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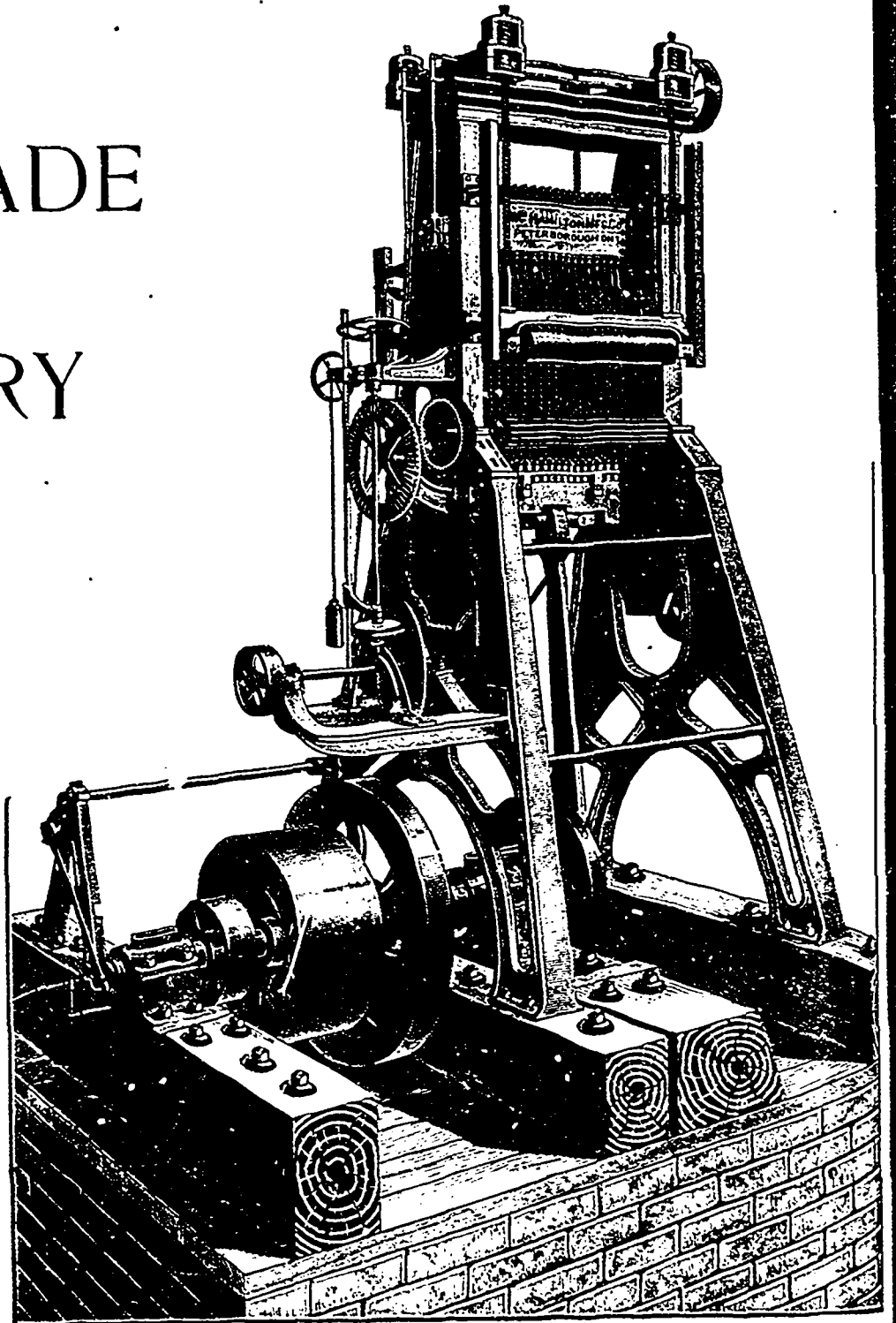
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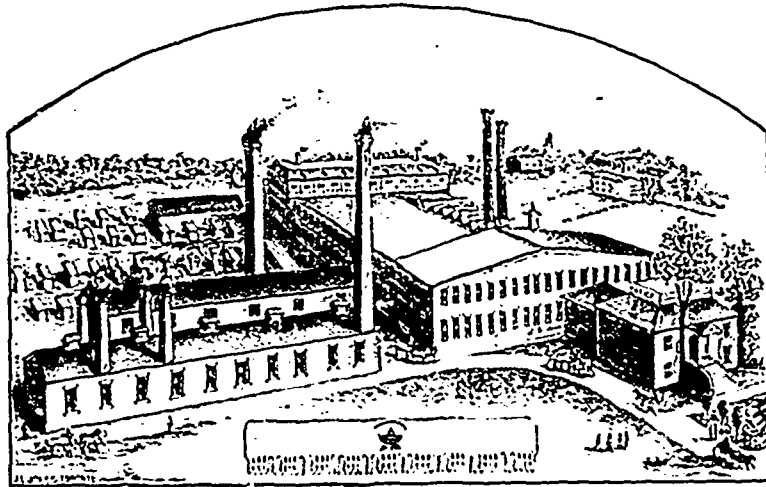


