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THE CANADA LUMBERMAN

Wood-Workers', Manufacturers' and Millers' Gazette

TORONTO, CANADA, DECEMBER, 1901

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Vol. XXI.
No. 11.

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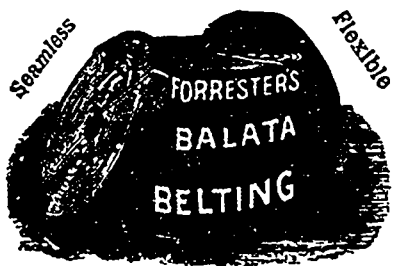
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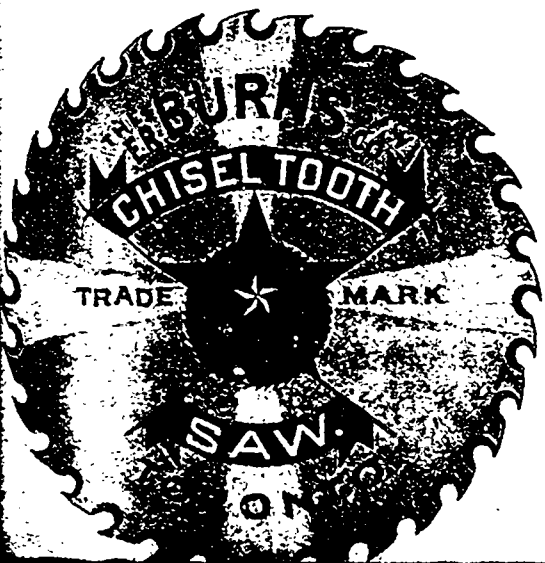
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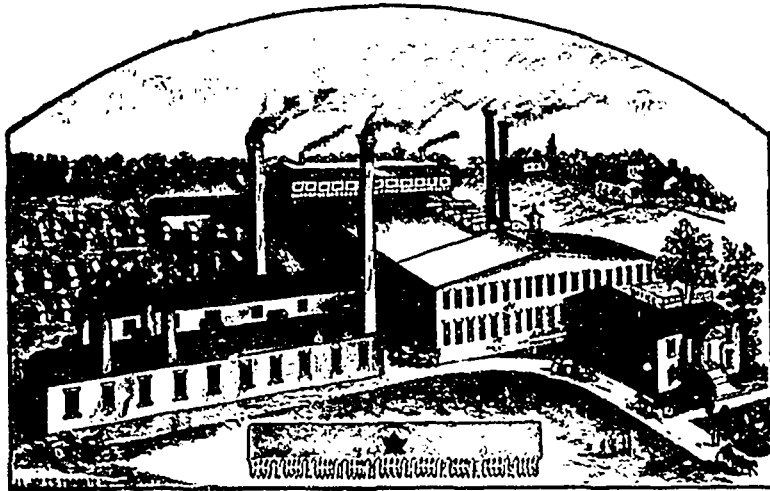
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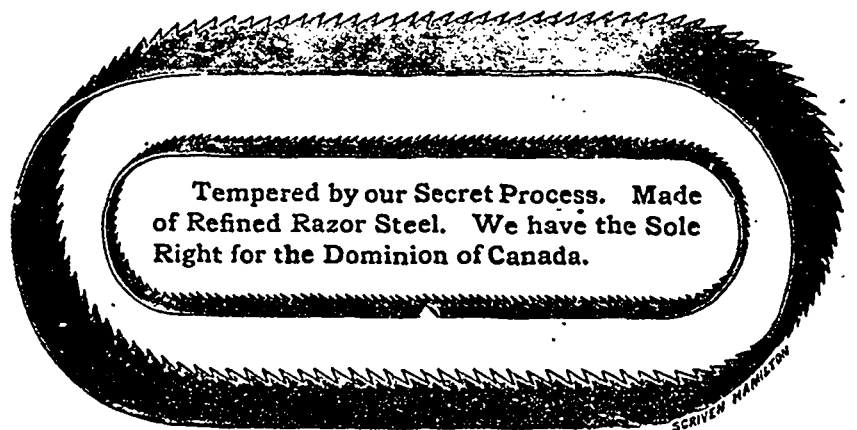
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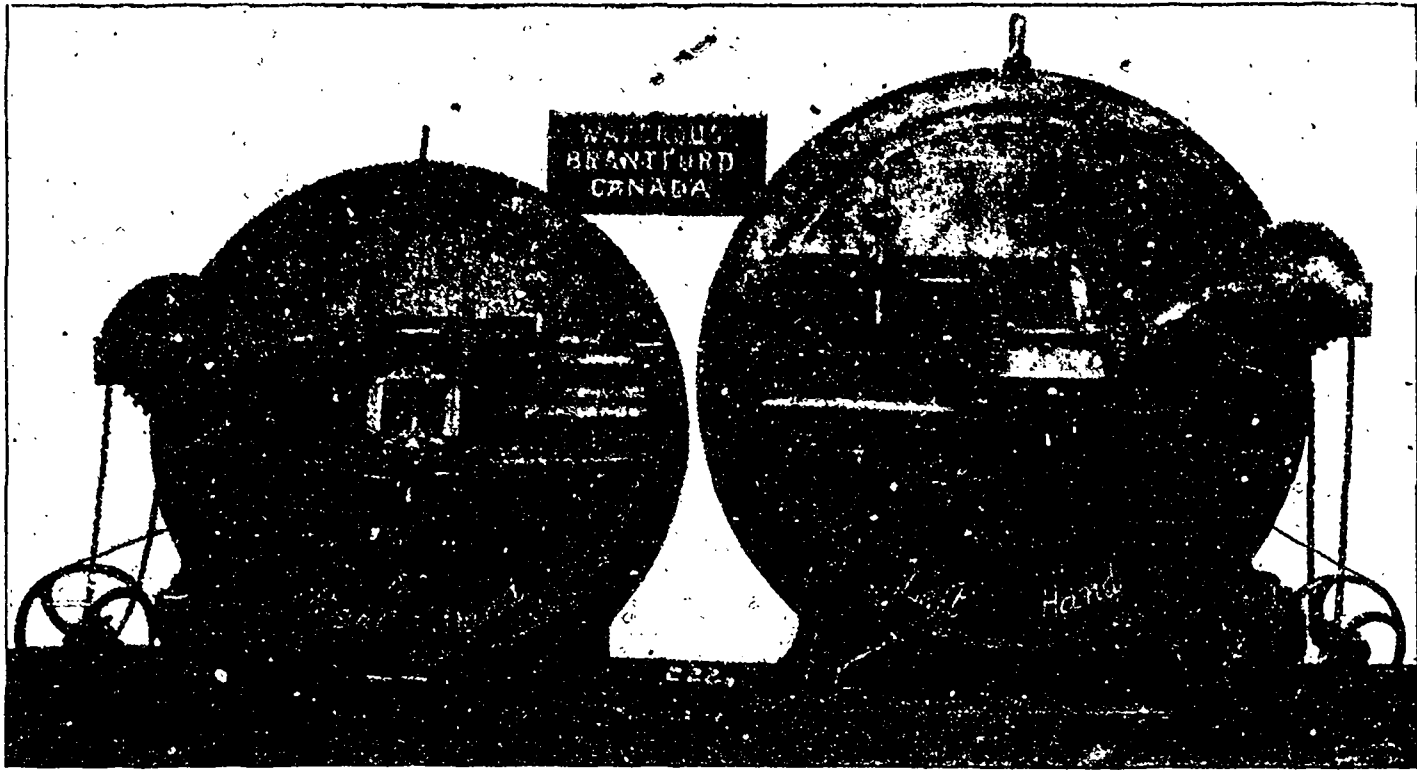
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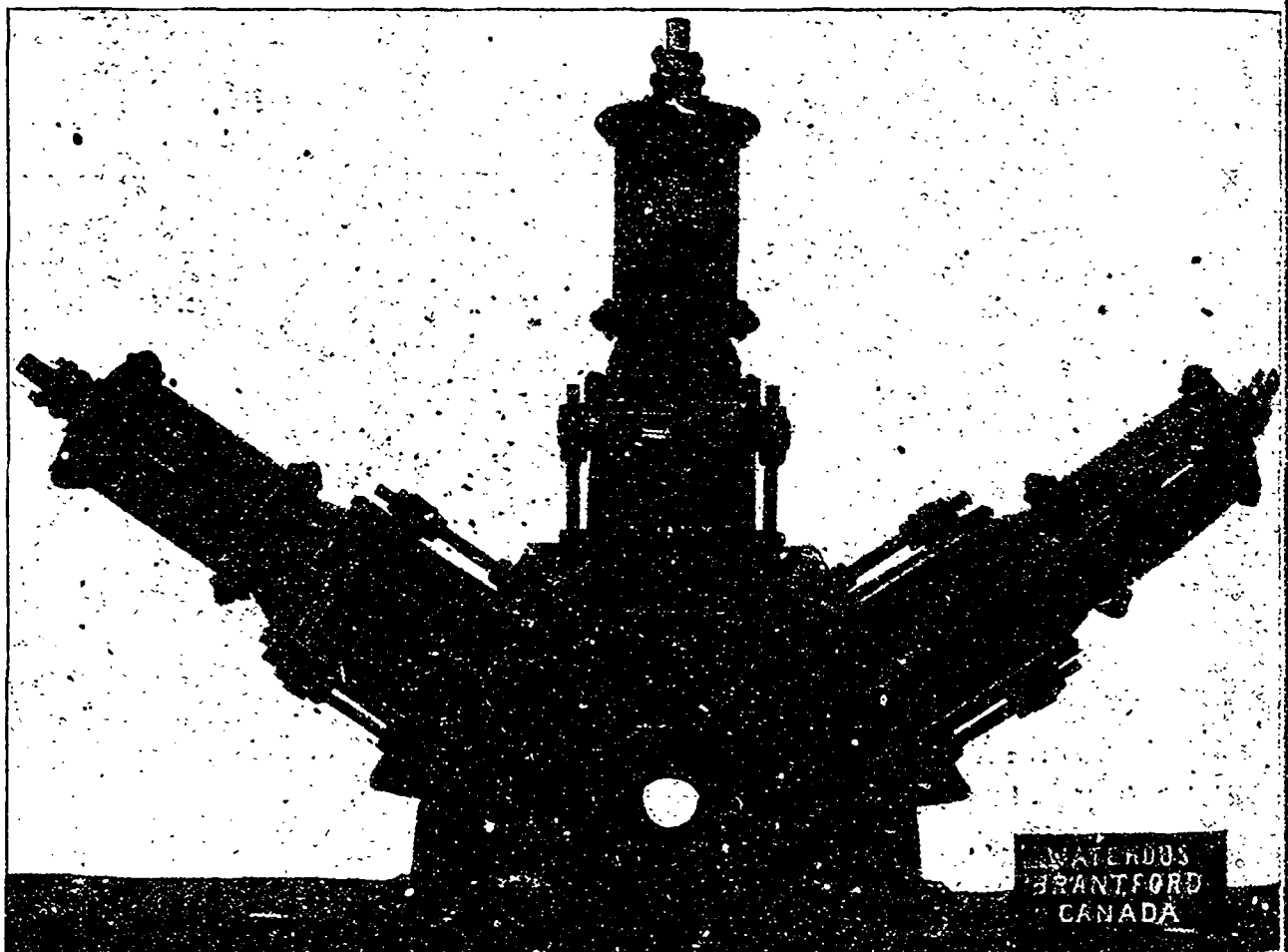
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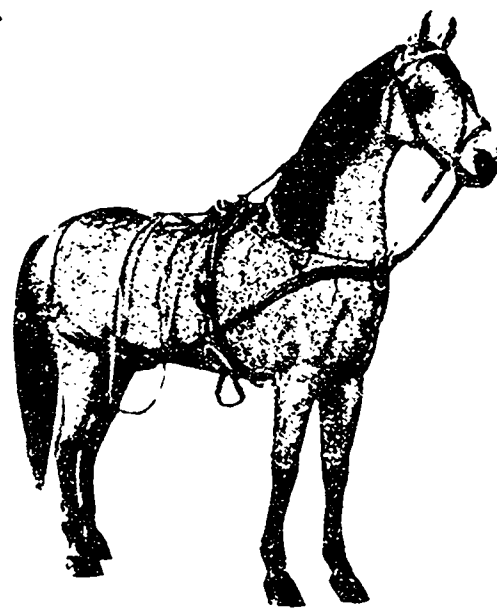
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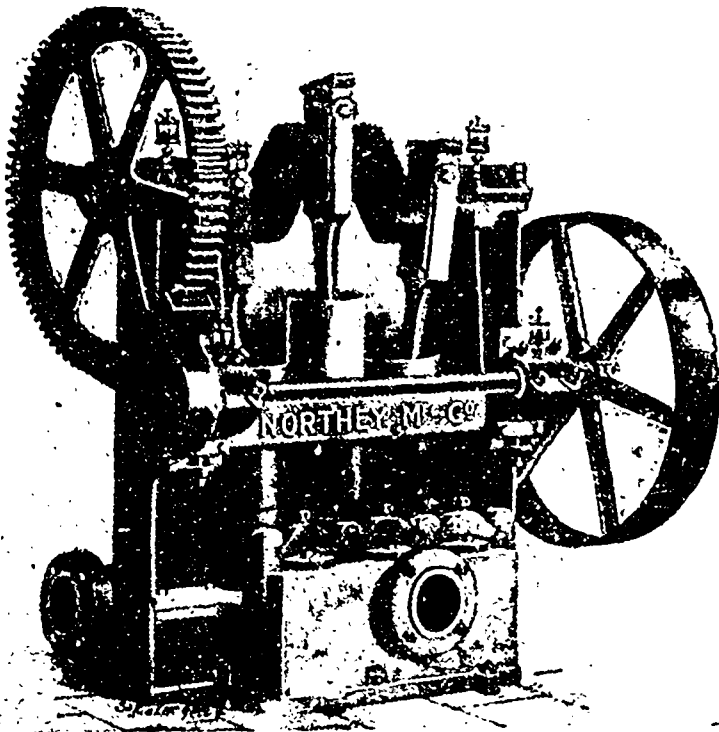
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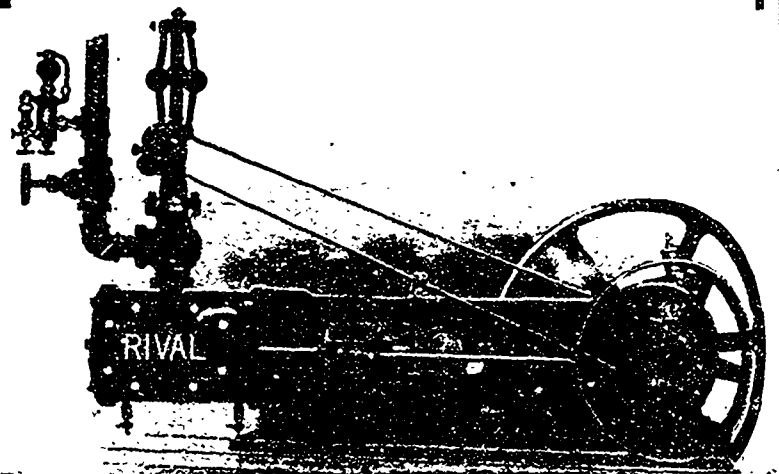
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THE CANADA LUMBERMAN

TORONTO, CANADA, DECEMBER, 1901

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MR. FREDERICK DYKE.

