. The pulp from both Morgan Falls and Milton mills is finding a market in England, being shipped by steamer from Halifax.

The brothers, Joseph S. Hughes and John S. Hughes, managers respectively of the Morgan Falls and the Milton mills, are sons of Daniel Hughes, who succeeded Mr. Keswick in the old paper mill near Bedford, and have been identified with the pulp and paper manufacture of Nova Scotia from their earliest days.

PULP NOTES.

The bill to amend the charter of the Laurentide Pulp Company, recently before the Quebec Legislature, gives it power to manufacture pulp, deal in timber and timber limits, and erect saw mills, dwelling houses, hotels, churches, etc.

Mr. T. R. Allison, who designed the Masterman pulp mill at Chatham, N.B., now owned by the Dominion Pulp Company, has made a proposition to form a company to start a pulp mill in that town if the municipality will give site, known as the Morrison mill property, as a bonus. The Board of Trade of Chatham is now considering the proposal with a view to advising the town council.

The pulp mills at Sault Ste. Marie, Ont., are now being pushed to their utmost capacity, with improved machinery lately put in which reduces material to dry pulp. The demand has been exceedingly lively. The English trade, it is said, will take every pound that can be manufactured during the next six months.

There has been some delay in getting the Petewawa Pulp and Paper Company, which obtained its charter at the last session of the Ontario Legislature, into active operation. It is now stated, however, that Mr. A. T. Mohr, of Buffalo, whose persistency in the matter is born of unbounded confidence in the project, has been rewarded, and that building operations at Petewawa, Ont., will be commenced in the spring.

Mr. J. D. Guay, of the Chicoutimi Pulp Company, says: The company's mill at Chicoutimi, Que., upon which \$1,000,000 has already been expended, will shortly be opened. The company's limits are 500 miles in area, and the first eighteen months' output of pulp has already been sold. In order to turn out the required amount 80 men will be constantly employed, so that between the mill and the dairy industry, which does an annual business of half a million dollars, the population of Chicoutimi will be kept pretty well employed.

The Halifax Chronicle sounds a note of warning in regard to the pulp wood resources of Nova Scotia. The province, it points out, has many tracts covered with the right kind of timber for the manufacture of mechanical and chemical pulp. These the Chronicle advises the owners to husband and foster. It urges that the cutting of the trees be kept under control, that the small ones be preserved, and that due measures for fire protection be taken. In this way, it adds, the necessity for reforestation, to which so many parts of the continent have come, will be avoided.

German experiments prove that the slower the growth of the tree the greater is the strength of its pulp. Norwegian is said to be better than Swedish, and, strange to say, it is claimed that German is better than either. Canadian timber, also, it is asserted, grows too rapidly to make the best pulp. The first statement is obvious, but is it really true that German pulp is the best? I think that the great attention and diligent study given by Germans to chemical science are sure to have some effect upon their manufactures. As far as raw material goes the rapidity of growth must bear a strong part in the pulp produced.—Paper Making.

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TO ESTABLISH FOREST RESERVES.

A BILL which, if adopted, will have an important bearing upon the future timber supply of Ontario has been prepared by Mr. Thomas Southworth, Clerk of Forestry, and received its first reading in the Legislature. It is entitled "The Forest Reserves Act," and provides as follows:

1. The Lieutenant-Governor in Council shall have power to set apart from time to time such portions of the public domain as may be deemed advisable for the purposes of future timber supplies.
2. Such tracts of land so reserved shall be declared to be permanent Crown Timber Reserves.
3. From and after the date of such proclamation no lands within the boundaries of such reserves shall be sold, leased or otherwise disposed of, and no person shall locate, settle upon, use or occupy any such lands, or hunt, fish, shoot, trap or spear or carry or use fire arms or explosives within or upon such reserves.
4. Such reserves shall be under the control and management of the Department of Crown Lands, and the Lieutenant-Governor in Council shall have power to frame regulations for the protection, care and management of the said Crown Forest Reserves.

SPRUCE LOGS FOR FRANCE

Mr. J. Fraser Gregory, of St. John, N.B., is purchasing large quantities of spruce logs and pulpwood for export to France, the customs regulations of that country being such that it is believed that they can be imported there and manufactured at a profit. Pulpwood of one fathom in length is admitted free of duty, and there is a saving of three dollars per standard in duties in importing logs instead of deals. The logs will be sawn into building materials in mills now erected in France, and which up to this time have received all their supplies from the Baltic.