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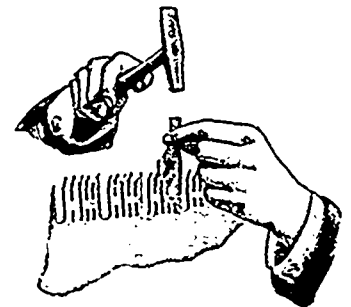
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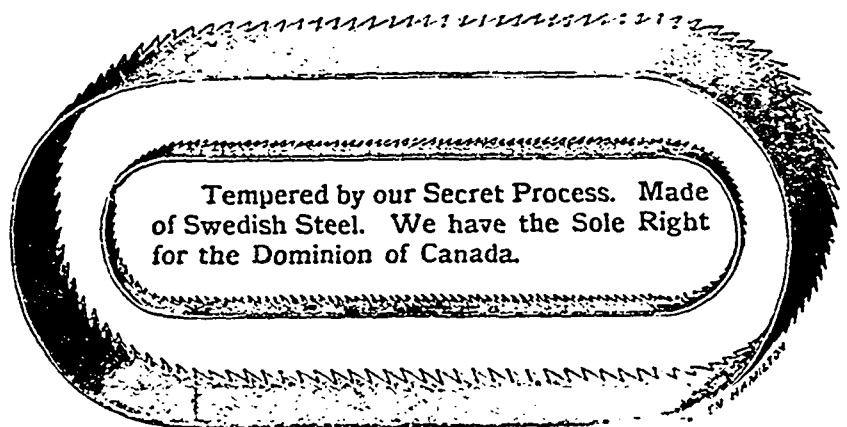
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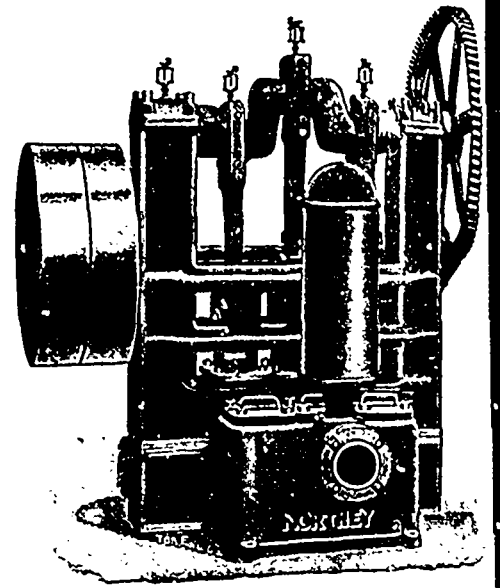
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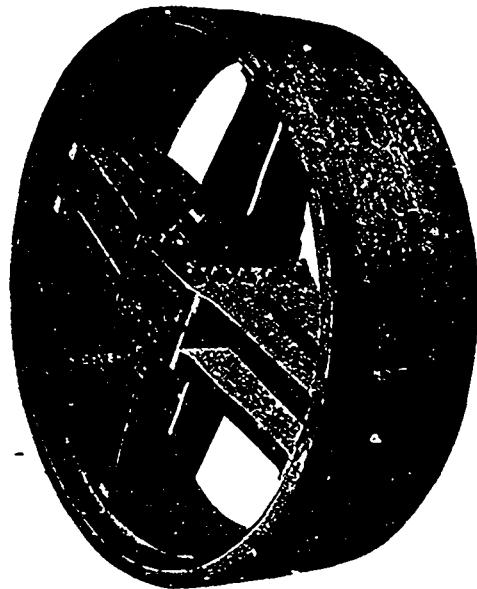
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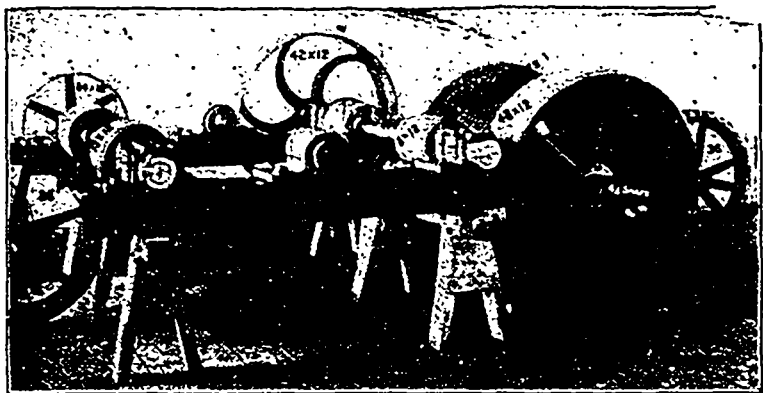
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THE CANADA LUMBERMAN

VOLUME XX.
NUMBER 6.

TORONTO, CANADA, JUNE, 1899

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Single Copies, 10 CENTS.

THE EXPLOITS LUMBER COMPANY.

Canadian capitalists have recently been attracted to Newfoundland as a promising field for investment. One of the foremost companies now engaged in developing the lumbering industry is the Exploits Lumber Company, which controls about eight hundred thousand acres of timber lands situated in the Exploits Valley, through which runs the Exploits river, the largest in Newfoundland. The North-Western Railway also extends nearly the entire length of the valley, and for about fifty miles through the limits of the above company.

The mill of the Exploits Lumber Company is situated at Botwoodville. Recently it has been remodelled and equipped with modern machinery and appurtenances, and is now up-to-date in every respect. The upper or log floor of the mill comprises block gang, rotary and re-saw, lath and shingle machines, edgers, trimmers, steam feed and steam canters. In connection with the mill there is a fully equipped machine shop, the whole being under the superintendence of Mr. John McLean, late of New Brunswick, one of the most expert millwrights of the day.

Live rolls are employed for conveying the lumber to each machine, from which it is carried on surveyors and classers to the particular pile for which it is intended, where it is lifted from the rollers for the first time since leaving the gang saw. The refuse is carried to burner in sluices, through which run endless chains.

It is estimated that the limits of this company contain from one hundred to two hundred and fifty million feet of white pine timber, and an average of forty cords of pulpwood per acre. Their annual cut is about ten million feet, chiefly white pine. The company also control the water powers of Grand and Bishop's Falls, on the main river, where fifty thousand horse power might be developed if required. The facilities for shipping are excellent, as the largest ocean steamers can load at mill wharf in perfect safety in any kind of weather. Shipments are made direct to Great Britain.

Mr. Geo. A. Fowler, manager of the Exploits Lumber Company, may be said to be a lumberman by birth, his father having carried on lumbering operations at Apple River, Cumberland county, Nova Scotia, until the time of his death. For twenty-five years Mr. Fowler, now 47 years of age, has been engaged in the lumbering business. He has spent the past two winters in Newfoundland, and reports that the conditions there are equally as favorable for lumbering as in New Brunswick or Nova Scotia. The average depth of snow is about two feet, and the sledging season lasts about three months.

In the American Monthly Review of Reviews, which publishes a frontispiece portrait of Rear-Admiral Kautz, the Samoan difficulty is reviewed by the editor in the department of "The Progress of the World."

ONTARIO FOREST RESERVE.

The Ontario government is making rapid progress towards the adoption of a complete system of reforestation, having recently set apart an important reserve in Frontenac and Addington counties.

Having caused inquiries to be made from time to time as to the most eligible territory for a reservation in the eastern part of the province, the Commissioner of Crown Lands came to the conclusion that the McLaren limits, now operated by Mr. Isaac Allan, of Mississippi Station, were the most suitable for the purpose. These limits cover parts of the Townships of Abinger, Miller, Barrie, Clarendon, Palmerston, Ashby, Denbigh, Effingham, South Caninto, Olden, North



MR. GEORGE A. FOWLER.
Manager Exploits Lumber Company, Botwoodville, Nfld.

Sherbrooke and Oso, and contain an area of 273¾ miles. The territory is watered by numerous lakes and streams and lies on the head waters of the Mississippi river, a stream of considerable importance flowing into the Ottawa river, and on the head waters of a branch of the Madawaska river. All the available good land has been either sold or located, and the merchantable pine timber has been almost entirely cut away, the pine growth remaining consisting of young trees springing up, which are spread over considerable areas of the territory, and if protected from fires and allowed to attain a fair growth will, it is deemed, become a valuable asset of the province in the not distant future.