The lumber export business has now become one of the chief industries of Canada, the natural resources which the Dominion possesses in this line affording advantages for the profitable investment of capital which are, perhaps, not found to the same extent elsewhere. English capitalists have of late been turning their attention in this direction, one of the leading firms engaged in the business being Thos. B. Neale & Company, timber and lumber agents and exporters, with head offices at Liverpool, Eng. This firm operate principally in the Maritime Provinces, Mr. Frederick Dyke, of whom a likeness is shown, is their Canadian representative. Their offices are situated at Chatham, N. B., from which point large quantities of spruce deals and other lumber are shipped.

Although a young man, Mr. Dyke possesses a thorough knowledge of the lumber trade, and particularly of the requirements of the British market. He was born in Liverpool, England, in 1875. At the age of fifteen he entered the Liverpool office of Price & Pierce, of which Mr. Thomas B. Neale was then manager, as apprentice. Upon Mr. Neale taking over the business from Price & Pierce, in 1891, and establishing the firm of Neale, Harrison & Company, Mr. Dyke was engaged by the latter firm, and in 1896 was removed to their Miramichi office, later becoming the representative in the Maritime Provinces of Thomas B. Neale & Company, who succeeded Neale, Harrison & Company.

For the season now closing the shipments by Mr. Dyke from the Miramichi were about 12,000,000 feet of spruce, with some pine and birch, and from the Dalhousie district about 2,000,000 feet. The firm which he represents are also agents for various concerns shipping deals from the Nova Scotian ports, and for Messrs. W. & J. Sharples on the west coast of England and Ireland. Mr. Dyke expects to leave for England in the early part of this month.

Probably the oldest timber in the world which has been subjected to the use of man is that found in an ancient Egyptian temple, in connection with the stone work, which is known to be at least 4,000 years old.

In making foundations for piles of lumber where it is not handy to get timbers for the purpose, inch lumber is sometimes used by piling the boards on top of each other to the required height, taking eight pieces of 1x6 to make a box. This form of foundation, while strong, is objectionable from the fact that it is likely to rot and has not the stiffness desirable in timber usually employed in this kind of work. A Chicago yard uses as a substitute for boards a frame made of two pieces of 1x6-16, and blocks of 2x6, 6 inches long, nailed on end every 6 inches. This makes a light and easily portable frame that has all the required stiffness of a piece of timber and has less tendency to rot than either the boards or the solid stick.

HARDWOODS ALONG THE CANADA ATLANTIC RAILWAY.

Owing to the receipt of many inquiries in regard to the location of hardwood mills, the Canada Atlantic Railway has given us the following information with respect to the timber adjacent to their line:

The district immediately west of Ottawa is well supplied with the softer woods suitable for cooperage stock, shooks, etc., such as elm, ash and basswood, but west of Eganville, maple, ash, beech and birch are quite plentiful. West of Madawaska, for a distance of one



MR. FREDERICK DYKE.

hundred and thirty miles, or through to Georgian Bay, there is an unbroken belt of white and yellow birch, with a good average of maple, ash, elm and basswood. There is probably no section of Canada producing the quantity or as fine a quality of birch, and we understand that the white birch represents practically the bulk of that now standing in Ontario. The timber is well matured and is especially suited for furniture stock, veneers and wood specialties, and owing to its great size, planks and specially sawn timber for the Continental markets. This timber will average twenty-four to thirty inches in diameter, sound and remarkably clear, as the samples of stock and veneers which we have for inspection will show. We are sorry that we have no illustrations prepared of the almost universal tracts of birch in this territory, but ample can be seen from the trains at any season to justify the statement that the supply is practically inexhaustible.

This timber is generally held by licensees of berths who are engaged in taking out the pine, little or no effort so far being in evidence as regards operations in hardwood. Locations can be readily obtained or the logs jobbed. A very large quantity of the hardwood is also held by settlers, who are only too glad to take out on contract, as it furnishes winter work at home. There is no difficulty in getting out several million feet in this way per annum in the immediate neighborhood of any mill and at as low a cost to the manufacturer under present conditions as if limits were operated by himself.

CANADIAN TIMBER AT GLASGOW.

A correspondent at Glasgow, writing to a Toronto daily paper, thus refers to the display of timber products at the recent exhibition:

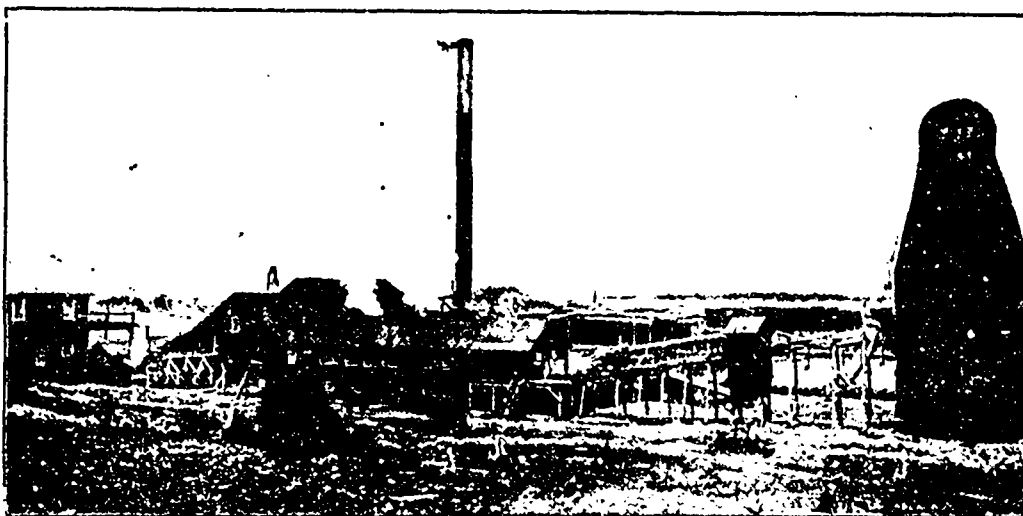
"Much interest has been taken in the forestry exhibit, which is very complete and well arranged, and contains specimens of every kind of merchantable timber grown in the Dominion. Articles of woodenware were much inquired for, and there is a growing demand for material cut in particular sizes to be used in manufactories in this country. This applies to furniture also. The polish put upon the Canadian furniture is said not to stand in this climate, and the dealers in furniture prefer to have the material in the rough, or partly finished, and to put it together and finish it themselves. There are many advantages in this mode of dealing, especially as regards carriage, but the chief difficulty in the way of extending business in this direction is that few Canadians who could carry it on to advantage are in a position to fill such large orders as it would be necessary to accept to secure the trade. No doubt the commissioners in their report will be able to give valuable information with regard to this, as well as other branches of trade in which Canada is concerned. The Peterboro' canoe is always an object of interest, and all the exhibits of them, and most if not all of the carriages, will be sold before the close of the Exhibition. Canadian carriages are much admired, both for style, comfort, lightness and price. They have, however, one drawback, and that is the difficulty of turning—a serious one in narrow country roads. If this difficulty could be obviated without causing weakness of construction or increase of price the trade in these vehicles could be largely extended."

The Premier of Quebec has adjusted the difficulty over land rights existing between the settlers on the Lievre river and the McLaren Lumber Company, of Buckingham. The settlers complained that the company's men cut logs off the lands and made roads through the cultivated fields belonging to the complainants. It seems that the difficulty arose through a misunderstanding as to the extent of the McLaren limits, and the company agreed to recompense the settlers on a cash basis.

ALGOMA MILL REMODELLED.

For nearly a decade what is known as the "Red Mill" at Little Current, Ont., owned by McKinnon & Walsh, stood in idleness. About one year ago the W. & A. McArthur Company, Limited, of Cheboygan, Mich., wishing to transfer their operations to Ontario, purchased the property, and have transformed it into one of the most modern saw-milling plants in the country, as may be inferred from the accompanying illustrations.

The officers of the company are: Chairman, A. McArthur; secretary, W. F. DePuy; treasurer and general manager, C. E. Mould.



SAW MILL OF McARTHUR BROS. & COMPANY, LITTLE CURRENT, ONT.

It was found that as a result of the long period of idleness the mill required a most thorough overhauling to put it in running order; in fact, the plant was almost entirely rebuilt, and in addition thereto there was constructed a mile of new tram and piling ground, sufficient for a stock of 19,000,000 feet, which includes 3,000 feet of water front, with not less than 14 feet of water along the entire front.

The mill is circular and gang, all the machinery being of American manufacture excepting the three engines, which were supplied by the William Hamilton Manufacturing Company, of Peterborough, Ont. After a run last year of about four and one-half months, the mill, under the supervision of Mr. Thomas McGuire, local manager, was again overhauled and a number of improvements added, particularly in the refuse system. There is in connection with the mill a complete electric light plant, and in addition to furnishing light for the mill and yard, a number of business places in the town are supplied during the running season.

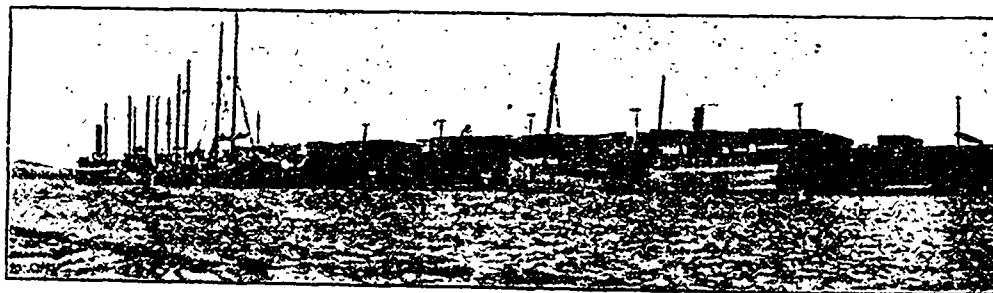
This season operations were commenced on April 25th on day run, and on May 15th on night run, making a total run up to November 9th of 308 days. During this time 20,000,000 feet of lumber were produced, the greater part of which was cut from a small class of logs. It is claimed that with logs averaging about ten or twelve to the thousand, the mill would be capable of turning out from 28,000,000 to 30,000,000 feet. In the run of 308 days, it is said that not more than 20 hours were lost as the result of breaks in the machinery or from any other cause, which is a high tribute to the ability of Mr. McGuire as a mill man.

The company obtain a log supply from their Beaverstone and Spanish River limits, situate as follows: Berths 5 and 8 and part of Humboldt, just west of the French River, and Berth 120, on the Spanish River, from which limits they are this winter putting in about 20,000,000 feet for next season's cut, besides about 2,000,000 feet which will be left over from this season. The timber is chiefly white pine.

TIMBER TRANSFER.

The M. Brennan & Sons Manufacturing Company, of Hamilton, closed a large deal with the

Huntsville Lumber Company, last month, in which they sold fifty-eight square miles of white pine timber limits. From twenty-seven miles of this limit no logs or timber of any kind have ever yet been taken off. The sale includes the Brennan Company's mills and mill plant at Huntsville, and the price paid was two hundred and twelve thousand dollars. The Huntsville Lumber Company now owns one hundred and twenty square miles of pine timber, sixty-five miles of which is still virgin, no logs having been taken off it; and the other berths have been only partly cut. This recent purchase includes the last remnant of pine berths lying this side of the height of land and tributary to the Big East waters. The whole one



YARDS AND DOCK OF McARTHUR BROS. & CO., LITTLE CURRENT, ONT.

hundred and twenty miles of timber can easily be floated to Huntsville, where the Huntsville Lumber Company now have two modern band-saw mills. Mr. A. Tait, President of the Company, had been negotiating with the Brennan Company for two months. The M. Brennan & Sons Company yet own large timber berths tributary to the Georgian Bay, and at other points.

THE STURGEON FALLS ARBITRATION.

A settlement has finally been reached in the arbitration suit between the Edward Lloyd Company, of England, and the Sturgeon Falls Pulp Company. The terms agreed upon are understood to be as follows:

The Edward Lloyd Company agrees to convey the whole property affected to the Sturgeon Falls Company. The former will pay to the latter damages amounting to £102,417 19s. 7d., made up thus: £58,417 19s. 7d. actual cash already paid on account of the purchase, and a further sum of £44,000 in cash and assets, the value of the assets to be ascertained by a valuator. The valuator is to be chosen by the parties to the agreement, and if they are not able to agree a choice will be made by Sir John Boyd, Chancellor for Ontario. The Lloyd Company agrees to give a collateral guarantee for an issue of 6 per cent. bonds of the Sturgeon Falls Pulp Company, amounting to £25,000, and also to purchase, if the Sturgeon Falls Company so desire, the output of the mill about to be completed for two years from the time of starting up. The Lloyd Company further agrees to withdraw all allegations made in the statement of claim affecting the good faith and character of the Sturgeon Falls Company, and the truthfulness of its representations, and the former further admits that the result of the timber explorations made alters the views it entertained. Furthermore, the Lloyd Company acknowledges that the trouble with the Sturgeon Falls Company has been the result of a business misunderstanding. The Lloyd Company further agrees to pay £7,000 to the Sturgeon Falls Pulp Company on account of the costs of the arbitration.

It is stated that the construction of the new mill will now be resumed and pushed to completion as rapidly as possible. The company will aim at manufacturing from 100 to 120 tons of pulp daily.

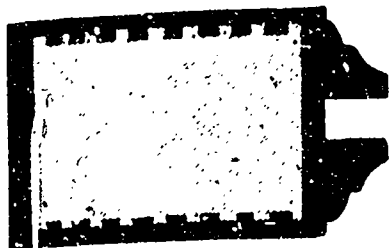
POWDERED TALC AS A WOOD LUBRICANT.

The use of powdered talc, or French chalk, as a lubricant for wood is not sufficiently appreciated. On new working or sliding parts a little rubbed in with a flannel or small brush will work wonders in the direction of smoother running; and where a piece of apparatus has been laid aside for some time it should always

be lubricated in this manner before use. Talc may be objected to as liable to cause dust, but this can be entirely overcome by making a sand pencil of the chalk mixed with paraffin wax. Melt the paraffin and stir the talc into it, mixing very thoroughly. If the mass, on being allowed to cool, shows a slight tendency to crumble it will be about the right consistency. So far from injuring the wood, this lubricant may rather be considered to season it—that is, it will tend to penetrate the pores and so resist damp.—Exchange.