A new pulp mill is likely to be erected at Grand Falls, N. B. United States Senator Proctor is the chief promoter.

Thomas Petes was killed in Steinhoff & Gordon's stove mill at Wallaceburg, Ont., on the 20th ultimo, by being caught in a shaft.

A neat calendar has been received from the Magnolia Metal Company, of New York, manufacturers of the well-known anti-friction metal.

OBITUARY.

The death is announced of Samuel McAdams, carried on business as shingle manufacturer at Saginaw River, Ont., for several years.

Mr. Martin L. Russell, of Renfrew, Ont., died on Saturday, December 11th, in his 69th year. Mr. Russell was a well-known lumberman of the Ottawa valley, having been connected with the business for over 40 years. He was a jobber in logs, and also owned a saw mill. His estate valued at \$100,000, including timber limits on the Saginaw river.

Mr. Henry Ward Powis, timber merchant, of London, Eng., was found dead on the street last month, and an inquest led to the conviction that he had committed suicide due to outside speculation. Deceased was well known in Canada, and from 1867 to 1877 was connected with the saw-mill business of G. B. Hall, of Quebec. In the latter year he removed to London, and started business on his own account as a wood broker. Very shortly afterwards he formed a limited company, known as Bryant, Powis & Co., Ltd., and did a very successful business for some time, but unfortunate circumstances compelled them to go into liquidation in 1892. Since that time he has carried on business under his own name at 110 Leadenhall Street, E.C., being known as one of the largest operators in Canadian pine in the United Kingdom. The trade bodies in Canada and abroad will regret his untimely death.

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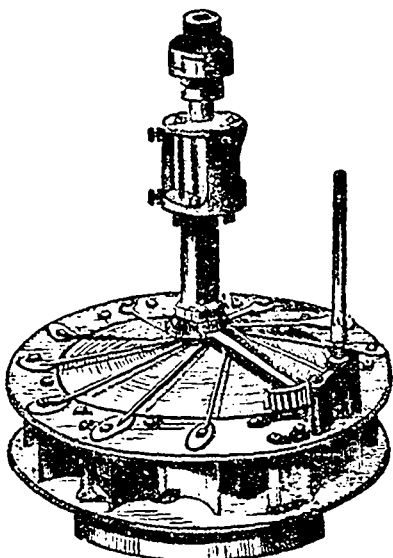
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NEWS AND NOTES.

Movement is on foot in the vicinity of
Ont., to give financial assistance
Messrs. S. B. Wilson & Sons towards
rebuilding their saw-mill, recently burned.
The Pacific Coast Lumber Co. will
soon commence a new branch of busi-
ness at New Westminster, B.C., in manu-
facturing grained wood by a new process.
Mr. D. K. McLaren, dealer in leather and
belting and mill supplies, Montreal, has
just had a neat and pretty calendar to his cus-
tomers. Any person desiring one should
send a postal card to Mr. McLaren, who
will gladly favor them.

The annual meeting of the Madawaska
Improvement Company was held in Ottawa
last night. Officers were elected as
follows: President, Mr. J. R. Booth; Sec-
retary, Mr. G. B. Greene; Directors,
Messrs. John R. Booth, Andrew Fraser,
F. McLachlin, Claude McLachlin and
R. Cole. During the past three years
the number of logs brought down the
Madawaska has decreased by over twenty-
five per cent. The limits are thinning out
and in a few years more there will be very
few logs.

The St. John Trading Company is a new
company recently formed, and now seek-
ing a Dominion charter, with head office
in Ottawa, and a capital stock of \$40,000.
It is proposed to deal in timber limits and
to be a general lumber manufacturing busi-
ness. The members thereof are: John
McLachlin, St. John, N.B.; William Richards,
Woodstock, N.B.; William T. Drysdale,
Woodstock, N.B.; Hon. John Costigan,
Ottawa; F. P. Killeen, New York; F. A.
McLachlin, New York; Edward A. Greene,
New York.