Negotiations were opened between Mr. Allan and the department, and ultimately the former agreed to surrender the limits on the following conditions:—

That last year's dues, amounting to \$759.14, and ground rent, amounting to \$828, in all \$1,587.14, shall be waived; that subject to the direction of officers or agents appointed for the purpose by the Commissioner of Crown Lands, he shall be allowed to cut on the territory surrendered for a

period of five years; that he shall not be charged dues on worm-eaten or dead pine cut during this period, and that dues shall not be exacted on hemlock bark where the timber from which the bark is taken is made into logs and sawn into timber; that he shall be permitted to renew his licenses in the ordinary terms for any small areas which, from their situation, may not be included in the reserve.

In regard to the first condition as to remission of ground rent and dues, it will readily be seen that bearing in mind the magnitude of the territory surrendered and the purposes for which it is required the amount of \$1,567.14 is of little consequence. With respect to cutting, under the direction of officers of the Crown Lands Department, the Commissioner of Crown Lands came to the conclusion that having made a considerable outlay in the refitting of his sawmill and expended further sums in the repairing of dams, etc., on the steams, Mr. Allan could not be expected to surrender the territory immediately and remove his plant. As the cutting is to be under the direction of the officers or agents of the department, it can be confined to such trees as might be, from their age or other circumstances, cut and disposed of, and at any rate can be limited to such an extent as not to interfere with the beauty of the landscape or the purposes for which the area has been set aside, and it is only to continue for a period of five years. The concession that Mr. Allan shall not be charged dues on dead and worm-eaten pine is not important. This class of timber has very little merchantable value, and the removal of the tall, bare poles will remove an eyesore from the woods. The amount involved in dues on hemlock bark will not be of great consequence, and where the full duty is exacted on the timber from which the bark is taken the waiving of the dues upon the bark is a concession which might well be made.

UTILIZING STOCK FOR SPECIAL PURPOSES.

Speaking of utilizing different kinds of stock to supply material that is scarce, a writer in the Mississippi Valley Lumberman says: I had an unusual experience the other day. An order for some No. 1 boards, twenty-four inches wide, surfaced one side, was going the rounds without a taker. We took the contract and arranged to have it sawed out of two-inch plank, although the buyer was very particular about having perfect, even width lumber, full thirteen-sixteenths in thickness. The usual way of filling such an order would be to re-saw the plank and then run the stock through the planing mill. This would mainly have produced uneven, wavy lumber. To smooth it down afterwards would have resulted in making it too thin. So we insisted on the plank being first planed on both sides and then run through the re-saw. The result was we had two perfect boards; the rolls having smooth surface to press, kept the saw exactly in the middle.

THE DEVELOPMENT OF WOOD-WORKING MACHINERY.*

By JOHN RICHARDS.

As has been explained, forest sawing, or green sawing, as it is sometimes called, is in Europe a less important process in timber-coverting than it is in the United States. Log sawing is carried no further than the reduction of timber to merchantable shape by removing the surplus wood and waste, so that the balks and deals will be in suitable form for transportation and for re-sawing at the timber yards, where they are reduced to finished dimensions as wanted.

This is, in several respects, a rational way of proceeding, which will, no doubt, be introduced into the Ameri-

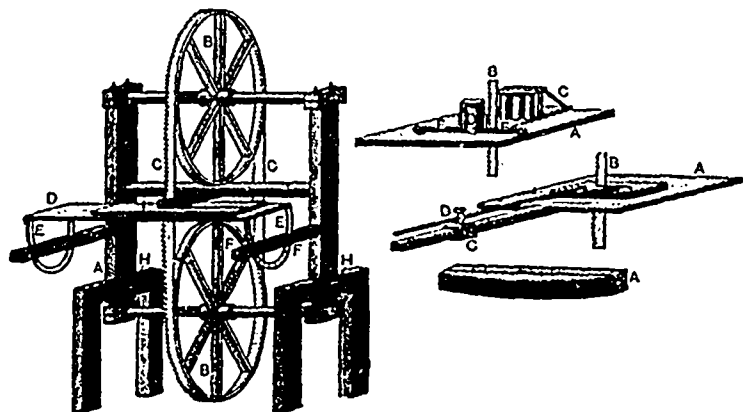


FIG. 1.—THE FIRST BAND-SAW MACHINE.

(Patented by William Newberry in 1808.)

Has tipping table for sawing bevels, and feed roll and radius gauge, showing a complete grasp of the capabilities of the invention.

can continent when timber becomes scarcer and dearer than it is now, and when the market and methods of selling are adjusted to such a system. The advantages are that the timber is not injured in transportation by breakage or exposure, and can be handled at half the cost when proper tackle is employed; there are no grit, dust, and season cracking to contend with, and the re-sawn timber can be furnished to customers bright and clean, and with accurate dimensions. Deals, which seems to be a name for any kind of squared pieces whose section is a parallelogram, form a unit from which two-thirds of common lists can be cut out with but little waste, as is proved by the small amount of debris found about saw mills in European cities.

It is commonly assumed that any sharp wood-cutting implement driven by steam power will displace enough shavings or sawdust to supply fuel for the power consumed, but this depends in a great measure upon circumstances. A coarse or thick saw may do this, but a thin one will not, especially when cutting slowly and accurately; but, setting aside rules, it is obvious that the waste of timber is measurable by the debris of offal in any kind of a wood-working establishment.

It may be remarked here, as a further digression, that furnaces for burning the dry debris from wood-working establishments are usually operated in a wasteful manner by attempting to control the fires, or the amount of steam generated, by the rate at which the fuel is applied to the fires. This is not the best manner, or the most economical one. The furnaces should be kept full of fuel, and the rate of combustion should be regulated by a damper. This dispenses with a great amount of care—not always exercised, however—otherwise required in order to keep a regular supply of steam; it also avoids bare grates—a common means of balancing the spasmodic effort of shovelling light fuel into a furnace under full draught.

A strong draught is required to open up the fires in case of choking, also in burning wet sawdust; but the draught should be continually under control, and its full force should be employed only in emergencies. It is an advantage in burning small debris, such as sawdust and fine shavings, to place on the grates a layer of refractory stone, broken into pieces small enough to prevent the unburned fuel from falling through the grates. These stones become red-hot, and serve to ignite fresh fuel, after the manner of a bed of live coals, and are no impediment to clearing the grates.

The characteristics of European log-sawing machines are, in most cases, massive framing; provision for sawing crooked timber; thin saws and slower feeding; a more

careful support of saw plates of all kinds; and a wide use of machines for dressing saws.

The thickness of a saw is to a great extent determined by its size, or length, and this is governed by the dimensions of the logs to be sawn. The writer, on first visiting timber yards in Northern Europe, could not get rid of the impression that the round timber was all culls or waste. A raft load of logs in the Gotha river in Sweden was thought to consist of telegraph poles. It happened to be a collection of small timber even for there, and a visit to the Pacific coast of North America, soon after, still further emphasized the enormous difference in the timber resources of the two countries. Soon after arriving in San Francisco there was encountered in the street a squared beam of fir more than a hundred feet in length, being hauled to a factory in course of erection. Following this beam to its destination—a woolen factory then being built—it was a matter of astonishment to find all the longitudinal beams, or "stringers," of the same length. This astonishment was increased when the contractor said: "We never bother about dimensions, and just order what we want." A section eight feet in diameter, cut from a redwood tree, completed a new impression of American forest timber.