GILMOUR'S PATENT DOORS.

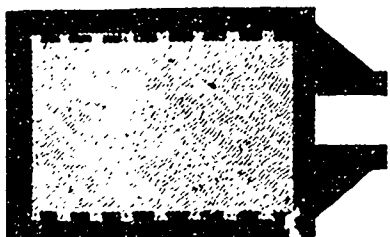
We give below a section of a stile of one of Gilmour & Co's. patent lumber doors. These doors are meeting with a large demand both in this country and abroad. They can be manufactured in many kinds of wood, such as pine or quartered white or red oak, cypress, chestnut, white pine, ash, elm, birch, cherry, maple, quartered sycamore, mahogany, etc., being 1/4 in. thick, with a solid core of wood of thickness according to that of the door. The sketch shows how the lumber is put together, and the manufacturers, Messrs. Gilmour & Co., of Trenton, Ont., claim it is equal



BEAD AND COVE SOLID MOULD.

superior to the solid wood, and in hardwoods of course much less in weight, and being a 3-ply cannot warp or twist. The price comes considerably under that of solid hardwoods, and also under that of any veneered doors owing to the quickness with which the lumber can be manufactured; there is no necessity of keeping it under weight except as it passes through the machinery. The wood is first kiln-dried with moist air, and to insure perfect dryness is further subjected to heat up to 200 degrees. Waterproof treatment is used.

The doors can be manufactured 1 1/4 in. and 1/2 in. thick, and either square, single or double



P. G. SOLID MOULD.

flush mould, Bolection mould, also moulded to solid, as seen in section. Three-ply panels can be used, which, of course, are much stronger than most solid woods of the thickness.

DRYING LUMBER IN KILNS.

By "SUMNER."

There was a time when one thought he must carry a stock of lumber sufficient for a year's supply ahead in order to satisfy the trade. That seemed to fill the bill then, but the demand increased to such an extent that the supply run short and there arose a demand for something to dry lumber quicker. From that time there has been a constant effort to develop a system for drying lumber that shall be quicker and better than the old system, and dry-kiln builders have succeeded in making a wonderful showing in the matter. My object in writing on this subject is to show to some extent the different stages in

dry-kiln building and their effect on lumber. In the first place, let me say I never worked nicer stock so far as drying was concerned than the lumber dried under a covered open shed. This stock was sometimes two years old. You could put a finish on it with a set of knives, without damage, while some of the artificially-dried stock will turn the edge of a knife in a few minutes, especially hard woods. I used to think this must be the result of a harder kind of wood than I was used to, but changed my mind, as I find the fault is in the drying.

Why is lumber dried by the heat of a stove harder to cut than air-dried lumber? I studied the matter and kept experimenting and reading about the nature of wood, and found that wood is a complete network of pores or airholes through which the water evaporates. Where the lumber is dried out of doors, under cover, the process is so slow there is practically no change in these pores, giving the lumber a soft, light surface, while stock subjected to artificial heat tends to collapse by the pores drawing together, making a hard, glassy surface, hard to cut. This for a long time kept artificial methods in the background; it was only after much study and experimenting that kiln builders were able to overcome the difficulty and arrive at the present systems of drying.

The first artificial dryer I remember was a carpenter shop where the lumber was set up on end around a stove. This did not long satisfy the demand, so they built rooms suitable for piling the stock and put in a stove. Usually ventilation of these rooms was the last thing thought of, as that would let the heat out and heat was just what they wanted to retain. Still, this also failed to supply the demand, and they must try again. Then another point arose—the insurance companies began to complain and raise rates because of the danger of fire from the stoves, hence they must look elsewhere for heat to dry the lumber. Then steam was given a chance to show what sort of agent it would prove in that line. It proved to be the very best thing possible.

Still they clung to the same old method of building a closed room, ceiled tightly to retain the heat, with practically no ventilation. These would not dry green lumber; the lumber must first be piled a few months or the kilns ruined it. I remember some of this style of kilns that were built from 12 to 16 feet wide and 18 to 24 feet long, with a network of pipes on the floor proper and a slat floor to pile stock on over the pipes. The valve for regulating steam was located at the end opposite the door and the operator must pass through the length of the kiln to shut off steam when the stock was dry. I have seen men attempt to go into those kilns to shut off steam, but could not because of the heat, showing that it must have been pretty hot. I used to be able to stand heat very well, so was often chosen for this duty; by keeping near the floor and going quickly I could shut off steam and get back without being overcome with heat.

This style of kiln answered the purpose for some time, but was extremely hard on lumber. Green lumber would "honeycomb" badly. Then experimenting began on the line of air-drying, and knowing that lumber dried in the open air dried much faster during the months when the wind blew strongest, kiln builders began to introduce the blower in order to create a draft, thus initiating the air-drying process. They have succeeded to such an extent that to-day in a first class dry-kiln lumber may be dried nearly perfect in the shortest possible time and still leave the stock soft enough to be easily worked. But right here let me tell you that some people could take the best dry-kiln in existence and spoil lumber in drying, while others could take one of these old back-number kilns and get fairly good results from it. Don't run away with the idea that anybody can operate a dry-kiln successfully. It requires as much knowledge and judgment as any other branch of wood-working. The Wood-Worker.

A MAHOGANY CROTCH.

Mr. Arthur Rushforth, mahogany merchant, of Liverpool, England, has sent the CANADA LUMBERMAN a photograph of a mahogany crotch, which is herewith produced. The log



SPECIMEN OF MAHOGANY CROTCH.

was 15 feet long and about 30 inches wide, the crotch extending to 12 feet in length. Mr. Rushforth states that in his experience of about 25 years in the mahogany business it is the longest crotch that he has ever seen.

SAWING FROZEN LOGS.

"Are you going to do winter sawing this year?" inquired one lumberman of another. "We are planning to keep the mill running," replied the other. "You were inquiring some time ago regarding our experience in handling frozen logs. As you know, we have arranged to use all our exhaust steam in keeping our pond open. We have besides a closed box in which the water is sufficiently warm to take the frost out of most of the logs. We are figuring on utilizing all the waste material from the mill by converting it into steam and sending it into the pond direct. This ought to thoroughly thaw the logs.

Occasionally, however, the first few logs sent up after a new consignment has been received by rail are pretty thoroughly frozen. After a good deal of experience we have found that these logs can be sawed providing we have the right sort of a filer and the sawyer will reduce his feed.

THE Canada Lumberman

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ADVERTISING RATES ON APPLICATION.

THE CANADA LUMBERMAN is published in the interests of the lumber trade and 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 quotations from various points throughout the world, so as to afford to the trade in Canada information in which it can rely in its operations.

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 15 cents per line for each insertion. Announcements of this character will be subject to a discount of 25 per cent. if ordered for four successive issues or longer.

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

THE STURGEON FALLS ARBITRATION.

The dispute between the Edward Lloyd Company, of London, England, and the Sturgeon Falls Pulp Company, which has been going on for many months, has been finally settled in a manner that is eminently satisfactory to Canadians. The controversy arose over the sale of certain timber limits, a water power and uncompleted pulp and paper mills by the Sturgeon Falls Pulp Company to the Lloyd Company. A portion of the purchase price was paid by the Lloyd Company, but before their financial obligations were finally fulfilled, a protest was entered to the effect that the water power was inadequate for the operation of the mills and that there was a less quantity of timber on the limits than had been represented by the Sturgeon Falls Company. Proceedings were taken to have the matter settled by arbitration, resulting in a series of hearings. It is understood that a partial exploration was made to ascertain the quantity of the timber on the limits.

The terms of the settlement, published in another column, were arrived at by agreement between the contesting parties. The Lloyds agree to convey to the Sturgeon Falls Pulp Company all the property purchased, and to pay in damages \$500,000 and in costs about \$35,000 more. They further agree, inasmuch as the controversy may have injured the credit of the pulp company in England, to guarantee the payment of an issue of bonds by the pulp company. The Lloyds, it is understood, have formally retracted the allegations of bad faith made against the Sturgeon Falls Company.

While the dispute was in progress, the impression arose in England that the Lloyd Company had in a sense been swindled. Thus English capitalists held aloof from investing in

Canada until the matter was disposed of. The settlement, it will be seen, completely exonerates the Canadian company. The effect of such a satisfactory and clearly-defined settlement can scarcely be overestimated. It will doubtless assure British capitalists that they may rely upon the business honesty of Canadians, and may reckon upon fair treatment in business transactions generally.

GRADING OF OTTAWA PINE.

On more than one occasion the Timber Trades Journal, of London, England, has attached the present method of grading pine as adopted by the Ottawa valley manufacturers and shippers. In a recent issue, under the heading of "The New Ottawa Classification," that journal says in part:

"The Quebec shippers appear to have made a serious blunder in trying to impose upon the buyers in this country the new Ottawa classification for pine. This innovation has been the cause of considerable inconvenience and trouble to the selling agents, and we have heard from important pine buyers that next season they will absolutely refuse to buy on this new assortment. We would remind our Canadian friends that the danger of habitual users of pine in this country seeking substitutes is very likely to occur."

We can scarcely think that the views of the writer in the Timber Trades Journal, as expressed above, are those of the timber trade of Great Britain; in fact, we think that the statements have been made on very scant or unreliable information. Even the title of the article is misleading, while the reference to an "innovation" is very far from the facts.

The efforts of the Ottawa valley lumbermen have been directed towards regaining the old classification as established by the Quebec Supervisor of Cullers. It is well-known by the trade in this country, and no doubt abroad, that previous to the year 1899 the lumber trade of Canada was in an utterly depressed condition. The result was that during these years the standard of grading was made unreasonably high. This was in part due to the fact that the English buyer took advantage of the existing conditions and influenced the grading to his own benefit, by constantly urging upon the seller the necessity of furnishing good grades and by the presence of his own inspectors when shipping. From year to year the grading became better, until the standard was ultimately so high as to leave little profit for the seller.

This condition of things could not be expected to continue. The year 1899 brought a return of prosperity to the lumber trade, and with it a natural desire on the part of our manufacturers and shippers to reap their just proportion of profit. An agreement was reached by the Ottawa valley manufacturers to form an association for the purpose of correcting innovations which had crept in at some of the mills in the matter of culling, and also for the purpose of making the culling as uniform as possible at all the mills. It was decided to adhere as closely as possible to the original standard of grades as laid down in the Act to regulate the culling of deals. This is the only aim which the Ottawa deal manufacturers have had in view.

The cause of complaint from England comes through the sharp contrast between a culling which had grown to be outrageously unfair to shippers, and the culling as laid down by the Supervisor of Cullers. The present grades are equal to, if not better than, those called for in the Act. This, we think, is generally understood by the trade in England, and even the statements in the journal referred to would scarcely have been suggested but for the fact that the demand for lumber this season has been rather backward.

THE BRITISH COLUMBIA TIMBER POLICY.

The Legislature of British Columbia, following in the footsteps of the Ontario Government, passed an Act at its last session prohibiting the export of cedar timber from the province. Upon certain representations being made as to the unfairness of enforcing the law at once, an extension of time was granted until the spring of 1902. In the meantime every opportunity is being seized by interested parties to bring about the abolition of the Act, and it is even stated that such a decision has already been reached by the government. In this case no doubt the wish is father to the thought, as such a statement is quite premature, and it is doubtful if such a step is even under consideration by the legislature.

The two interested factors are what is known as loggers on the one side, and the lumber and shingle manufacturers on the other. The former are engaged in taking logs and selling them to manufacturers, the buyers being chiefly Puget Sound mills. Most of the British Columbia manufacturers operate their own camps, and are not, therefore, large customers of the loggers. The government very wisely considered the interests of the manufacturer in preference to those of the logger when placing on the statute book the law prohibiting the export of cedar.

It is evident that the business of the logger will be injured by the legislation, but on the other hand the more important industry of the manufacture of lumber and shingles will be longer perpetuated. As to the advantages of the two industries little need be said. The logger expends a small sum for the cutting of the timber and exports it to a foreign country to be manufactured. The mill-man expends an equal sum in cutting the timber, and a much greater sum in manufacturing it into lumber, shingles, and other more finished products.

If the lumber industry of British Columbia is to prosper, a reasonable measure of protection must be given by the Government. The industry now suffers by unfair competition from United States manufacturers, who are permitted to ship into the Canadian market free of duty.

The success which has followed the Ottawa timber policy should encourage the Government of British Columbia to enforce next spring the proposed export law. The situation in the two provinces is peculiarly similar, and there can be little doubt that the results would be satisfactory in British Columbia as in Ontario.

EDITORIAL NOTES.

The Canadian Manufacturers' Association, at its annual meeting in Montreal last month, passed a resolution in favor of the following duties on timber products coming into Canada: White and red pine, hemlock, tamarac, spruce, Douglas fir and cedar, \$2 per thousand feet; shingles, 30 cents per thousand; laths, 20 cents per thousand. If these duties should be adopted by the Dominion Government, a large measure of relief would be afforded Canadian lumbermen generally and those of British Columbia in particular. An important section of the same resolution calls for the use of Canadian timber in all government contracts. In this respect the governments have been somewhat neglectful of the interests of the people, in omitting to specify Canadian material.

One would judge by the amount of space devoted to a discussion of the reciprocity question by lumber journals of the United States that there must be a strong sentiment in that country in favor of free lumber. Every possible argument is being brought forward by these journals to show that free lumber would be a dire calamity to the country, but nevertheless there are many advocates of a reciprocity treaty between Canada and the United States embodying the free interchange of forest products. It is not clear, in view of recent legislation on this side of the border, how this can be brought about, but the United States is apparently waking up to the fact that Canada is one of her best customers and that American products are purchased by Canadians to the value of \$20 per capita annually.

The geographical position of the city of St. John, in New Brunswick, has made it one of the most important saw-milling points in Canada. The St. John river, which is over 150 miles long, and its numerous tributaries, drains a large section of territory in the state of Maine, making it compulsory for Maine lumbermen to float their logs to St. John for manufacture. Most of the mills located there are owned by Maine lumbermen. In time it is believed this will be changed, and logging by rail will become popular in the state of Maine. The Bangor & Aroostook Railroad Company are now making extensions which will ultimately complete a circuit of railway, leading from Bangor and running around the great northern timber territory, in many sections of which the axe of the woodsman has never been wielded. As the forest lying within a reasonable haul of the driving streams becomes cut over, it may be that the logs will be carried out of the forest by rail, and that St. John mills will cease to manufacture the lumber of Maine.

It is announced that Russia is about to apply scientific methods to her immense forests, with the object, we are told, of more vigorously competing for the timber trade of Great Britain. This movement illustrates the wisdom of the Dominion and Provincial Governments of Canada in taking steps to perpetuate the timber resources of this country.