J. D. SHIER

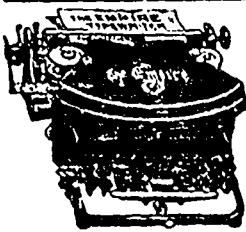
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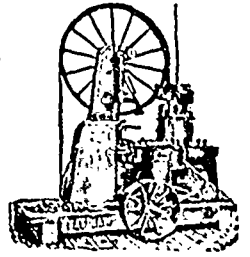
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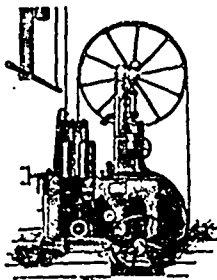
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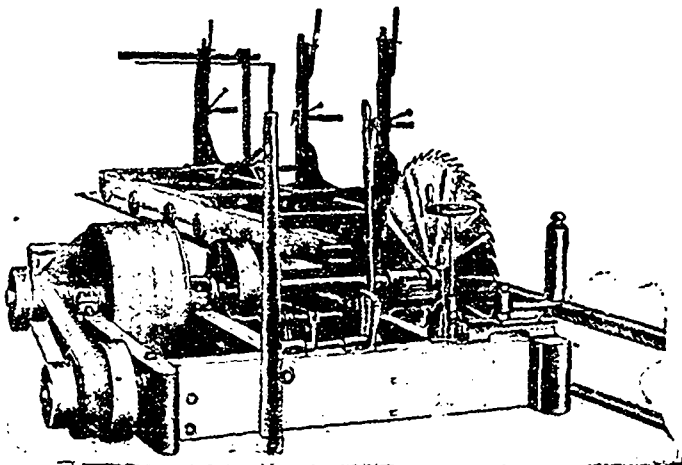
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Pliny says that the saw was first invented by Daedalus, but according to Apollodorus, it was the invention of Talus, who used the jawbone of a crocodile to cut through a piece of wood, and then made an iron instrument in imitation of it. The saw is represented on the monuments of Egypt, from 2,500 to 3,000 years B. C. As early as A. D. 1327 sawmills driven by water power were in operation at Augsburg, and it is believed before this they were in operation in Paris, driven by the current of the Seine. The first sawmill erected in the Norway pineries was in 1530. Sawmills were numerous in Italy in the sixteenth century. They were not introduced into England until 1663, when a native of Holland built one, but was compelled to abandon it by opposition of the populace, carpenters and other artisans who saw no good in such a new fangled contrivance.

Ingenuity is working wonders in the manipulation of timber. Recently a western sawmiller has developed a simple and efficacious device for washing his logs free from sand and mud before they go to the saws. The device is simply a combination of perforated pipes, beneath which the logs pass on their way out of the pond. The pipes shower forced streams of water upon the logs, freeing them from grit, and when they reach the saws the logs are sawn with far less wear and tear to teeth of blades than is possible with unwashed logs.

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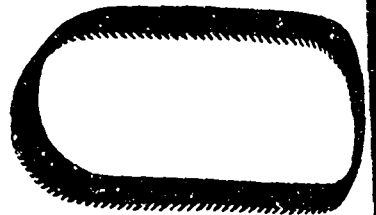
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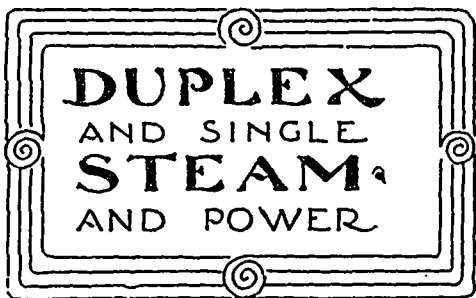