The care of saws, mentioning as a distinguishing feature of European practice, is a refinement. For twenty years past there has been but little use of files for this purpose. About twenty years ago there were invented and put in use various modifications of machines for sharpening saws, both straight and circular, that saved a good deal in the expense of sharpening; but this was not the chief end attained. The main thing was the truth of the saws, which divided the work equally between the teeth.

It would be difficult to convey in words an idea of the difference in working between a saw that is perfectly round or straight and one that is not. A sawyer knows by the "feel," the moment a saw touches the wood, whether the teeth are true. The sound is different; so also is the result; and even the greatest care in hand-filing will not produce an effect like that of machine-grinding, because the teeth are separately dressed, depending on sight, and require frequent jointing, or grinding off of the points, while the saw is in motion.

The steel thus wasted is commonly a good deal more than that consumed by the wear of cutting, so that half the cost of saws is lost; besides this, hand-filing is commonly done at points of the teeth alone. The gullets, or spaces between the teeth, soon become too shallow to hold the sawdust, and the saws require "gumming"—formerly done by punching out between the teeth, which left the saws with inherent strains and frequently with cracks.

The grinding of saw teeth with emery wheels is no doubt extensively practised everywhere now, but the filing process continues to a great extent where machines would be much better. Such machines, when well made and provided with the required adjustments, cost a good deal, but when the waste of files and of the steel lost in jointing is taken into account, it is seen that the cost of a good machine is soon saved.

So much has been already explained respecting the importance and manner of re-sawing timber in European yards that but little remains to be added, except illustrations of the machines; and even this requires but little in the way of explanation or remark, because the machines in common use are practically of one type—light gang saws adapted to run at high speed.

Such machines are the result of "natural selection,"

free from complication, quickly adjusted, and when a number of cuts or kerfs are three or more with a single machine, or four to six with a double machine, the speed of performance is such as to meet all the requirements of economic and other, that arise in practice.

The gang of saws can be changed from one dimension to another in a few minutes, and when there are several machines available, as is common in the larger timber yards, a list of "stuff" can be cut out as fast as it is measured or wanted and loaded on wagons.

With the equilibrium type of machines having two frames that move oppositely, the speed can be from 100 to 400 strokes per minute, which, with only four teeth, gives a cutting movement of the teeth equal to a thousand feet per minute. Both circular and band saws are employed in re-sawing, but not to a great extent. The evolution of the latter, which has taken twenty years more in the United States under what may be called "high pressure effort," has not proceeded so fast as in Europe, where the timber is more obdurate and experiments are more dreaded.

Why reciprocating re-sawing machines, or deal frames as they are called in England, have not gained a place in American practice is not easy to explain; the probable reason is that, in large cities some timber-yard owner would provide a set of such machines and cut out to order for his customers such sizes as are wanted, the business would be profitable. It would, for one thing, save much expense and waste in planing, as planing would be unnecessary except for surfaces to be painted or varnished.

Prominent among wood-working machines, and first to relieve workmen of heavy drudgery, are the benches—machines consisting essentially of a bench with a circular saw projecting through the top and adaptable to a wide range of purposes.

In these machines, as in most other classes, there is wide divergence between American and European practice, and in the uses to which the machines are applied. Practice or design arises out of uses or adaptation, and this accounts for many differences between the machines, as will be explained further on.

Saw benches in the United States are commonly used for light work, such as cross cutting and ripping boards and planks; but in Europe they are employed for heavy

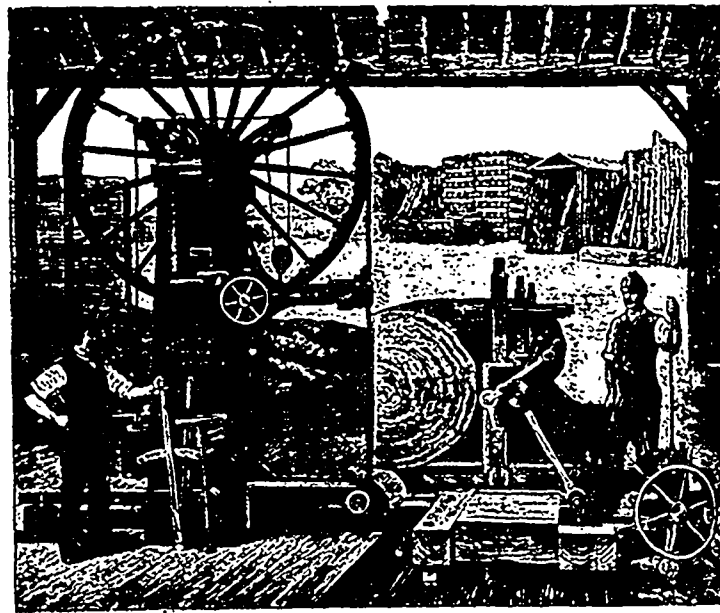


FIG. 2.—LOG BAND SAWING MACHINE.

One of the most complete log band mills built in England, closely modelled after American designs, representing good English and American practice.

work and are provided with saws four, and sometimes five feet in diameter. American saw benches are nearly all for hand-feeding, and in Europe nearly all have some kind of gearing to feed or advance the timber—an indispensable feature for large and heavy pieces, such as round logs up to 18 inches diameter, which are sawn there on benches.

This term saw bench is a flexible one in its application in Europe, and is applied to machines that in America would be called "saw mills;" in fact, the term bench is applied to almost any kind of a machine for operating circular saws. Saw benches are made in a heavy substantial manner, the spindles being large and fitted with gun-metal bearings, and the frames being cast in one piece.

* From Engineering Magazine, London, Eng. Several illustrations included in original article are here omitted.



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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 market quotations from various points throughout the world, so as to afford to the trade in Canada information on which it can rely in its operations.

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

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

PROSPERITY IN THE LUMBER TRADE.

It is frequently difficult to fully understand the influences which cause the tide of commerce to ebb and flow. Changed conditions come about as if they were the result of a commercial undercurrent. Happily, the Dominion of Canada seems now to be entering upon an era of prosperity; money is circulating freely; industrial establishments are operating to their full capacity; labor is in demand everywhere.

The lumber trade, even amid adverse circumstances, has undergone a wonderful change within the past twelve months. In the face of the closing of the United States market, to a portion at least of the Canadian product, by the imposition of the duty, prices have continued to advance, until to-day manufacturers are, for the first time in several years, selling their lumber at a fair margin of profit. Dry stocks are practically cleaned up at the mills, and much of the cut of 1899 has been contracted for in advance.