Great Britain is by all odds the greatest timber consuming country in the world. Her annual imports for the past five years have averaged in value £22,000,000. The quantity which Europe has supplied is each year showing a decrease, and it is thought that a further falling off may be prevented by the adoption of scientific forestry. Germany comes second as a timber consuming country, spending annually £8,000,000 less than Great Britain, while France comes third. Thus it will be seen that there is an immense market in Europe for Canadian timber. An Indian forest officer has stated that if the magnificent timber resources of Canada were controlled by a system as thorough as that established in India, the Dominion could easily supply the mother country with 3,000,000 tons of timber a year. "Why cannot such a system be started," queried the expert, "and why let Russia and all the rest in when our own Colonies can supply our needs, and, in doing so, enrich themselves?"

CANADIAN WOODS FOR STREET PAVING.

The question of the suitability of Canadian woods for paving purposes is receiving considerable attention in Great Britain. Mr. J. W. Bradley, city engineer of Westminster, has made enquiries from leading dealers, whose opinions are given below. It will be seen that spruce is strongly recommended:

Improved Wood Pavement Co., Ltd.: Tried a sample of Quebec deals in Bond st. in 1896 in comparison with Baltic wood; there is no apparent difference in the wear, and it seems to be doing well; also tried it many years ago in St. Martin's-le-Grand, and it proved a success.

R. R. Dobell & Co.:—Have the impression that Canadian spruce would suit better for paving blocks than most other woods, and would certainly come very much cheaper than any red deals.

Watson & Todd, Liverpool:—Have supplied the Liverpool Corporation with large quantities of Canadian red pine for paving purposes.

City Engineer, Liverpool:—Practically all the red pine deals used in this city during the last three or four years have been Canadian, and these have given satisfactory results. There does not appear to be much difference between the cost of Canadian and that of Baltic deals.

R. Lauder & Co., West Hartlepool:—Are not aware that any Canadian timber has been used for paving purposes, but would strongly recommend a trial of the red deal from Canada, as they consider it to be sounder, tougher and more durable than the Baltic, and costs very little more.

Bryce, Junor & White:—Consider that Canadian pine would be too expensive and too soft to compete with Baltic pine for wood paving purposes, but there is an excellent hard pine in Canada (which can be produced more cheaply than the standard Canadian pine) which is becoming favourably known, and it is possible this might prove satisfactory.

Burt, Boulton & Haywood, Ltd.:—Are of opinion that Canadian white spruce creosoted would make an excellent paving, the wood being sound, hard, bright and free from sap. The creosote would prevent any decay, and, moreover, the price would be less than Baltic yellow.

low. All scaffold boards are cut from spruce

Price & Pierce:—As regards Canadian timber, white pine is of too soft a nature for street paving, but, in the opinion of many people, spruce is a most desirable wood for this purpose, and we have no doubt if it received a fair trial would be found to answer every purpose. It is a cheap and durable wood of a tough nature, and where it has been used has given satisfaction, but in certain quarters there is a prejudice against it, which has prevented it coming into use for this purpose. Spruce deals 3 x 9 are to be had in large quantities all through the country, and in our opinion would be found to answer every street paving purpose quite as well as some of the more expensive woods.

Mr. Bradley is of opinion that tamarac and white spruce are deserving of a more extended and thorough trial for paving purposes in England, but would point out to those interested that the success or otherwise of the trial will depend to a very large extent on the care with which the deals are selected and sawn, and they should also be marketed as cheaply as possible.

LARGE DEMAND FOR YOUNG TREES.

The Timber and Forestry Branch of the Department of the Interior has recently purchased 300,000 young trees for use in the North-West from a firm in Bismarck, North Dakota. It is learned from Mr. William Stewart, the Superintendent of Forestry, that all the young cottonwood seedlings that could be obtained in Canada were purchased, but that these were insufficient for the requirements of next season; hence the necessity of getting a supply from across the border. The Dakota cottonwoods grow along the river bottoms and sand bars of the Missouri river, and are furnished very cheaply, the price being \$1.25 per thousand.

The Department is experiencing a heavy demand for plant material in connection with the government co-operative plan, and find it necessary to use every effort so as not to disappoint the settlers after they have prepared their land in accordance with the instructions given.

ASSOCIATION OF LOGGERS.

The loggers in British Columbia have formed an association, with Mr. William Higgins as president, and Mr. A. Hamilton corresponding secretary. The rules and regulations will be modelled after the Washington Association. It is said that the Association will endeavor to induce the Government to abolish the act prohibiting the export of cedar to the United States, which became law last season, but which has not yet been put in operation.

Mr. Higgins, the president of the association, is one of the best known loggers on the coast. For several years he supplied the mill of the Victoria Lumber Manufacturing Company at Chemainus with practically all the logs required.

The Thomas Merrill Log & Lumber Company, a Washington concern, has been authorized to do business in British Columbia. Their head office will be at Victoria.

CORRESPONDENCE

METHOD IN THE SHOP.

BRANTFORD, ONT., Nov. 12th, 1901

Editor CANADA LUMBERMAN

Dear Sir,—In your last issue there appeared an article "Method in the Shop," by H. T. G. We feel that we cannot let the opportunity pass without endorsing the writer's remarks; indeed, it would almost appear that he had stolen the idea from us, as he describes our system exactly, even to the color and size of slip used by us.

This system enables us to tell in a moment's time by whom the material was ordered, to whom delivered, when and where, and name of teamster. When necessary to issue a shop slip or lumber yard slip in connection with the order, each order bears a corresponding number, and are all, with the shipper's slip, attached together and filed away consecutively.

We heartily recommend the system described by H. T. G. to any person who desires a safety valve on his business.

Yours very truly,

SCHULTZ BROS. COMPANY, LIMITED.

THE BOX SHOOK TRADE.

CORK, IRELAND, Nov. 12th, 1901.

Editor CANADA LUMBERMAN

Dear Sir,—Now that the box shook trade is about closing for the season, I would like to bring before shippers some facts which I have already laid before a member of the Canadian Government.

Firstly I would call the attention of shippers to the want of a central agent or expert where all enquiries could be made. For example, A wants a cargo of box shooks, and calls on B, who are agents in London or Liverpool for a leading shipper. B can only say he would write out and see what his house can supply, and A has to wait perhaps a month for a reply, and then if B cannot supply the stock, he (A) has to go and repeat this over again with one or more agents. Norway and Sweden score here, as the cheap telegraphic rates enable the agent to wire out and back instead of writing.

Secondly, Canadian shippers could get a great number of orders if an expert or agent were appointed who would look after this branch of the Colonies industries, and if the right man was appointed, I feel confident a large and profitable addition could be made to the timber box shook trade of the Colony.

Thirdly, the mills would want a little organization, and I should say if the Government would not provide for such an expert the shippers could easily subscribe a small sum each yearly to pay for looking after their interests.

And lastly, there are a great number of details to be discussed at the beginning and end of each season which would enable all parties, the shipper, the agent and the expert, to more effectually grasp the trade in this very important industry. In conclusion I would say that I believe there would be everything to gain and very little to lose in such an appointment, and there need be no clashing with existing agents, but a very valuable help to them in securing orders which are now going elsewhere.

Yours faithfully,

"A SMALL IMPORTER."

TRANSPORT OF TIMBER IN ENGLAND.

A paper was read before the Botanical Section of the British Association by Mr. Samuel Margerison, on "The Transport of British Timber." He said that in England it cost about 5d. to grow a cubic foot of fir timber. On the average it cost about another 5d. or 6d. to get it into the market, and it sold for 8d. to 9d. per cubic foot. The chief reason, Mr. Margerison said, why it sold for less than cost price was that foreign fir was sold at the figure specified, and the growers and importers could make it pay. He had selected fir as an extreme case

in order to emphasize the fact that the handling charges on home-grown timber were much higher than those on imported timber of the same species. We could grow Scots fir and spruce practically as cheaply as the continental forester, but we could not afford to sell it at the same price and at the same time compete on equal terms with him, because it cost us more to transport it from the plantation to the consumer, sometimes even when both were in the same county; and until we could do it as cheaply the splendid efforts of our scientific botanists to produce good and cheap timber were greatly spoiled by the hard facts of £ s d. This, it might be said, was an old story about all native produce. Yet, because of its bulky nature it was more ruinous in relation to native timber than, say, to home-grown corn, because of its greater handling charges in proportion to its value. A ton of wheat was sold for, say, 6l. 15s. Of this 5 per cent. (6s. or 7s.) would be paid for cartage and railway carriage. But a ton of spruce sold for 33s. would cost 21s. (or 60 per cent.) for cartage and carriage. A ton of spruce grown in a Baltic country cost in transport from the forest there to the consumer here about 40 per cent. of its selling value, and a ton of spruce grown in Canada very little more. Of course the discrepancy and extra cost did not seem so great proportionately on the value of the higher priced timbers. But these took longer to grow, and except in favourable surroundings the final results were about the same. There was little commercial encouragement to produce timber if there was no reward but that which virtue was said to bring. Preferential railway rates in this country were costing timber growers nearly as much as the rental value of the land on which the timber was growing. Why was there this great check upon the efforts to make forestry pay? One reason was that foreign timber imports were handled generally in large quantities, so that detail work was done more cheaply. But it was not only in railway charges that our expenses were higher. The overland carriage cost us more. We had not the advantage of water shoots and great rivers, or sufficient snows and frosts to make water or ice a generally available means of transport. Could these overland forest to railway handling charges be reduced? He had made some inquiry about tramway and other mechanical appliances, but did not see any advantage to be gained from them under the conditions ruling in this country. The chief drawback to their use was that our small and scattered plantations would not pay for the profitable employment of costly plant and machinery for transport. A tramway, cheap as it was in working, was costly in instalment, and although it would effect considerable reduction in the cost of transporting a large lot of timber grown in a suitable environment, and could be used again under similar circumstances, would in a large number of cases, be much dearer than the present system of removal by horse waggons. Besides, public roads would have to be used and crossed, and county councils would not be ready to allow this. Under favourable circumstances, again, traction engines would effect considerable economy in haulage. A load of

12 or 15 tons might, on some roads, be for less than one of three or four tons drawn by horses. But good roads did not often present into the woods, and there were weak bridges and sharp corners to contend with, which could not be negotiable with long, heavy loads as would be required to use the full available power. The pole-waggon at present in use, drawn by horses, was the best appliance present in existence for collecting timber from our comparatively small timber areas in the first instance. But if we could have the conversion of the timber at centres close to large areas of timber, we could considerably cheapen the cost of transport, both by the use of traction engines and tramway for the local haul, and traction engines for "through" traffic over reasonable distances. It was easy to come to the conclusion that the iniquities of railway companies in charging more for carrying native produce than for foreign, and there was considerable reason for the complaint, especially under the present chaotic system of measurement and the insisted-on wharfage charges. But the question was not a one-sided matter. There was no gainsaying the fact that native timber on the whole, cost somewhat more to transport than foreign. It was often in clumsy, dangerous forms, crooked and knotty, whilst imported timber was generally wholly or partly converted into tidy, straight pieces, making more compact and firmer loads. And being dealt with at points in larger quantities at one place, much of the work was centralized and specialized, with the result that there was a large saving in detail. Railway managers were practical business men who could not afford to do work on philanthropic principles, and they saw this difference in the nature of the two classes of merchandise. But, at the same time, we had no practical indication that, if any effort was made by home producers and merchants to centralize their work, make their loads more compact, and arrange for regular and large consignments, the railway companies would make their charges equal those for imported timber. Straight, compact and light ones, all were charged at the same rate. The question was a large one, and its importance was not sufficiently realized by those who were not affected by it, namely, growers of timber. Whilst persevering in the efforts which had been made of late years to improve our forestry, it behoved growers to pay special attention in future to the relation of transport to concentration of production, the production of timbers of the higher values, compactness of loads, and regularity of supply of consignments.

IMPORTS OF JAMAICA LUMBER.

Mr. G. Eustace Burke, commercial agent, Kingston, Jamaica, in a report to the Department of Trade and Commerce, says regarding lumber. The figures which represent the importation of white pine, I think I am safe in saying, are hardly a quarter of the actual importation, the bulk of which arrives via United States ports at an advanced value which prejudices consumption. If a duty was touched at St. John, N.B., I think this would improve the situation.

THE NEWS

A new shingle mill has been put in operation at Kear-
 Onk, by L. J. Leahy.

M. Shepard, of Knowlton, Que., is offering his
 planing mill for sale.

Joseph Moreau, of St. Germain, has invented a
 machine for peeling the bark from trees.

Maander, of Little Current, Ont., has installed an
 electric light plant for lighting his saw mill.

Esse Cook, of Zephyr, Ont., has purchased a timber
 tract near Orillia and intends building a saw mill.

W. A. Dewitt, lumber dealer, Napinka, Man.,
 has started a branch yard at Nedora.

Loah Eby is about to commence the erection of a
 sash and door factory at Southampton, Ont.

The Fred Robertson Lumber Company, of Revel-
 stoke, B.C., are building a shingle mill at Wigwam.

L. W. Barr, of South Maitland, N. S., has decided to
 abandon farming and devote all his time to lumbering.

Walter & Humberstone, sawmillers, Edmonton, N.
 T., have dissolved partnership, Mr. Humberstone
 remaining.

L. A. Estey, of Fredericton, N.B., has 125 men at
 work in his camps on the Tobique river and near Ed-
 mundston.

The Charlton Saw Mill Company, Limited, of
 Toronto, has obtained incorporation, with a capital of
 \$5,000.

George White has purchased the planing mill at
 Parry Sound, Ont., recently operated by Gillespie &
 Her.

The Cascade Lumber Company, Limited, of Cas-
 cade, B.C., has been incorporated, with a capital of
 \$10,000.

W. & G. L. Evers contemplate the erection of a
 sash and door factory at North Bay, Ont., to cost
 about \$10,000.

P. Sayers, of Nascagaweya, has purchased a small
 timber limit near Corwlin, Ont., on the C.P.R., and will
 build a mill this winter.

Maitland, Rixon & Company, of Owen Sound, Ont.,
 have installed an electric light plant in their mills. Its
 capacity is 50 lights.

Alphonse Tessier, of Penetanguishene, Ont., has in
 contemplation the enlargement of his sash and door
 factory and planing mill.

Michael Jentz, proprietor of planing mills at New-
 ton, Ont., was almost instantly killed in his mill by
 being drawn into the shafting.

It is understood that a party of capitalists are nego-
 tiating for a site at Newcastle, N.B., on which to
 build a sawmill and box factory.

The Dominion Shingle Company has been organized
 at Sapperton, B. C., with F. L. Johnson as manager.
 A new mill 36x56 feet has been built.

S. R. Trick, of Ottawa, has purchased the saw mill
 of Stephens & Argue at Norland, Ont., and is adding a
 gas horse power engine and shingle machine.