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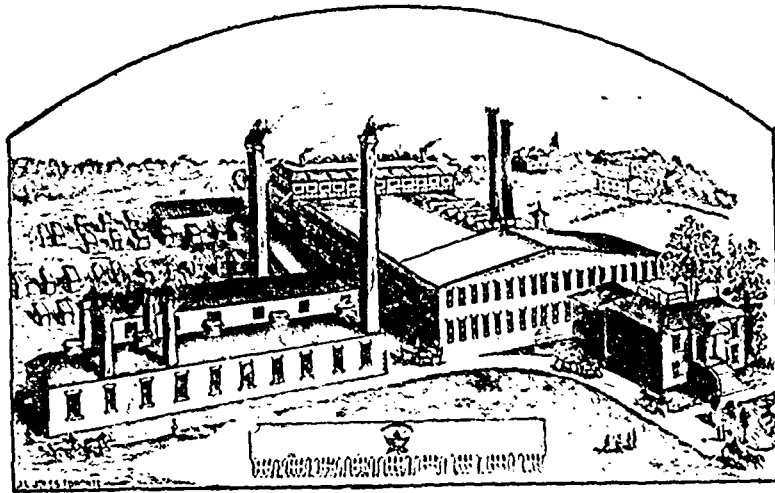
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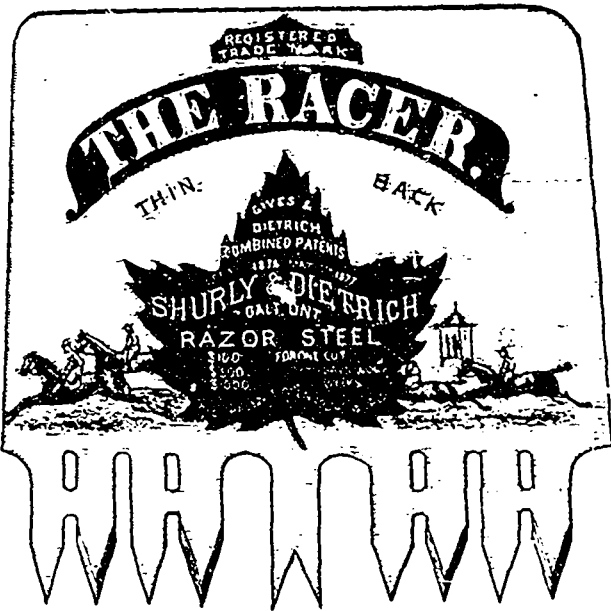
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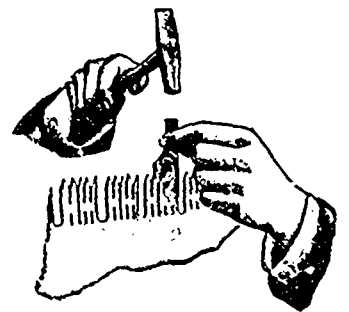
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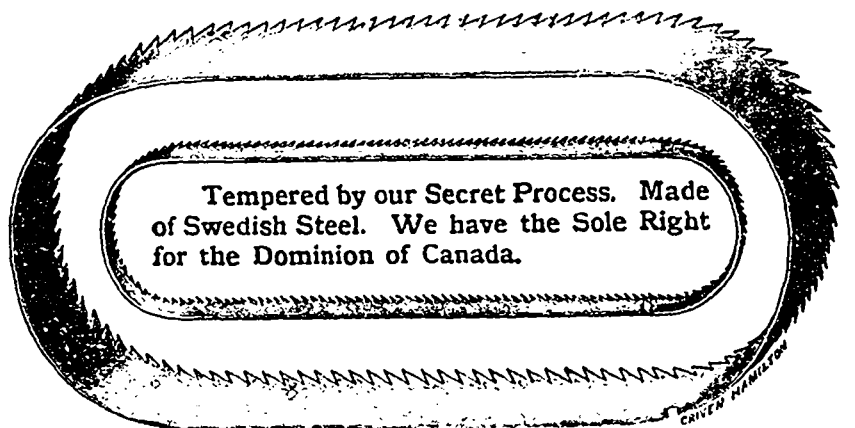