It is a singular circumstance that this spring buyers from the Eastern States have paid fully three dollars per thousand more for mill culls on the Georgian Bay than during the days of free lumber. Our manufacturers have realized more for their stock, and the dealer or the consumer, probably the latter, has paid the duty.

There is, we believe, a bright future for the lumber trade of Canada. Heretofore we have depended largely upon the United States market, and consequently when there was an over-production of lumber and prices declined in that

market, the result was disastrous to Canadian manufacturers. With a trade wider in its scope, and reaching to all quarters of the globe, this difficulty is not likely to be seriously felt. Business will be more certain, and devoid of the hazard which has always been experienced in catering to the United States trade.

FREIGHT RATES ADVANCED.

As forecasted in our last issue, the Canadian Pacific and Grand Trunk railways have advanced freight rates on lumber. Although at time of writing the new schedule, which is to take effect on June 1st, has not been issued, it is given out authoritatively that the advance will be on the basis of one-half cent. per one hundred pounds from the Ottawa valley, Georgian Bay, Muskoka, Nipissing, St. Clair river and Lake Erie districts.

We can but reiterate our opinion that the policy of the railways is short-sighted. Every action of this character must result in further crippling an industry which has not been sufficiently developed in the past, and which has been productive of the most meagre profits. One-half cent per one hundred pounds is not a large increase, yet on a carload of lumber of 10,000 feet, weighing 30,000 pounds, it means an additional charge of one dollar and fifty cents, which to the small hardwood manufacturer, upon whom the burden will most heavily rest, it is of considerable moment. Many of the pine mills can ship by water, and are thus somewhat independent during the summer months at least, but the hardwood manufacturers must remain in the grip of the railway monopolists.

There is no disguising the fact that the two great railways in Canada have, to all intents and purposes, been given a free hand in the operation of their systems. They are steadily gaining power, and no one knows to what extent their greed will grow if not checked by governmental authority. Even in connection with the building of the Ontario and Rainy River railway, a line which was expected to provide relief for the people of western Canada, recent developments would seem to show that the C.P.R. are interested in the project, and that they may eventually control the road.

The bill, introduced in the Dominion parliament by Mr. Rutherford, to appoint a Board of Railway Commissioners to act in the public interest, is one which past experience proves to be necessary. Until such a measure is passed, the public may expect to remain in the grasp of the railway companies.

THE TREND OF THE LUMBER BUSINESS.

THE CANADA LUMBERMAN has always maintained that the wholesale dealer, or middleman, was a useful and necessary agent in the lumber business. He performs duties and accepts responsibilities which the manufacturer is glad to be relieved of, and for which he is willing to allow a reasonable remuneration. Making the study of the market his special business, the wholesaler is constantly on the watch for new outlets for his goods, to the advantage of the manufacturer as well as himself.

While we believe that the middleman will always be a factor in the trade, we are equally convinced of the fact that the tendency of the

times is towards more direct relations between the producer and the consumer, particularly with respect to trans-Atlantic trade. The present system of marketing Canadian lumber is as follows: The manufacturer sells his product to a shipper on this side of the water. He, in turn, sells to an importing firm in Great Britain, who again sells to the woodworking factories or saw mills, as they are called, some of which consume from ten to fifteen million feet annually. In passing from the manufacturer to the consumer, the commissions of two brokers is charged against the lumber. These commissions must be paid either by the consumer or by the manufacturer. The consumer refuses to pay a higher price than that for which he can obtain equally good lumber from other countries—in other words, the price is regulated by competition. Consequently, it devolves upon the manufacturer to accept a price for his lumber which will permit of the brokers' profits being paid and the stock sold at a price which will compete with the product of other countries. The producer alone suffers, and hence the desire for more direct trade between manufacturer and consumer.

In the British market Canadian lumber meets strong competition from the Norwegian product, which, we understand, is usually handled from producer to consumer by one broker only. He is recognized as a necessity in the trade. The manufacturer has his money invested in the logs and saw mills; when the lumber is cut the broker assumes the financial responsibility until it is delivered to the consumer, perhaps six months hence; the consumer has his capital invested in wood-working plant and facilities for manufacturing the lumber into the finished product. These three agents are potent factors in successfully conducting an export trade in lumber, but when the business passes through a greater number of channels, the profits of the manufacturer must suffer accordingly. It is not contended that the manufacturer must, of necessity, ship his goods through a broker. If he is in a position financially to take the responsibility, there is no reason why he should not ship direct to the consumer, appointing his own representatives in foreign countries to take the place of the broker.

It is vastly in the interest of Canadian manufacturers to become more closely associated with the consumers of their lumber, and to study the requirements of foreign markets. Within the past few years many changes have taken place in the export trade, and it is only reasonable to expect that changes will continue to take place in the future. Lumbermen should visit foreign countries as frequently as possible, and not be content with the meagre information which is furnished by agents and middlemen. It is encouraging to observe the strong disposition evinced by British importers of wood goods to become acquainted with the timber resources of Canada. Many of them have visited this country for that purpose alone, and as a result orders have been placed with our manufacturers. There is a remarkably large consumption in Great Britain of box shooks, a trade which is yet only in its infancy so far as Canada is concerned. In many other lines the outlook is quite as promising, as is evidenced by the numerous enquiries received at this office and by the High Commissioner for

Canada in London. With cheaper freight rates, which are now almost certain, the trade in forest products with European countries is certain to expand.

EDITORIAL NOTES.

The budget speech of Hon. Wm. Fielding, Minister of Finance, gives little encouragement to the lumbermen of Canada that an import duty will be placed on United States lumber. He announces the decision of the government not to disturb the tariff at the present time. These remarks, if taken literally, would settle the question for the time being, but it is possible that action will be taken in one or two instances where it is absolutely necessary, without affecting the tariff as a whole. In any case, the lumbermen should not give up the fight; they have a just cause, and eventually the government will surely accede to their wishes.

The double-acting band mill, although at first regarded by many as an impractical innovation, is undoubtedly one of the most important inventions yet introduced into the sawmilling business. By sawing when moving both forward and backward, the capacity of the mill is increased fully fifty per cent. over the ordinary mill, and with only a slight increase in the number of workmen. He has successfully tested for the first time in the United States only last year, it is encouraging to learn that two of these mills have already been placed in Canadian sawmills, the first in the mill of Mr. J. D. Shier at Bracebridge, and the other in that of the Rat Portage Lumber Company. The telescopic band mill has come to stay, and its merits should be fully investigated by lumbermen when building new mills or increasing their equipment.