A movement is on foot to form a joint stock com-
 pany to purchase and operate the spool wood mill of
 Clark, Skillings & Company at Newcastle, N. B.

The Goderich Lumber Company, of Goderich, Ont.,
 are negotiating for a site in Keppel, just across the
 bay from Warton, on which to build a large saw mill.

The works of the Canada Veneer & Bent Lumber
 Company, at London, Ont., were offered for sale at
 auction last week, but no satisfactory bid was
 received.

A steam logging plant is to be used by H. R. Mc-
 Lellan, of St. John, N.B., who has a contract to supply
 the Clergue syndicate, of Sault Ste. Marie, with several
 thousands cords of wood.

The Quebec Government has conceded the right of
 the Gilmour & Hughson Company, of Hull, to the
 ownership of water powers at Eton Chute and Chelsey
 Falls. The arbitration has been going on for a
 considerable time.

It is said that Ker & Harcourt, who removed from
 Walkerton to Parry Sound a few years ago, are con-
 sidering the advisability of returning to Walkerton, be-
 ing unable to find in the Parry Sound district a suffi-
 cient quantity of maple for their bobbin business.

The Northern Lumber Company, of Dauphin, Man.,
 will rebuild their saw mill at Garland. The machi-
 nery of the Mitchell mills at Selkirk has been purchased
 and will be installed in the Garland mill. It is probable
 that the company will also build a mill at Pine River.

A syndicate of Ottawa lumbermen holding extensive
 timber limits are negotiating for the erection of a large
 steam saw mill at Deschenes, on the site of the Conroy
 mill destroyed by fire two years ago. It is the in-
 tention to erect a mill with a yearly output of 50,000,
 000.

J. D. McArthur has leased the lumber yard in Winni-
 peg lately conducted by the British Columbia Mills,
 Timber & Trading Company. The lease also includes
 the purchase of the lumber in stock. The British
 Columbia Company will continue an office in Winnipeg
 for their wholesale business.

Mr. Gilmour, Vancouver agent for the Waterous En-
 gine Works Company, of Brantford, Ont., has furnished
 the plant for the big Eddy saw mill being built by the
 Revelstoke Lumber Company, of Revelstoke, B.C.
 The plant includes two boilers of 80 h. p., two engines
 and the necessary saw milling equipment for a capacity
 of 50,000 feet per day. Both lumber and shingles will
 be manufactured.

A number of improvements have recently been made
 to the mill and yards of the Parry Sound Lumber Com-
 pany, of Parry Sound, Ont. A machine shop has been
 erected and new tools added, and a duplex set of
 electric rollers is now used for the loading of vessels.
 It consists of a series of conveyors, with rollers operated
 by endless chains, the terminal point being an adjust-
 able skidway so constructed as to be easily adapted to
 the height of the vessel's rail. The power is supplied
 by the electric plant at the mill.

Three hundred men are now employed on the dam
 and mills of the Brompton Pulp & Paper Company, at
 Brompton Falls, Que. Although the works will not be
 completed to their full capacity for more than a year,
 it is expected that the company will be making pulp
 and paper by August next. Over fifty thousand acres
 of pulp woodlands have been secured along the St.
 Francis river, but it is expected that the company will
 not have to cut on their own limits for many years, as
 the farmers will keep the mill supplied with wood.
 After the ground wood pulp and paper mills are finish-
 ed, the construction of a sulphite fibre mill is to be
 begun.

The manufacture of shingles at Vancouver, B.C.,
 represents an important branch of the lumbering in-
 dustry. In addition to the old established mills two
 Americans are erecting large shingle mills on False
 Creek, and two sons of Mr. W. L. Tait are building
 mills near the cement works on False Creek. The
 Imperial Lumber Company has just erected a modern
 mill west of Grenville street, and at Hastings, a suburb
 of Vancouver, an American firm has torn down the old
 mill and is establishing a modern plant. Heaps &
 Company have increased the capacity of their shingle
 mill and intend going extensively into the export
 business. The Fraser River Lumber Company have
 also erected a shingle mill on the river.

At the fall assizes of Renfrew county, which opened
 at Pembroke on Oct. 28th, lumber suits engaged much
 of the attention of the court. One of the most interest-
 ing was brought by J. W. Munro against George Gor-
 don & Company to recover a balance claimed to be
 owing on a sale of logs. The plaintiff contended that
 Scribner's rule should have been used, while the de-
 fendants claimed that Doyle's rule was the right one to
 use. The case was settled out of court. George &
 McGregor, of Killaloe, were defendants in an action
 brought by the Walsh Lumber Company in regard to
 telephone poles supplied by the defendants, the plain-
 tiffs claiming that they were not up to agreement. A
 verdict was given for the defendants. The Pembroke
 Lumber Company were given \$1,015 damages against
 J. & J. Gillies for trespass on the timber limits of the

former concern situated in Renfrew. The case of
 Jos. McRea vs. the Rathbun Company was ordered to
 be tried in Toronto.

PERSONAL.

Mr. C. E. E. Ussher, general passenger agent of the
 C.P.R., has been appointed a director of the Canadian
 Forestry Association, as successor of the late Hon. G.
 W. Allen.

Mr. E. D. Tennant, bookkeeper for Graham & Horn,
 Fort William, Ont., has accepted a similar position
 at the Winnipeg office of the Rat Portage Lumber
 Company and has been succeeded by Mr. H. D. Smith.
 Ald. James Davidson, of the firm of Davidson &
 Thackray, lumber merchants and wood-workers, has
 been chosen Mayor of the city of Ottawa, to succeed
 Mayor Morris, who was recently disqualified.

Death has claimed as its victim Mr. John S. Burger,
 of Toronto, who was one of the pioneer lumbermen of
 Ontario. For many years he carried on business in
 Simcoe county and in Michigan, being connected with
 the Thompson-Smith Company.

Mr. W. R. Beatty, M.P.P., who has undertaken the
 management of extensive lumbering operations in Nova
 Scotia, has recently been on a visit to Parry Sound,
 Ont. Mr. Beatty states that the methods of loading
 vessels with lumber in the east are not the most
 modern, and that much more time is occupied than
 should be necessary.

TRADE NOTES.

The Winnipeg Machinery & Supply Company, of
 Winnipeg, Man., is the name of a new company
 formed to trade in machinery and supplies. Mr. J. C.
 Gibson, late of the Stuart-Arbuthnot Machinery Com-
 pany, was the organizer.

As is their usual custom, the employees of James
 Warnock & Company, manufacturers of axes and
 lumbering tools, Galt, Ont., held their annual banquet
 on November 15th. Following a tempting menu came
 an interchange of song and story. The manager of
 the company, Mr. F. H. Hayhurst, presided. The
 programme and toast list was most entertaining, and a
 pleasant evening was spent by the many employees.

A meeting of the Larrigan manufacturers of the
 maritime provinces was held at Moncton, N. B., early
 in November, at which it was decided to organize the
 Dominion Tanning Larrigan Association, with the
 following officers: John Palmer, Fredericton, presi-
 dent; J. S. Henderson, Parrsboro, vice-president;
 J. M. Baird, Sackville, secretary-treasurer. The firms
 represented at the meeting were the John Palmer
 Company, of Fredericton; J. S. Henderson, of Parrs-
 boro; Standard Manufacturing Company, of Sack-
 ville; McKenzie, Crowe & Company, of Bridgetown;
 Annapolis Larrigan Company and J. P. Sherry, of
 Memramcook.

The S. Morgan Smith Company, York, Pa., has
 lately received an order for six single 39 inch and one
 13 inch McCormick turbines from the Metabetchouan
 Pulp Company, Quebec. Each turbine will be mounted
 in an iron flume connected to a supply pipe 15 feet
 diameter. Five of the 39 inch turbines will develop
 4,000 h. p. and drive to pulp grinders. Another of
 same size will drive the wet machines, screens and
 other machinery. The 18 inch will operate a dynamo.
 The mill will have a daily capacity of 60 tons pulp, dry
 weight.

The Dodge Manufacturing Company, of Toronto,
 Limited, have recently completed very substantial ex-
 tensions in the way of new modern machine shops and
 foundry, also a very handsome two storey office
 building for general offices and draughting rooms.
 Both shops are equipped with 10 ton 3 motor electric
 travelling cranes. The machine shop is equipped with
 very heavy tools of latest design and the foundry with
 all the most modern ideas in foundry equipment. The
 Dodge Company are now taking care of all kinds of
 foundry and machine shop work, no matter how large,
 and are undertaking early deliveries. Power trans-
 mission machinery is their specialty, a 260 page
 catalogue descriptive of which is mailed on application.

THE STANDARD MANUFACTURING COMPANY.

At the beginning of 1899 the Standard Manufacturing Company, Limited, succeeded the J. R. Ayer Company, Limited, of Sackville, N.B., one of the oldest and most widely known firms in the Maritime Provinces. Since the re-organization of the company many changes and improvements have been made, new power house, leach house, and larrigan factory have been erected, all of which are steam heated; modern machinery of the latest and most up-to-date pattern has been introduced, which has enabled the company to enlarge their output and meet the ever-increasing demands of their rapidly growing business.

About one hundred and ten men are employed in the various departments turning out team and driving harness, moccasins, larrigans, shoe packs, boots and shoes, lacing leather, etc., a speciality being made of lumbermen's heavy

where hides and surplus stock are stored. In the near future the factories will all be lighted by electricity, as the company intend installing a plant for this purpose.

The accompanying cut gives an illustration of the company's works, which are situated at Middle Sackville, about one and a half miles from Lower Sackville, N.B. The officers of the company are: H. A. Powell, K.C., president; F. McDougall, treasurer; John M. Baird, secretary. There is no man better and more favorably known to the trade than Col. Baird, who has been connected with the business for the past eighteen years. His genial personality and businesslike method of treating patrons has made him many friends.

At the recent exhibition in Halifax the display made by this firm elicited much favorable comment. It was the largest display of its kind ever made in the Maritime Provinces, and be-

5th. Secure steam pipes clear of combustible material by metal or asbestos, keep pipes clean, use especial care to keep steam coil and interior of hot blast fan clean, as also steam pipes in dry rooms and hot or caul boxes.

6th. Use steam heat instead of stoves.

7th. Use electricity or metal kerosene lamps for lighting; no open lights or glass kerosene lamps.

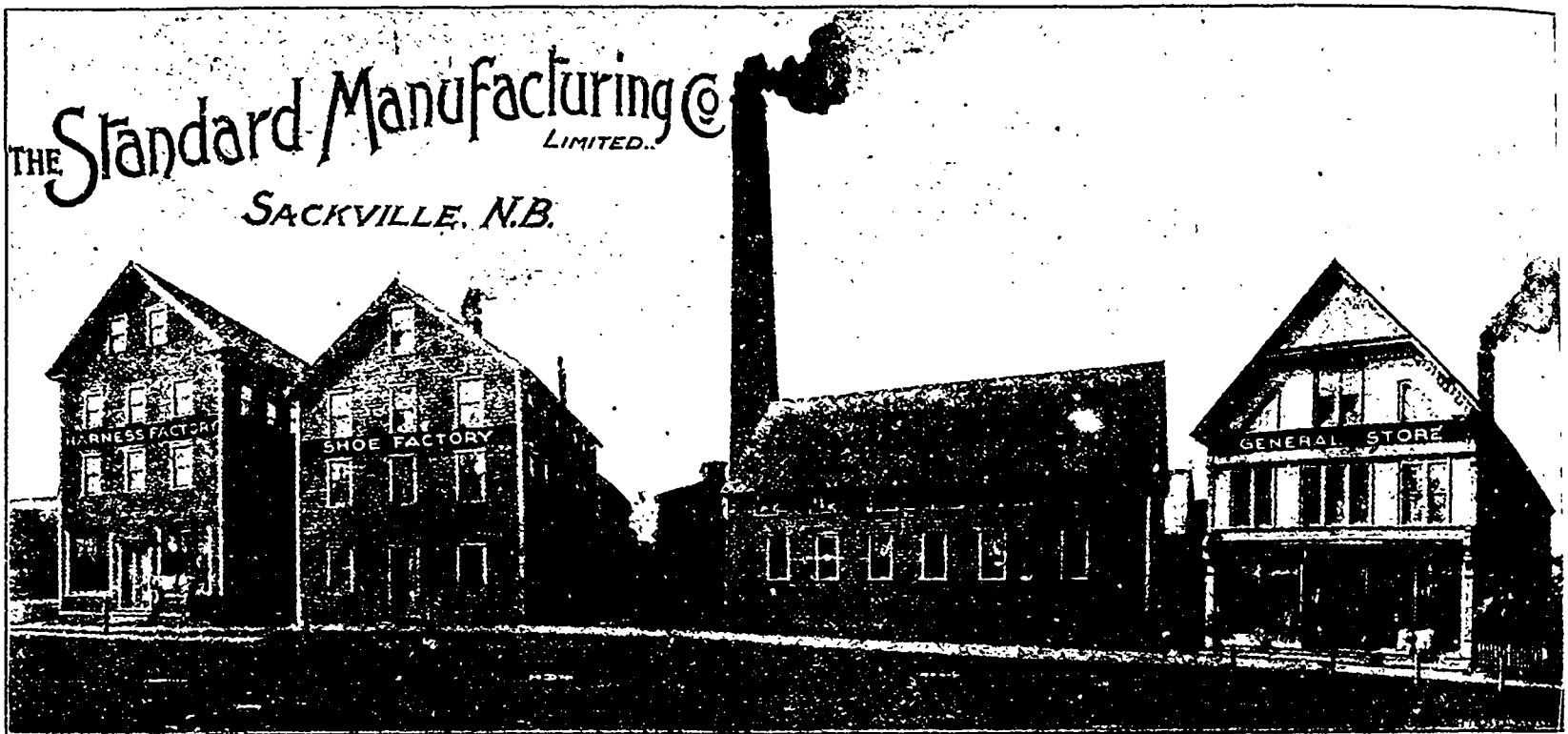
8th. Keep oil in clean place and in cabinets.

9th. Keep clean waste locked up and oily waste burnt.

10th. Cut woodwork away from iron boiler stack one-half the diameter of the stack, or protect woodwork by a jacket around stack, extending from boiler room through roof. Make proper arrangements to remove danger from sparks.

11th. Post signs prohibiting smoking, and enforce them.

12th. Put in fire pails, one to every 400 sq. foot of floor surface. Keep filled with brine, put all fire appliances in charge of one man, make



team harness and hand-made boots and shoes. Practically all the stock used is manufactured in the tannery.

In the harness factory, which is the largest in the Maritime Provinces, the value of the output is about \$5,000 per month. Thirty-six men are employed, and two of the latest improved Campbell Bosworth machine stitchers (the only ones east of Montreal), are in use.