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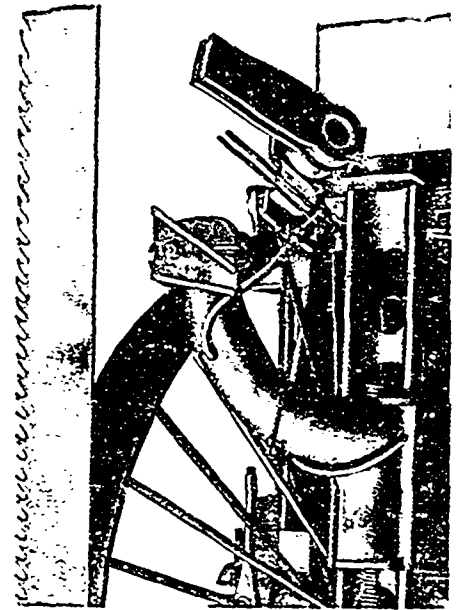
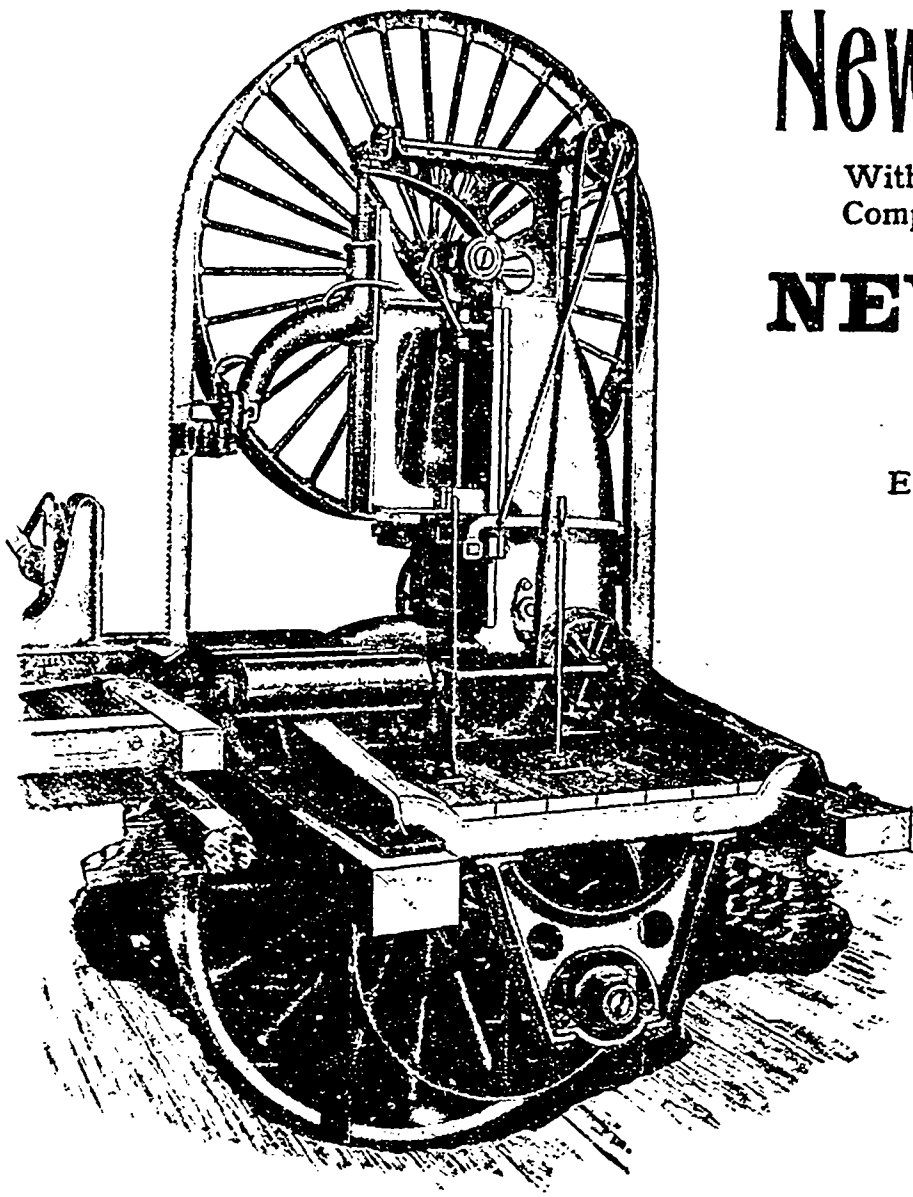
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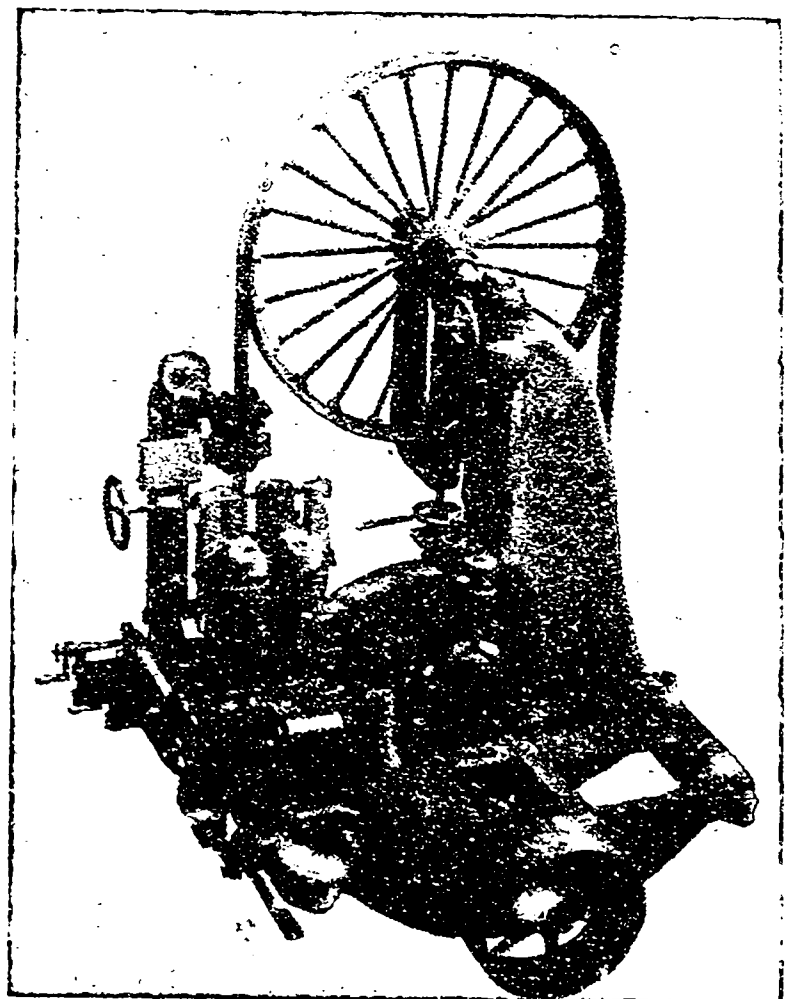
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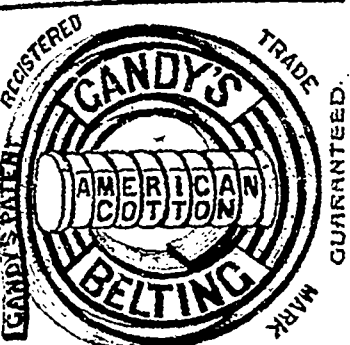