Deadman's Island, a part of Stanley park, adjoining the city of Vancouver, B. C., has lately been the scene of exciting incidents. The Dominion government granted a lease of the island to one Ludgate, representing a Chicago syndicate, for the purpose of erecting thereon a huge saw mill. This action, it is said, was approved of by a large majority of the citizens of Vancouver, who were eager to reap the benefits to be derived from such an establishment. By a few influential persons the granting of such a lease was opposed, resulting in the ownership of the island, and hence the right of the Dominion government to control the island, being called into question. There was much doubt as to whether the title was vested in the Imperial, the Dominion, or the provincial governments. On May 17th Mr. Ludgate, with a company of sixty men, commenced cutting timber, but was immediately placed under arrest by the provincial authorities. Some of his men remained on the island and continued to cut timber, whereupon the magistrate read the riot act, adding that unless they dispersed they were liable to be shot down. This warning was effective. Mr. Ludgate has been given his liberty and the matter will likely be fought out in the courts.

The National Hardwood Lumber Association of the United States, at its meeting in Chicago on the 4th ultimo, appointed a committee to devise a plan for organizing an inspection bureau, with a view to securing, as far as possible, the universal adoption of the rules of inspection in all

markets. The plan to be recommended to the association at its forthcoming annual meeting is that the association shall issue a certificate of inspection on hardwood lumber, much as a board of trade issues a certificate of inspection on grain, this certificate to form a basis for sales and contracts, or, in other words, to be a guarantee of the quality of the lumber. A committee of nine shall have charge of the inspection bureau, they to appoint a chief inspector to supervise the work of subordinate inspectors, these latter to be recommended by the organization of hardwood lumbermen in the locality in which they are to operate, or in case there is no association in the locality, then by leading firms who are members of the National Association. The subordinate inspectors are to receive as remuneration a fee from the buyer and seller for the inspection done, said fee to be fixed by the parties interested, and ten per cent. of same to be paid by the inspector to the secretary of the association. Where the inspection is not satisfactory, an appeal may be made to the chief inspector, but in no case can the certificate be altered. The plan as outlined above is no doubt one of some merit, being the product of the brains of practical lumbermen, yet we doubt if it would be found successful in practice. For instance, as we understand the phraseology of the report, a certificate issued by the subordinate inspector must be final, even though he may have favored the buyer or the seller. It would be little satisfaction for the aggrieved party to know that the inspector had been dismissed, while the injury done was allowed to stand. Nevertheless, the movement is along the proper lines, and the efforts of the National Hardwood Lumber Association to secure uniform inspection rules should be encouraged. We would be glad to learn of a similar movement in Canada.

TRADE OPENINGS.

The Ontario Forestry Department has received enquiries from Great Britain regarding the quality of birch timber to be found in Canada. There is said to be a good demand in Great Britain for Canadian birch for furniture manufacture.

At the office of the High Commissioner, London, Eng., the following enquiries have been received: For the names of exporters of birch spool wood from Quebec and the maritime provinces; from a firm of importers of turnery and joinery, for the address of Canadian exporters of basswood broom handles and ash rake and fork handles; from a Spanish house, for names of Canadian timber merchants; for names of exporters of birch cut in squares for making bobbins—in any lengths up to one foot square—other wood, such as oak or beech, might be quoted for instead of birch, so long as there is no bark in it; from a Swedish firm, for Canadians open to export aspen wood for the manufacture of match splints. Large quantities are already imported from Russia.

EXCELSIOR OR WOOD WOOL.—Previous reports have shown, writes Mr. Harrison Watson, that the main and almost insuperable obstacle lies in the necessarily heavy cost of transport, which would have the effect of limiting any trade which Canadians might possibly secure to the more expensive grades, for which, unfortunately, there is a much less demand than for the medium and coarse. Some transactions have resulted between a large importer in the Midlands and a Halifax, N. S., producer. Latterly the position has become rather more unfavourable. Several firms has commenced making excelsior in the United Kingdom, with the result that values have still further declined, and the continental supplies, even with low freights, have been shut out. It is stated that the results of manufacturing the material in Great Britain have not been profitable.

WOODEN SREWERS.—Regarding wooden skewers, it is

learned that the business in Great Britain is practically in the hands of an American corporation, which supplies the trade through resident London houses. Generally speaking, the principal demand is for the ordinary hickory round skewer, and about half the trade is in the 7 inch size. The "Gypsy" skewer used in Canada has not been adopted in Great Britain to any extent, although one or two lots have been sent over. Mr. Harrison Watson, curator of the Canadian section of the Imperial Institute, writes that some small lots of maple skewers from Canada have been well received, but the American hickory skewers practically hold the market. If Canadian makers can compete with the United States in price, there should be no lack of trade. Besides an immense trade in meat skewers, there is a very large number used by cotton manufacturers for holding bales while being hydraulically pressed, and by woollen manufacturers to fasten bags of wool.

PULP.—Mr. H. M. Murray, government agent at Glasgow, Scotland, gives the following as the views of an importer of Canadian pulp: "Canadian sulphite pulp is much in favor with our paper-makers as to quality of fibre, but they claim that sufficient care is not taken in screening to remove chips of bark, shives and other impurities. We believe that there is a great future for Canadian sulphite if manufacturers comply with the wants of the market." Mr. Amstead, manager of the Ely Paper Mills, the largest manufacturer of paper for newspapers in the United Kingdom, states that many mills in Scandinavia have a good reputation for turning out pulp of reliable quality, and this is a factor which will require reckoning in the Canadian calculations. The British paper-makers are somewhat prejudiced against some of the pulps supplied from America, because of the bad packing. They do not ship the stuff in good condition, and although some mills may think little of it, the bulk of the makers pass it by on this account.

In the last report of the High Commissioner of Canada to the Department of Trade and Commerce at Ottawa, particulars are given regarding wood-flour, for which there is a demand in Great Britain. It appears that wood-flour is used to some extent as an absorbent for nitro-glycerine in the manufacture of various explosives, and a finer grade is also required for the manufacture of a certain kind of linoleum. The manager of a large house engaged in the explosive business estimates the consumption of wood-flour in this trade at about 700 tons per annum. The wood-flour must be made from white wood, free from resin and impurities, special care being taken that no nails or other scraps of metal are present in it. The moisture must not exceed 5 per cent. The wood-flour must be ground to such a degree that it will pass through a sieve of fifty meshes to the lineal inch, but not more than one-third through one of one hundred meshes. The price paid is from £4 3s 10d to £4 10s per ton of 2240 lbs. at factory. Stout canvas bags containing about 200 weight each are used for packing. The High Commissioner has forwarded samples to the Department at Ottawa.