The larrigan factory employs from thirty to forty men. It is claimed to be the oldest factory of its kind in Canada, and the quality of the stock is recognized by conservative buyers as the best.

The boot and shoe department is under the direction of an experienced foreman and cutter, the leading lines produced including lumbering and fishing hand-made boots and other coarse stock.

The plant consists of twenty-seven buildings in all, and in addition the company also operate a general store, employing five clerks and doing a large general business, besides supplying their own hands. There are two large warehouses

sides gaining many prizes for the company, it also resulted in largely increased sales.

PROFITABLE PREVENTION.

A card is being distributed through the lumber districts of the east, which is full of good suggestions. It contains the following:

HINTS TO LUMBER MANUFACTURERS AND WOOD-WORKERS.

1st. Thoroughly coat interior of mill and also wood-work exposed to sparks with white-wash or one of gypsum compounds. The latter are more adhesive and permanent, viz.: Alabastine, Muresco, Indurine, Magnite, etc.

2d. Maintain 200 feet clear space between any open refuse burners and mills or lumber.

3d. Make shutes and conveyors perfect, sides, tops and bottom, so as to remove all refuse. Have all blower pipes of metal and have a cyclone dust separator.

4th. Have operatives clean bearings of their machines daily and touch bearings at end of each run, and have oiler do the same to the other bearings, fans, etc.

him responsible for them and their condition.

13th. Keep boiler hearth clean and wet down at all times.

14th. Warn firemen to be careful no to fill fire-box too full and cause back draft.

15th. Close up unused holes in the floors, box up belt holes.

16th. Protect all woodwork beneath and around emery machines with metal.

17th. Have watchman, if any, report by watch-clock. When mill shuts down, noon or night, have a man make a trip over it and see that everything is O.K. At night, if there is no watchman, have a man make a trip over plant about two or three hours after mill shuts down.

18th. Clean up and remove all refuse at end of each day, clean up thoroughly every Saturday, clean ceilings and beams once a month.

19th. Don't leave mill alone during the noon hour. If it is possible allow one man to go to his dinner earlier or carry his dinner.

20th. Keep combustible material away from boiler setting.

21st. Arrange plant to close up and lock up and keep it so when not in operation.

All these points have a direct bearing on the final rates promulgated by the local Underwriters Boards, and in proportion as they are observed tend to lessen the rate.

THE MCFARLANE-NEILL MANUFACTURING COMPANY.

Among the leading manufacturers of cant dogs is the McFarlane-Neill Manufacturing Company, Limited, with headquarters at St. Mary's, York County, New Brunswick. We give herewith an illustration of their new factory, which is conveniently and beautifully situated overlooking the St. John river. This concern was originally established in the year 1885, by the late Walter McFarlane, who was then engaged in the manufacture of hames. In a short time Mr. McFarlane added a new branch and began the manufacture of cant dogs, he being the sole inventor of the solid forged steel socket made in one piece. After his death in 1898 the business was carried on by Mrs. McFarlane for two years. In 1891 the important interests were incorporated under the present title, with a paid-up capital of \$100,000, thus making it one of the most extensive concerns of its kind in the Dominion. The officers of the company are: President, James S. Neill; Vice-President, Mrs. Jane McFarlane; General Manager, M. A. Tweeddale; Directors, E. Bryon Winslow and F. J. Morrison.

The high standing of the company is well known,

TO FIND THE LENGTH OF BELT REQUIRED.

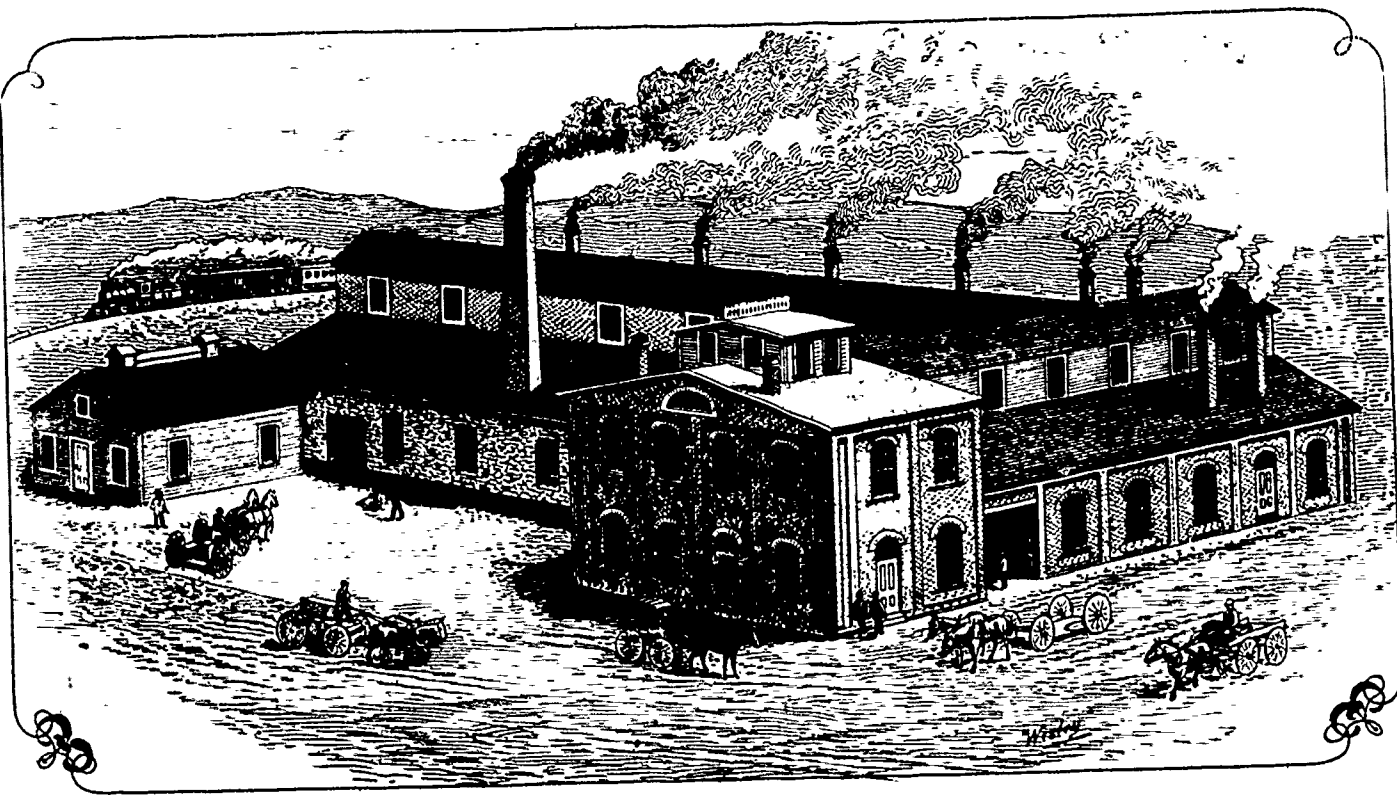
In a recent Wood-Worker an enquirer asked several questions concerning the duties of a millwright. One of them was, how to find the proper length of a belt after the distance around the pulleys is known. If the pulleys are up the simplest way is to take a tape line and put it around the pulleys the same as you would the belt; whatever the tape reads that length your belt should be.

If you can not do this there is a simple rule to go by (for a straight belt). Suppose the distances between the centres of two shafts is 14 feet, the diameter of one pulley 8 feet and the other 4 feet, and the thickness of the belt $\frac{1}{4}$ -inch. Then half the circumference of the 8-foot pulley is 12.5664 feet and half the circumference of the 4-foot pulley is 6.2834. Three times the thickness of the belt is $\frac{3}{4}$ -inch or .0625 feet. Then 28 plus 12.5664 plus 6.2834 plus .0625 equals 46.9103, or 46 feet and 10 $\frac{15}{16}$ inches is the length of your belt. Therefore, the rule for a straight belt is this: To twice the distance between the two centres add half the circumference of each pulley, with three times the thickness of the belt.

To find the length of a cross belt the rule is more complex. First, the distance from the center of each pulley to the center of the point where they will cross

If a horizontal line be drawn through the center of each pulley, extending from one to the other, and a perpendicular line also drawn through the same points, intersecting it at right angles, there will be two right-angled triangles formed, the base of one being 9 feet 4 inches, with a perpendicular equal to the radius of the 8-foot pulley, or 4 feet, while the other base will be equal to 4 feet 8 inches, with a perpendicular equal to the radius of the 4-foot pulley, or 2 feet, the belt in each case representing the hypotenuse; and as the square root of the sum of the squares of the base and the perpendicular of any right-angled triangle equals the hypotenuse, it is evident that the hypotenuse of these two figures must represent the length of belt between these two parts.

The operation perhaps will be more simple and easier understood if the whole be reduced to inches. Then 112 times 112 equals 12,544 inches, and 48 times 48 equals 2,304 inches, being the square of the base and perpendicular in inches. Then 12,544 plus 2,304 equals 14,848, the square root of which is 121.85 inches. With the other proceed in like manner: 56 times 56 equals 3,136, and 24 times 24 equals 576, and 3,136 plus 576 equals 3,712, the square root of which



FACTORY OF THE MCFARLANE-NEILL MANUFACTURING CO., ST. MARY'S, N.B.

and its officers and directors possess a thorough knowledge of the trade, while personal reputation is a guarantee that all business transactions with them will be mutually satisfactory.

The McFarlane-Neill Manufacturing Company are the sole manufacturers of the McFarlane forged steel socket cant dogs, and control the patent for Canada. All the handles are carefully selected from split rock maple. The company consume in one year over three hundred cars of lumber. This lumber is all air dried after being manufactured into handles, and they carry a stock of from 30,000 to 40,000 from year to year. These handles are manufactured in thirty-six different varieties, ranging in length from two to six feet. In addition to this special branch, the firm manufacture single and double Harpoon hay forks, hay carriers, slings, hay pulleys, floor hooks, pole irons, grapples and all kinds of drop forgings. They recently added a tackle block plant for the manufacture of ship blocks and all kinds of tackle. They have also a first-class electric light plant which permits of operations being carried on night and day. The factory is built of brick and thoroughly piped, and is supplied by water which is carried a distance of one mile through a three-inch pipe from an artesian well having an elevation of 150 feet, of which there is a never-failing supply of water. This company do an extensive trade and ship in car lots to the upper provinces, and as far west as British Columbia.

must be obtained. If both pulleys should happen to be the same diameter, the cross will occur exactly in the center of the space between them. If not, then that point will be in proportion to their respective diameters and may be found by the following rule: Divide the diameter of the larger pulley by that of the smaller and add 1 to the quotient. This will represent the number of parts into which the distance between the centres is supposed to be divided. Then as the whole number of parts taken by the larger pulley, so is the whole distance between the centres to the point where the cross will occur. Example: A pulley 8 feet diameter is to drive one of 4 feet with a cross belt $\frac{1}{4}$ -inch thick, the distance between the centres being 14 feet. Required, the distance to the point where they will cross and the whole length of the belt.

First find the point where they will cross by the foregoing rule: 8 divided by 4 equals 2, plus 1 equals 3. This represents that the 14 feet are supposed to be divided into three parts, and as the diameter of the same pulley is contained in that of the larger one twice, it shows that two parts of the three must be taken by it—3 is to 2 as 14 is to 9 feet 4 inches. Now, as the whole distance is 14 feet and the larger pulley requires 9 feet 4 inches, the distance from this point to the smaller pulley is 4 feet 8 inches, so that the distance from the center of the large pulley to the point where the belt will cross is 9 feet 4 inches, while the other from the same point will be 4 feet 8 inches.

is 60.92 inches. Now if each of these sums is doubled and half the circumference of each pulley with three times the thickness of the belt be added together, their sum will be equal to the whole length of belt required in inches, which, when reduced to feet, will be found to equal 48 feet $1\frac{1}{2}$ inches.

The timbers of the Phillipine Islands are going to be tested by the United States Bureau of Forestry, it being the intention to establish a testing laboratory at Manila as soon as possible. It is especially desired to test the various processes for the preservation of timber against decay and the attack of insects.

A device for holding down short stuff on the table while using a self-feed saw will be interesting to those who have to rip very short pieces and want to do the work on this kind of a saw. Instead of the usual spring for a hold-down, put in its place a block of 4 x 6, fastened to the feed wheel frame and rounded off in front like a sleigh runner. Raise the table clear of the saw and start it (the saw) running, then lower the table so the saw cuts its way into the block and until the block touches the table. Adjust the feed wheel frame to the right height for the stock being worked, with the block $\frac{1}{2}$ inch lower down than the feed wheel. This makes a hold-down from which no block, however short, can get away.

STAVE MAKING BY THE VENEER PROCESS.

"C. J. A." in the National Coopers' Journal

As this process is a radical change from the old method, and as it is one of the hardest things to get a man out of an old rut, the adopting of the veneer process has met with little encouragement. The man who has succeeded in producing a stave by this process has fenced in his plant and put up "No admittance" signs, thinking he has a valuable thing and cannot afford to take the public into his confidence, and this reticence has made the process slow in developing. Manufacturers hesitated to make the necessary investment for want of information. The veneer machine builders, however, are getting the information needed, and to-day there is no line of wood-working so simple as veneer cutting. It is only required in order to make staves with a veneer machine that one be a stave man. He must first know what constitutes a stave when made, and the veneer machine will do the work. It is so simple in operating that any man who has ordinary knowledge of machine operating can run it. This is the reason, I suppose, that so little is said in the trade journals on the subject—there is so little that can be said.

What suggested to me the idea of making staves with a veneer machine, and the results of my experimenting is the object of this article—not to attempt to enlighten the stave maker, as I do not consider I am competent to do this, nor do I want to divulge any trade secrets or be known as a fellow who tells all he knows. This subject is coming to the front, however, which makes this article at least timely. The scarcity of timber necessitates a more economical process of manufacture. The increased use of sacks requires radical changes in the manufacture of staves to regain the lost prestige once enjoyed by the stave makers. For the reasons here mentioned, I hope to be justified, and my efforts, by those interested, approved.

It is only by an interchange of ideas that we advance. As an illustration of the truthfulness of this statement, I recall a conversation I had with a bright mechanic I had in my employ some ten years ago. I suggested that he subscribe for one of the trade journals, which he did, and he informed me last year that the knowledge he had obtained from reading that

journal had enabled him to secure an increase in salary of over \$1,000 per year without any solicitations on his part. The knowledge he had obtained from the journal had been made use of to his employer's advantage, and the recognition of his services rewarded followed accordingly and naturally.

I desire to say, while on this subject, to the men employed in stave and heading factories, that the columns of the Journal are open to you, and if you will only use them when you are in trouble, some fellow who has had your experience and succeeded will gladly tell you through this medium how to solve the problem, and all readers be benefited thereby. Don't "hide your light under a bushel," but let your experience be known and thereby help your co-worker and benefit yourself and your employer by advancing the store of knowledge that cannot be obtained from books. The National Coopers' Journal is the only exponent of the cooperage trade, and it is the recognized authority on cooperage matters in all the world. Go to this headquarters when you want to be posted correctly.