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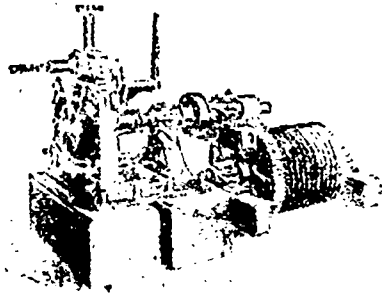
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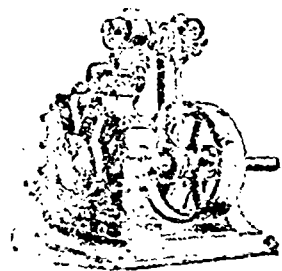
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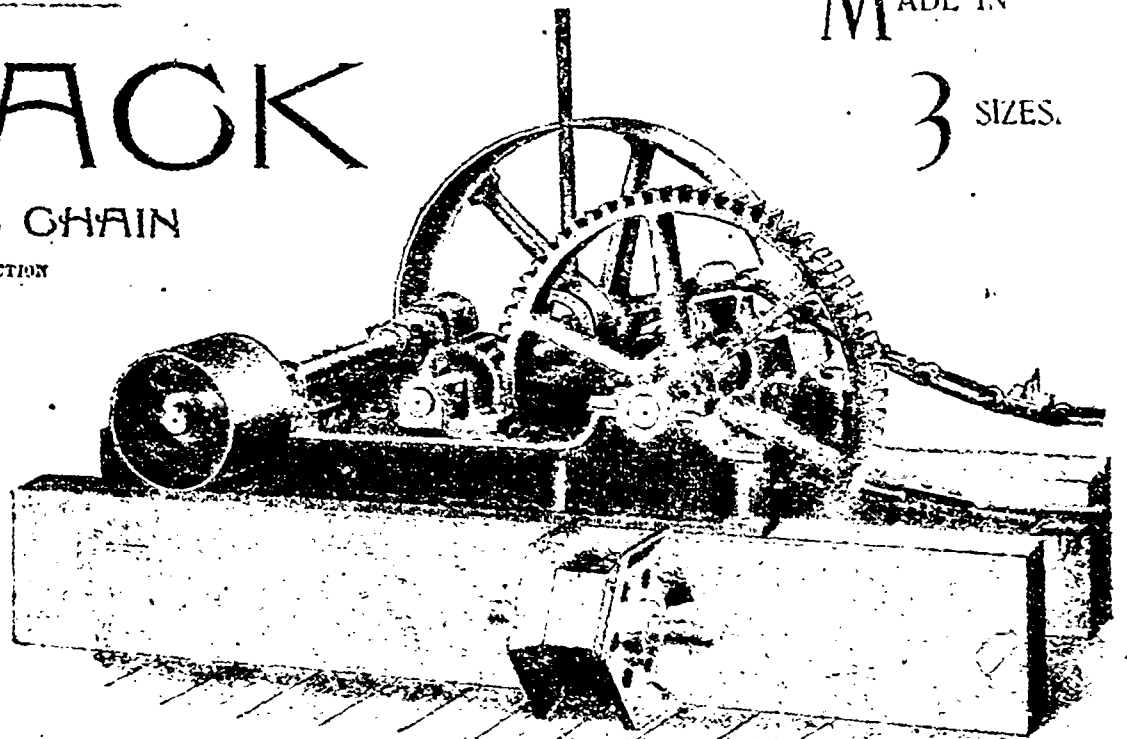
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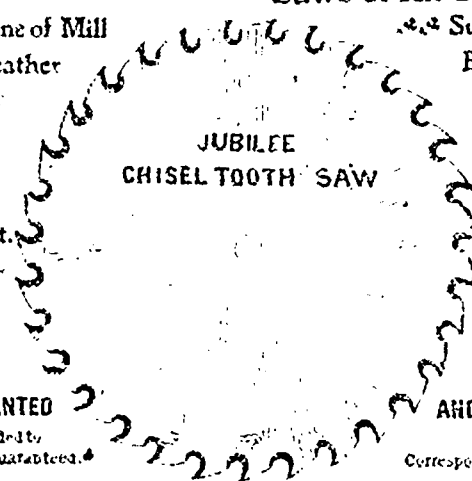