BOX WOOD.—The High Commissioner has also been making enquiries regarding the prospect of importing box wood from Canada. In reply to an enquiry, Messrs. Bryce, Junor & White, of 32 Bassinghall street, London, E.C., write: "There is, we understand, a very considerable trade done in box pieces in this country, but we have always found that the Canadians cannot deliver cheaply enough to compete with Scandinavian goods. Stock should be white Canadian hardwood, 3/8 inch thick, 3/4 inch ends, ready cut to make up cases measuring inside 24 x 18 x 13, the wood to be similar to that used by the Quaker Oat Co." Messrs. Baker & James, 164 Corporation street, write that their single trade is box boards, which they are always open to buy, and subject, of course, to the price and quality, they could place sufficient trade to keep a number of saws going. With regard to the demand for tin-plate shooks, i.e., boxes in which tin-plates are packed, a firm writes that the chief tin-plate districts are Llanelli, Morrison, Neath, Port Talbot and Britain Ferry. It is probable that the pieces suitable for making boxes for packing tin-plates, measuring 14 x 10, 14 x 8 1/2, 14 x 20, 14 x 19 1/2 and 10 x 20, might be imported cut already for nailing together, but for a very large proportion of the trade boxes could not be made economically out of such pieces. Another correspondent writes that he is informed that the boxes are all made at the tin-plate works, the best of elm, and the second quality of birch. He believes that a trade might be done if the bottom, top and sides were cut in sizes and sent over in packages.

DOMINION TIMBER LANDS.

The annual report of the Department of Interior of the Dominion of Canada states that the timber dues collected during the year 1898 amounted to \$1,197,699.03, being an increase of \$50,274.85 as compared with the previous year. Of this amount, \$21,081.26 was for bonuses, ground rents, royalties and dues on timber cut from lands in the railway belt in the province of British Columbia. The total revenue received from timber in Manitoba, the North-West Territories, and the Yukon territory, up to July 1st, 1898, was \$1,569,893.17, and the total revenue from timber within the railway belt of British Columbia up to same date, \$326,086.19. During the year 39,096,407 feet B.M. of lumber were manufactured from timber cut under licence in Manitoba, the North-West Territories, and in the railway belt in British Columbia.

The Crown Timber Agent at Winnipeg gives the following information in regard to the quantity of lumber disposed of in Manitoba and as far west as Regina :

	1897 Feet.	1898 Feet.
Red and white pine from the Lake of the Woods manufactured principally from logs brought from the State of Minnesota.	4,000,000	5,000,000
Red and white pine from forests lying east of Rat Portage, all cut from Canadian logs.	10,500,000	13,000,000
United States pine (manufactured) imported from the State of Minnesota.	14,271,114	14,711,760
Canadian spruce manufactured from timber cut in Manitoba.	14,241,724	15,277,041
British Columbia products.	6,600,000	7,000,000
Total	97,513,013	126,019,001

Following is a comparative statement of the average price of lumber within the several Crown timber agencies during the past fourteen years :

Agency.	1885 Per M.	1891 Per M.	1896 Per M.	1898 Per M.
Winnipeg	\$13.50 to \$25	\$17	\$22 to \$5	\$22 to \$5.50
Brandon	7 10 2	15	15	23 to 16.00
Whitecourt	12 10 12	10	10 10	10 10 12.00
Calgary	7 5 10 20	10 10	10 10	10 10 10.00
Fort McLeod	7 5 10 20	10 10	10 10	10 10 10.00
Leithbridge	7 5 10 20	10 10	10 10	10 10 10.00
Prince Albert	7 5 10 20	10 10	10 10	10 10 10.00
Edmonton	7 5 10 20	10 10	10 10	10 10 10.00
British Columbia	7 5 10 20	10 10	10 10	10 10 10.00

The number of timber berths granted in the province of Manitoba and the territories is 306, and within the railway belt in British Columbia 166. Fifty-one berths have been granted in the Yukon territory, covering a total area of 20 1/2 sq. miles.

The report states that it has been decided not to issue permits to cut timber on Dominion lands along the eastern slope of the Rocky Mountains and the foothill country adjacent thereto south of Bow river, and to preserve the timber as far as possible from being destroyed, with the view of securing a permanent supply of water for irrigation purposes.

Mr. E. F. Stephenson, Crown Timber Agent at Winnipeg, in a report to the Department, gives the following statement of importations of lumber from the United States since that commodity was placed on the free list :

	Dressed.	Undressed.
October 31st, 1893	186,366	1,171,747
- " 1894	647,388	3,073,195
- " 1895	1,108,268	5,668,250
- " 1896	2,103,877	9,853,883
- " 1897	1,913,852	14,257,272
- " 1898	4,219,438	31,537,572

MARINE INSURANCE RATES.

RELEASED, May 15th, 1899.

FROM CANADA LUMBERMAN, TORONTO:

DEAR SIR, Referring to your article in this month's issue entitled "Discrimination in Marine Insurance Rates," we would say that our Underwriters assure us the extra charge from Montreal (which is very slight) is no more than is warranted by their experience of losses due to the difficulties of navigation incident to a long river voyage, and our experience bears out this contention.

With regard to the statement that "The extra rate charged in summer from St. John, N. B., as compared with Bangor, Maine, is said to be equal to a discrimination of ten shillings per standard on deals," this if a fact would be sufficiently alarming, but it is evidently a clerical error. The total cost of insurance of spruce deals by steamer from St. John to British ports during the summer would not amount to more than seven cents per Petersburg standard, and we do not think the rate is any lower from Bangor, Maine.

Respectfully yours,

MENNER, SIMMS & CO.,

Timber and Insurance Brokers.

WOODMEN'S LIEN ACT.

At the recent session of the Nova Scotia legislature Mr. E. McDonald, M.P., of Pictou, introduced in and carried through the House of Assembly a bill designed to protect workmen employed by lumbermen. The bill was defeated in the Legislative Council, but it is Mr. McDonald's intention to again bring it forward at the next session. For the information of lumbermen the chief clauses of the bill are given below, regarding which the CANADA LUMBERMAN invites an expression of opinion :

Any person performing any labor or services in connection with any logs or timber intended to be driven down rivers or streams, or hauled directly from the woods or brought by railway to the place of destination, shall have a lien thereon for the amount due for such labor, service or services, and the same shall be deemed a first lien or charge on such logs or timber, and shall have precedence over all other claims or liens thereon, except any lien or claim which the Crown may have upon such logs or timber for or in respect of any dues or charges, or which any owner of lands may have for the stumpage on such logs or timber, or which any Streams Improvement Company or Boom Company, or person owning streams, improvements or booms, may have thereon for or in respect of tolls.

The lien provided for in section three shall not attach or remain a charge on the logs or timber unless and until a statement thereof in writing, duly verified upon oath by the person claiming such lien, or some one duly authorized on his behalf, shall be filed in the office of the clerk of the County Court in the county in which the labor or services, or some part thereof, have been performed.

The statement of claim shall, in respect of work done in the woods, be filed within forty days after the last day on which such labor or services were performed, and in respect to work done in stream driving or otherwise than in the woods, within twenty days after the last day on which such labor or services were performed; provided that no sale or transfer of the logs or timber upon which a lien is claimed under this Act during the time limited for the filing of such statement of claim and previous to the filing thereof, or after the filing thereof and during the time limited for the enforcement thereof, shall in anywise affect such lien, but such lien shall remain and be in force against such logs or timber in whosever possession the same shall be found.