Six years ago while operating a rotary veneer machine, cutting cabbage crate laths, $\frac{3}{8} \times 4$, I had some jointed and took them to a first-class cooper, who made up a barrel and pronounced it as good a barrel as he had ever made; but to be sure that the staves would stand up, would not cup in, would not shrink or swell after being made into a barrel, I put this barrel in damp places, also in the sun, and gave it all the tests that I thought a barrel could be ever put to, and found out by these tests that a veneer-cut stave was a better stave, was more uniform in thickness, length and circle, more uniform in width, made a more perfectly round barrel, than it was possible to obtain from staves made by the old process, and I purchased a veneer machine, designed especially for cutting staves.

I commenced the manufacture of veneer-cut staves. I found from my former experiments that a uniform width stave would not do, and ordered the new machine equipped to cut the staves in widths from $3\frac{1}{2}$ to $5\frac{1}{2}$ inches, which made a stave 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$ and 5 inches when jointed. These staves matched up 8 inches for two in the bales, and held out in working up and were a perfect success.

In the manufacture of veneer staves, the

timber is either cut to length in the woods or cut from log by drag saw into lengths desired. From the drag saw the timber goes direct to the boiling vats. I first tried steam boxes, but soon found it was impossible to build a wooden box tight enough to force the steam through the timber easier than through the box. At one time the timber was frozen when out in the box, and when cutting the outside and ends of the block were fairly steamed, but the heart showed ice still in the timber. I then built boiling vats out of 2×4 , dressed both sides and spiked together; dug a hole in the ground 7 feet deep, 14 feet wide and 49 feet long; filled it half full of water, and boiled the timber. This ended the experimenting in the heating of the timber. Since then I have made the vats out of concrete, which is very little more expensive and last indefinitely. Above the vats I placed a hoist, using skidding tongs to grab the blocks and hoist from the vats. The hoist was on a car, supported on a T-rail track leading to the veneer machine, where the block is lowered and peeled—the bark falling off easily. Care must be used in boiling the timber. Cottonwood and elm will not stand as much boiling as gum, sycamore and maple. It makes the ends of the blocks too soft. The chucks turn in the block, besides it makes a rough surface to the stave. I have found that when the bark comes off easily the timber is generally steamed enough. Boiling the timber insures uniformity, while steaming makes the upper layer of blocks softer than the bottom, and requires continually changing of the pressure bars on the machine. The block is hoisted and swung into the veneer

P. PAYETTE & CO.

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

HEWITANGU NEENE, ONT.

THE ELECTRIC BOILER COMPOUND CO. LIMITED

Guelph, - Ontario.

Manufacturers of...

WALKER'S ELECTRIC BOILER COMPOUND

and Sole Agents for Canada of the Brooks Oil Company, Cleveland

We have made a special and scientific study of the waters and conditions existing in the different localities in Ontario, and can cope with conditions existing anywhere. We don't care how hard or troublesome your scale is, we can clean your boilers without injury to boiler, packings or connections. BROOK'S OILS are perfect lubricants—give them a trial. Note the address—

The Electric Boiler Compound Co., Limited, Guelph, Ont.

To Purchasing Agents:

Corner 22nd and Centre Avenue,

CHICAGO, October 12th, 1901.

GENTLEMEN:

Preparatory to increasing our manufacturing interests at Vicksburg, Miss., we have decided to close out and wind up a number of our scattered yards in Mississippi and Arkansas. The stock consists of several million feet of all kinds of Hardwood Lumber, Yellow Pine and Cypress, well seasoned and in good condition for immediate use. We propose to put a price on the above named material that will move it, and make a grade that will be an inducement to the purchaser.

Owing to the rapid wholesale manner in which we move and handle lumber we do not consider it practicable to issue a stock sheet or make standing quotations, for which reason we solicit your inquiries for any material that you are in the market to buy or will use in the future, and if you will take the time to furnish us the above information, we will make you some interesting quotations.

Respectfully yours,

GEO. T. HOUSTON & CO.

machine by a windlass or crab on a swinging crane, and the chucks are driven into the ends of the block by a friction dogging attachment handled by the operator of the machine. The block revolves, and the knife and back roller approach the block by means of a right and left-hand screw, which regulates the thickness of the cut. This thickness is obtained by gears very similar to an iron lathe. In the back roller is inserted knives laying lengthwise of roller, which extend outside the diameter of the roller the thickness the stave is to be cut. As the block turns around these knives cut into the surface of the block, cutting the staves to random widths before they are cut to thickness. Above the knives, and at a distance apart to cut the desired length of the stave, are placed at both ends a spur knife that enters the block and cuts the stave to length by trimming off all surplus stock outside length of the stave. The timber passes through the space between the edge of the knife and the pressure bar, and drops into the conveyor and is carried to stackers. The pressure bar is a very im-

portant part of the machine, as the amount of pressure regulates the solidity of the staves, and indifference to its importance has caused some people to fall down on the veneer stave, which must be cut solid to maintain the circle and keep the stave from cupping in. This could not be shown except by a sketch showing the proper angle to knife and the height above the edge of knife. This information is furnished by the makers of the machines, which an operator must observe, as the bars wear fast; and this point must be maintained at all times by grinding the bar as often as the knife is ground.

By this process staves can be cut to any length and thickness. In the shorter lengths, such as keg staves, two lengths can be cut at one time. I have cut 100,000 17 1/2-inch staves in ten hours. The fact must be considered in this process; small timber is not practical, but for timber 24 inches and up in diameter, more staves can be cut in same time and from less timber than by the old method.

From the veneer machine the staves are

piled, and their handling is the same in every way as by the old process, except that there are no staves to split nor is there any narrow staves, which is a feature appreciated by the cooper, as it enables him to make a much nicer package at no extra labor. The jointing is easier, as the edges are all square, and one clipping always insures a good joint. The whole process is simple. The expense of fitting into bolts is avoided, you get all No. 1 staves from clear timber, and more staves are obtained from same amount of timber.

There was a meeting of the Michigan maple lumber manufacturers in Grand Rapids, Mich., on October 17th, for the purpose of considering ways and means for putting their business on a better basis than it has been for some time past. The result of the meeting was a decision to organize a company with a capital of \$250,000, which will contract for or buy outright the product of the mills. Over 50 per cent. of the necessary capital was subscribed at this meeting. The output of maple lumber represented at this meeting was 107,000,000 feet annually.

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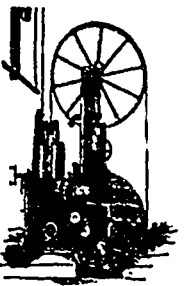
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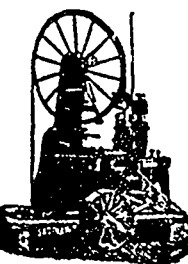
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PULP WOOD—TREATMENT OF THE RAW MATERIAL IN THE LOG AND ITS MEASUREMENT.

BY A CANADIAN PULPMAKER.

CHAPTER II.—FOREST OPERATIONS.

The utilization of other woods referred to in the previous chapter has arisen chiefly from the scarcity of spruce wood, that is in those districts where, by reason of the extensive lumbering operations, the quality of spruce available is small, or costs too much to get to the mill.

There is no doubt that this scarcity can be attributed to the careless and extravagant manner in which the spruce was handled in the forests in the earlier days of pulpmaking. Of course this is not the only reason, but it is easy to show that the absence of any regulations as to the manner and extent of the operations has done much to exhaust the supply of a valuable source of pulpwood.

Of recent years the necessity of stringent and efficient regulations to prevent the utter destruction of trees and timber growth has been recognized both in the States and in Canada. It must not be forgotten that the conditions upon which the timber lands are held by the firms operating them largely determines the nature of these rules for preservation. In cases where the limits are held in fee simple, and are the absolute property of the holders, the observance of any rules is merely a question of self-interest, and the Government can hardly enforce the carrying out of any regulations laid down. But with Crown lands the preservation of the forests, with a view of maintaining a more or less permanent supply of valuable timber, is now becoming a matter of the utmost importance.

An interesting and useful book dealing with this question has been written by Gifford Pinchot, in which the results of tests and observations on lumbering operations carried on in the Adirondacks have been fully recorded, and certain deductions drawn therefrom as to the most profitable method of operating with the object of ensuring perpetual growth of new timber.

The following extract from his book, "The Adirondack Spruce," well defines the true function of forest management:—

"Under the present system the lumberman practically ignores the fact that forest land is productive capital. He speculates in the timber with little regard to the real productive capacity of the land. He cuts not only the mature timber, but the growing trees as well. In other words he removes, not only the accumulated interest of many years, but with it the most productive portion of the capital. If, however, the ripe timber alone is cut, and enough young trees are left to replace it, the growth of the small trees and of those which germinate under the new conditions will be actual added interest. That is to say, that the unproductive portion of the capital has been converted into money to be invested elsewhere, and the forest has been put into such a condition that its power of growth is utilized."

The practical side of the question is not lost sight of, for Mr. Pinchot goes on to show that careful adherence to certain rules not involving any appreciable expense will go far to keep up the supply. A few of these may be mentioned to indicate their general character. In most cases trees fourteen inches and more in diameter are ready to cut. Smaller trees showing signs of decay, and crooked scrubby trees crowding the young growth, should also be removed. Only such trees as are marked by the superintendent of the operations should be cut, and great care should be exercised while felling trees not to injure the young growth. The trees felled should be cut into logs at once, and not allowed to remain lying across young trees, and

any of the latter bent over by felled trees must be released and straightened out. Care should also be taken to prevent fire, and to guard against conditions likely to cause fire in the branches lopped off the trees.

It may be noticed that regulations of this kind, if consistently carried out, would not involve expense, and, therefore, are practical ones.

In the province of Québec, Canada, the general rule laid down for the lumbering operations in spruce and pulp woods is that no tree shall be cut which does not measure 11 inches on the stump. That is, the diameter of the stump left in the ground after the tree has been removed must measure at least 11 inches. This rule has proved a good one so far, although recently considerable latitude has been shown in this measurement, but at the same time the principle of preventing a wholesale removal of small trees likely to reach maturity in a few years is recognized and acted upon.

In the province of Ontario the regulations are not of stringent nature, with the result that the timber limits are cut to such an extent as to seriously endanger the prospect of aftergrowth.

This neglect of suitable precautions applies more particularly to the lumbering operations in pine timber, which are of much older date than those of pulp wood, the latter, indeed, being of very recent origin. It is obvious that any system which allows all the timber on a given area to be cut and removed without any restrictions as to the size of the trees is fatal to the preservation of the forest. In the early days of pine lumbering the wood was so abundant that the trees which did not measure more than about 10 or 11 inches on the stump were passed over and left alone, so that the abundance of large timber served as a protection for the smaller growth.

Considerable loss of merchantable timber and of wood capable of conversion into pulp wood is sometimes occasioned by the method of cutting all trees into logs of a uniform length. As a general rule the trees after cutting are saw into logs of 12, 14, and 16 feet lengths, but some manufacturers ask for one uniform size, and this causes a loss of a certain proportion of the tree.

In Quebec, for example, logs are often, for the purposes of measurement, referred to the Quebec standard log, which is a log 13 feet long and 14 inches in diameter, and consequently the length of 13 feet has been much employed in lumbering operations. Hence, a tree containing 28 feet of really serviceable timber cut to such an arbitrary length would lose two feet of good material for no purpose, beyond mere compliance with an unnecessary rule. For pulpwood in particular any strict regulation as to length is quite uncalled for, seeing the conditions of manufacture do not require it. The ultimate size of the pulpwood for actual manipulation is a length of two feet, and, therefore, it is best to allow the trees to be cut into lengths of 12, 14, or 16 feet, and in this way the whole of the good timber is available.

It is hardly necessary to say that it is possible to utilize much smaller logs for pulpwood than can be taken out for lumber, so that a large part of every spruce tree is suitable for pulp. The upper portion of the tree is of no value, being of small diameter and full of branches, and the usual practice is to cut off the top at a point where the diameter is about four inches, leaving a long piece of timber to be cut up into proper lengths.

A spruce tree, five inches mean diameter, will give a log 18 feet long after the removal of the upper portion. The mean diameter is the average of the top and bottom measurements of the tree. A tree showing six inches at the top end and 12 inches at the lower end would have a mean diameter of 8 inches.

For other trees we have logs as follows:—

A tree 8 inches diameter should measure 36 feet in length.

A tree 10 inches diameter should measure 48 feet in length, while one of 12 inches diameter will go for feet long.

In cutting up these trees it is evident that logs should not be one uniform length, but that they should be cut into logs 12, 14, or 16 feet, according to circumstances.

It is by attention to apparently small matters of the kind hinted at in the above lines that the best results are to be obtained in the operations necessary in the forest for cutting out the pulp wood.

CHAPTER III.—MEASUREMENT.

As with all material which is used for industrial purposes, so in the case of pulp wood the considerations connected with the measurement of the wood after it has been cut down are of great importance. Not only is the buyer or consumer interested as well as the seller and the contractor, but in much of the wood taken out the Government has a direct financial interest. This arises from the fact that a good proportion of the timber cut is obtained from Crown lands, and all wood removed from limits in the possession of the Government is taxed, the purchaser having to pay certain dues on all the timber consumed. In consequence of this direct control of the limits, the rules laid down for the measurement of the wood are somewhat stringent, in order that the full amount of the dues may reach the Government.

In the first place, every contractor taking out wood on lands owned by the Crown is obliged to employ the services of a licensed culler or scaler. No person is allowed to act as a scaler or measurer of logs unless he holds a certificate from the Government, stating that he possesses the proper qualifications and requisite knowledge as to the duties appertaining to such an important office. The penalties attaching to misconduct or fraud on the part of the scaler, and to any attempt to defraud the Crown of dues by wrongful returns of the wood cut, are pretty severe, so that the regulations in respect of the measurement are generally followed closely. Wood rangers or inspectors, acting solely under instructions from the Crown Lands Department, visit the several camps in which timber operations are going on, having all necessary authority to see and examine the returns kept by the scaler. In Canada this control of the operations is fairly complete, not only as regards pulp wood, but also in respect of pine cut for lumber and other woods removed from Crown lands.