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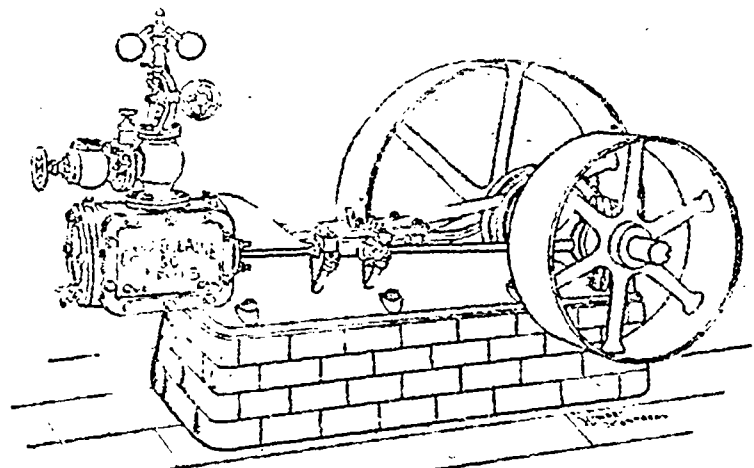
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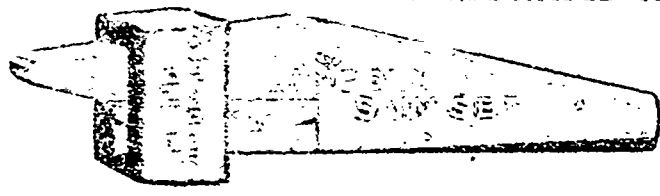
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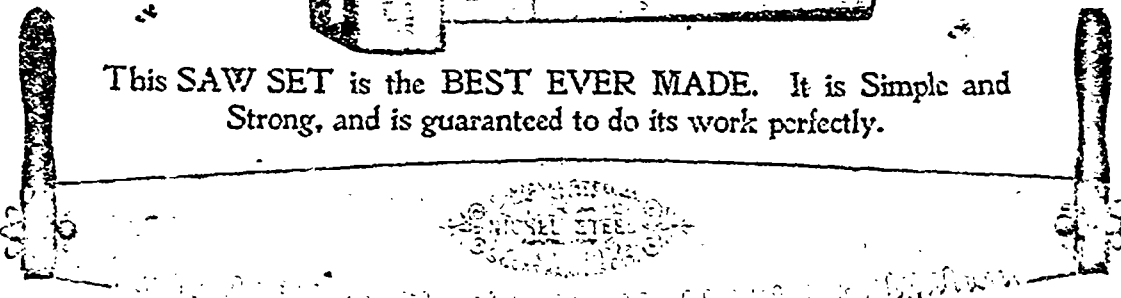


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