With one exception the almost universal rule which obtains for the measurement of logs is that each log as it is cut down is measured at the small end. This exception will be dealt with later. By measuring the small end it should be mentioned that every log is slightly conical in shape, this being due to the natural taper of the tree, and a record of the diameter at this end is made by the scaler. A note is also made as to the length of the log. In all the measurements allowances have to be made for imperfections in the tree, and it is in this respect that the scaler has to exercise his judgment. If a log, for instance, is 16 feet long when cut and appears to be rotten at one end, the scaler may deduct a certain amount from the length according to the apparent extent of the rot. Should he judge that the rot extends two feet into the log then he would record the log as being 14 feet long instead of 16. The diameter is usually taken inside the bark, since the bark itself has no commercial value, and it is therefore only right to deduct the thickness from the actual diameter of the tree. Another method adopted in making allowances for imperfections, or "cullings," as it is generally called, is to reduce the diameter, more particularly in the case of crooked logs, so that a log measuring nine inches at the small end may be culled down to an eight-inch log. It is thus evident that the duty of scaling is a very important one to all parties concerned.

The measurement taken, namely, the diameter at the small end of the log and its length, form the basis of subsequent calculations which give the contents of the whole of the timber cut in terms of certain well-defined units. The exception referred to above is a more complicated method introduced by the Ontario Government in the measurement of pulp wood as follows:

tinguished from saw logs. For logs intended to be sawn into lumber the length and small end diameter are recorded, but in the case of logs cut for pulp wood the diameters at both ends of the logs are recorded as well as the length. The several records taken are used for converting the contents of the logs into the standard units. The unit by which pulp wood is measured differs from that employed in the case of saw logs, although there is a definite relation between them.

Logs intended for lumber are calculated in terms of a "foot board measure." The standard for the pulp wood logs is the "cord." We may now consider the meaning of these terms and the relation between them. A foot board measure is simply the amount of wood contained in a piece of timber or board 1 ft. long, 1 in. thick, and 12 inches wide. Thus, for example, a stick of timber which measures 16 ft. long, 12 in. wide, and 1 in. in thickness contains 16 ft. board measure. If the stick is 3 in. thick it contains 48 ft. board measure.

Hence the following rule obtains for converting any piece of timber into the number of feet board measure: Multiply the length (in feet) by the width (in inches) by the thickness (in inches); divide the result by twelve.

The general formula may be written thus

$$\text{Feet B. M.} = \frac{P \times L \times W \times T}{12}$$

in which P is the number of pieces of timber,
L is the length of one piece in feet,
W is the width in inches,
T is the thickness in inches.

Example:—How many feet, board measure, are contained in 120 pieces of 8 in. x 8 in. timber 24 feet long?

Total feet B. M. is $120 \times 8 \times 8 \times 24 \div 12$ is 15,360 feet.

In this way the contents of any piece of timber can readily be determined in terms of the usual nomenclature, viz., feet board measure.

By the use of special formula the contents of the round log can be similarly expressed, and calculated into the same units. Several such rules and formulae are known, and the results differ somewhat, the number of feet in a log of given dimensions not being alike by the various methods.

One of the most common rules is known as Doyle's

Rule, largely used by contractors and lumbermen in the measurement of logs intended either for lumber or for pulp wood. With large pulp wood logs some contractors prefer to measure the logs by this rule, which they are accustomed to, rather than by a system of calculating the logs into a number of cords.

In the province of Quebec pulp wood is often measured by the contents in feet board measure, and the determination of the number of cords in the quantity so found, arrived at by a simple computation.

The existence of several rules for converting round timber into board measure is of course rather perplexing, and the acceptance of a general formula to be applied in all cases would be a great convenience, but custom and habit are difficulties not easily overcome, and things remain as they are. The Quebec Government has avoided the errors due to any divergence in the results of such formulae by setting out in authorized tables the contents of round logs in feet board measure, the figures having been obtained from observations in saw mills as to the actual lumber sawn from the logs put through the mill. As the tables are compiled from figures which cover a long period, and are based on the practical working of many saw mills, they should be pretty accurate. In considering the Doyle's rule, and any precautions necessary in its application, we may well compare the two systems.

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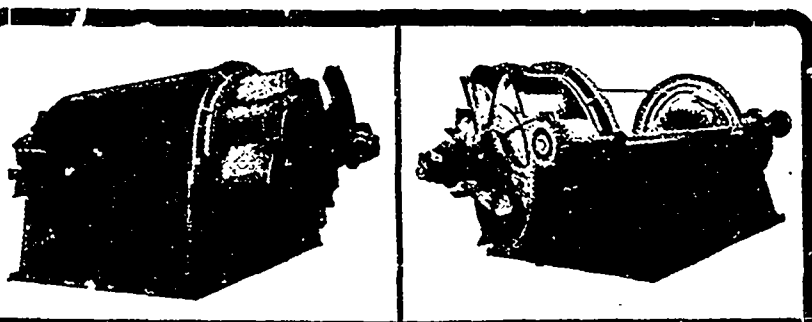
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PULP NOTES.

One hundred and twenty men are now employed in the erection of the new pulp mill at North River, Victoria County, Cape Breton.

Good progress is being made with the new pulp mill being built at Buckingham, Que., by the James McLaren Company, and it is expected that it will be in operation early in the new year.

George Taunt has arrived at Vancouver, B. C., from England, and claims to represent a large syndicate which purposes building a pulp mill at some point in British Columbia.

It is reported that the Chicoutimi Pulp Company, of

Chicoutimi, Que., have arranged to ship 25,000 tons of pulp from Quebec next year, and will enlarge their mills to double their present capacity.

W. Pearson, manufacturing chemist, of London and Paris, recently made a visit to Canada, and speaks most hopefully of the pulp industry of this country. He stated that English capitalists are eagerly watching the results of investments already made in Canadian mills, and if these should prove satisfactory all the capital required will be forthcoming.

Messrs. O. W. Nordin and K. Nordin, of Paris, France, who are understood to represent a wealthy French syndicate, were in Montreal last month making

arrangements for the organization of the Saguenay Colonization Company, with the object of establishing saw and pulp mills in the Saguenay district. These gentlemen spent last winter in exploring the timber limits on which operations are to be conducted.

The Peribonea Pulp Company are now turning out pulp in their new mill at Peribonea, on the Great Peribonea river, in the Province of Quebec. This company was formed in the summer of 1900, with a capital stock of \$50,000, which has since been increased to \$100,000. The president and manager is Thomas De Tremblay. The mill is 120x45 feet, with a wing, and has an average output of 30 tons of pulp per day.

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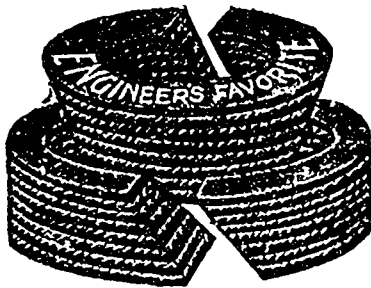
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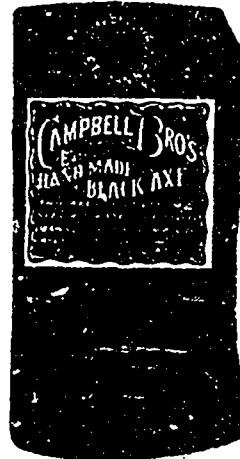
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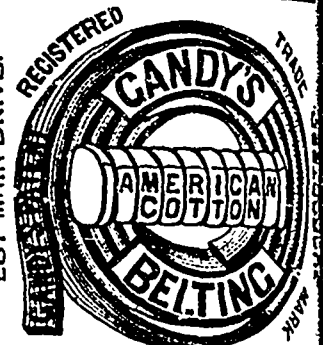
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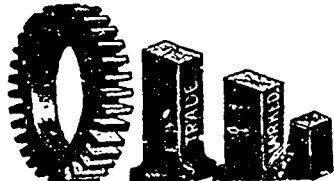
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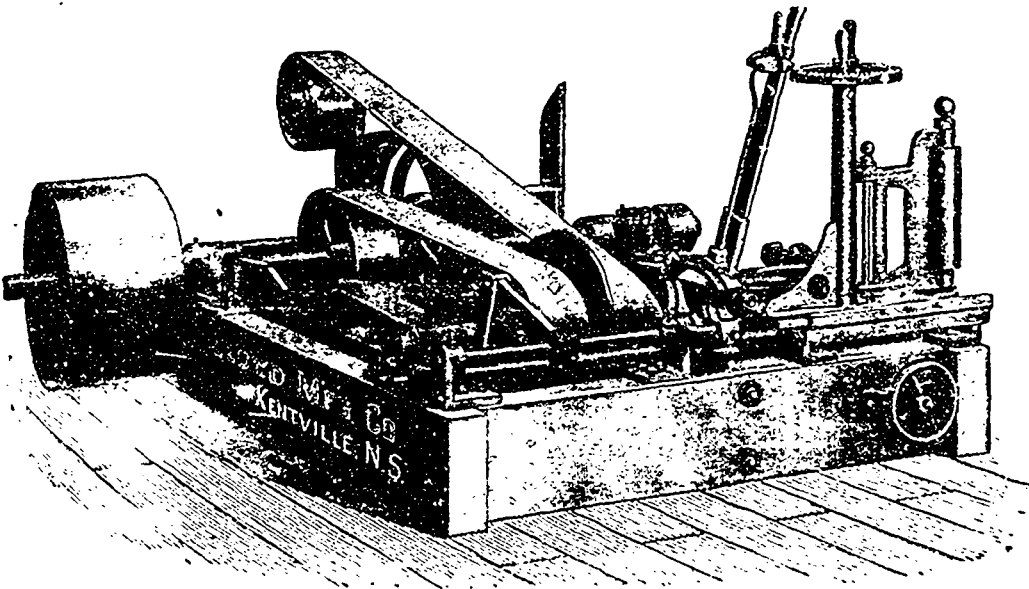
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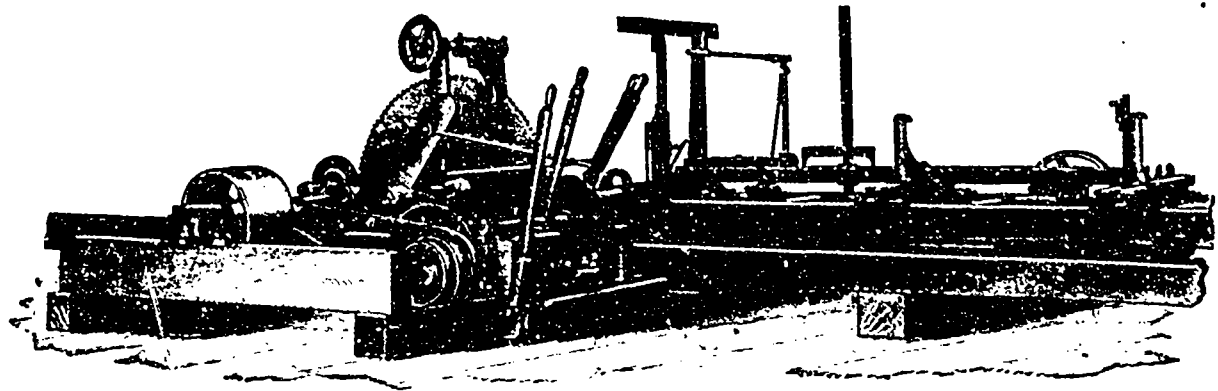
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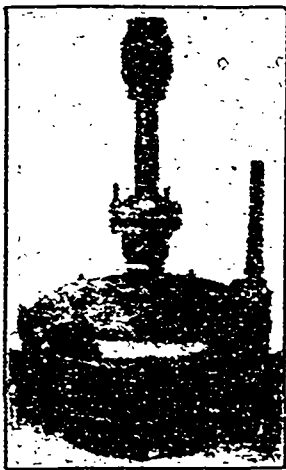


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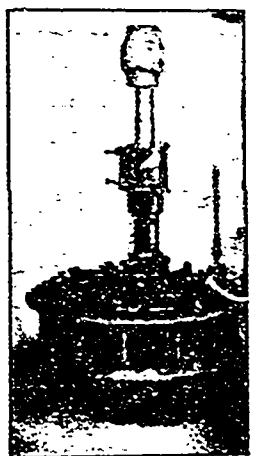
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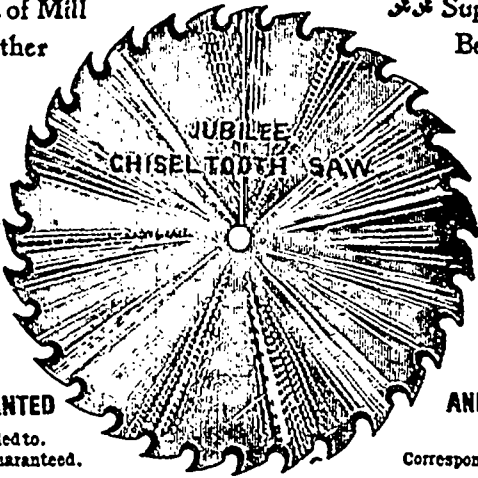


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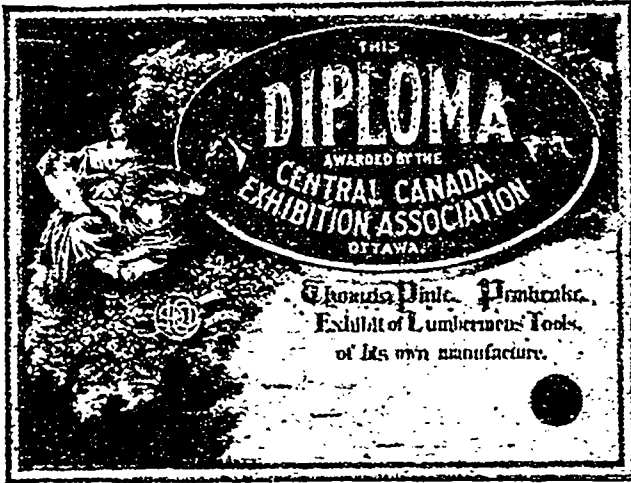
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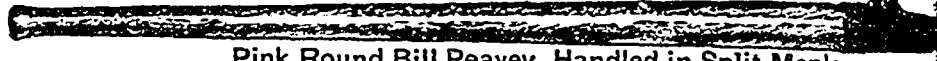
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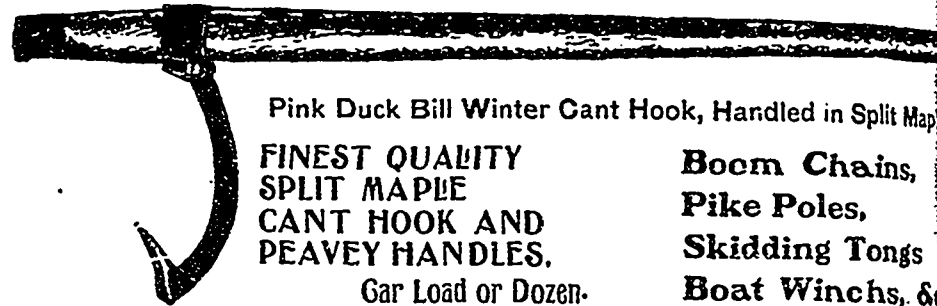
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