In case of the transfer by sale or chattel mortgage of any logs or timber which may become subject to a lien under this Act, the purchaser, before paying his purchase money or giving a mortgage or other security for any balance of such purchase money, or the mortgagee before advancing any money on the security of a chattel mortgage or otherwise, may require from the vendor in the case of a sale, or from the mortgagor in case of a mortgage, an affidavit or statutory declaration by such vendor or mortgagor (as the case may be) or his agent, stating that all claims for wages have been paid.

Any person or person having a lien upon or against any logs or timber, may enforce the same by means of the proceedings hereinafter stated.

Without issuing a writ of summons, the claimant may apply to a judge of the County Court of the county in which the logs or timber may be, and upon the production to the judge of an affidavit verifying his claim and showing that the same has been filed as aforesaid, also stating the particulars of the claim and showing that the claimant has fully performed his contract, and that the amount is justly due and owing to him, and that payment thereof has been demanded and refused, the judge may thereupon, if he thinks it in the interest of justice to do so, make an order under his hand, directing that a writ of attachment may issue to the sheriff of such county, commanding such sheriff to attach, take and safely keep such logs or timber, whereupon a writ of attachment may issue out of the County Court, which shall be in the form 2 in the schedule to this Act, or to the like effect.

Upon the delivery of the said writ of attachment to the sheriff, he shall act thereon according to the exigency of the said writ.

At the conclusion of the enquiry, the judge shall make his report and order, which shall state his finding, and direct the payment into a bank to be specified by him of the amounts (if any) so found to be due, and the costs, within ten days thereafter; and in default of such payment, that the logs or timber shall be sold by the sheriff for the satisfaction of the amount found due to the several parties upon the enquiry.

In default of payment into a bank under the preceding section within the time named in the order therefor, the said logs or timber shall within twenty days thereafter be sold by the sheriff holding the same, in the same manner and subject to the same provisions of law as goods seized or taken under execution, unless the judge shall direct that additional publicity be given to the sale, and the amount realized by such sale, shall, after deducting the expenses thereof payable to the sheriff, be paid into a bank to the credit of the cause, and shall upon the application of the several parties found to be entitled thereto under the order of the judge, be paid out to them by the clerk of the said court by check drawn upon the said bank to the orders of the parties entitled thereto respectively.

PAPER ON FORESTRY.

The Commissioner of Crown Lands for Ontario offers a prize of \$10.00 for a paper on "The Forestry Problem Applied to Ontario," to be written by a graduate of the School of Practical Science. No restriction is made as to choice of subject. It may relate to the engineering phase of forestry, to forest fires and prevention, timber cutting, forest reproduction, or any other appropriate subject.

Papers are not to exceed 2,000 words, and the successful manuscript is to become the property of the Bureau of Forestry for publication in the annual report. Manuscripts are to be sent in to the Bureau of Forestry or before December 1st, 1899. The decision as to the merit of the manuscripts will rest with William Houston, M.A., McMaster College; Alexander Kirkwood, Crown Lands Department; and Thomas Southworth, Clerk of Forestry.

PERSONAL.

Mr. James Shearer, a director of the James Shearer Company, Montreal, was presented with a handsome silver service by the employees of that company on the occasion of his recent marriage.

Mr. Krashon Mixer, of the wholesale lumber firm of Mixer & Company, Buffalo, was a recent caller at the office of the CANADA LUMBERMAN. Mr. Mixer was arranging for a tour through the Georgian Bay district in search of pine lumber, shingles and lath.

Mr. J. R. Eaton, of Orillia, Ont., returned last month from a trip to Great Britain. Combining business with pleasure, he made arrangements to manufacture doors for the British market, and hopes soon to be turning out large quantities of these goods. His factory will be kept in operation the year round.

The CANADA LUMBERMAN observes that the membership list of the National Wholesale Lumber Dealers' Association includes the following Canadian representatives: Gillies Bros. Co., Braeside, Ont.; Hull Lumber Co., Hdg. Que.; E. H. Lemay, Montreal; E. C. Grant, Ottawa Lumber Co., Ottawa; Keenan Bros., Owen Sound, Ont.

At a recent meeting of the town council of Woodstock, N.B., a complimentary address was presented to Mr. Wm. Fisher, who has been treasurer of the town for nearly twenty years, but who has been obliged to resign owing to business engagements. Mr. Fisher is now the head of the firm of the Small & Fisher Co., foundrymen and manufacturers of shingle machines, etc.

TRADE NOTES.

John S. Mason & Co., wholesale dealers in hardwood lumber, 240 Eleventh Avenue, New York City, are sending their friends a useful souvenir. It is a double pocket map of Greater New York, showing all the streets and points in the metropolitan lumber district.

The Dodge Manufacturing Co., of Toronto, are earning a well deserved reputation as power transmission machinery manufacturers. The Dodge wood split pulley has revolutionized the world on the pulley question, and the Dodge system of retransmission of power has worked wonders in the way of economical distribution of powers from various points to a common centre. The Dodge patent split friction clutch pulley and cut-off couplings is said to be giving every satisfaction, and the "Orton" disc clutch for small pulleys, while a comparatively new production of the Dodge Company, is claimed to be equally satisfactory wherever used. The company inform us that transmitters and mill owners can now send in their specifications of shafting, hangers, pulleys and belts, and have them filled at once from stock. They have recently put in a modern shafting lathe, as well as a lot of other special machinery for their new lines, which are fully described and illustrated in a very complete catalogue to be had for the asking. The Dodge Manufacturing Company are manufacturers of everything in the transmission line, with works at Toronto Junction and offices at 74 York Street, Toronto.

The Waterous Company, Brantford, advise us that they have recently shipped the following orders: To J. D. Shier, Bracebridge, the first telescopic band mill that has been erected in Canada, and the second one to the Rat Portage Lumber Co., Rat Portage; a No. 3 Allis band to W. D. Lummis, Spragge, Ont., who is placing it in the Cook mill to cut some American stocks; some eight car loads of machinery, consisting of two 200 h.p. engines, coupled, and six large boilers and other machinery, to the Columbia River Lumber Co., Beaver, B.C.; a large circular mill, with 150 h.p. engine and boilers, to Price Bros., Batican, P.Q., and a similar outfit, but with a band mill, to J. H. Dansereau, Vercheres, P.Q. The novelty of the latter mill is that it is built and designed entirely on a scow, which is to be towed from Vercheres to Montreal and operated at Montreal. In portable mills they have sent three to the Northwest this winter, one for the Elk Park Ranch Co., Elk Park, B.C., and another to Mr. Teiley, for Dawson City. A third has just been shipped to Louis Coste, engineer for the Dome (Yukon) Mining Co., also for Dawson City. These are the Waterous portable mills, specially adapted for easy transportation to mining districts. In marine work the Waterous Company have just completed an engine and boiler for a tug for Chew Bros., Midland, another for Captain Chapeau, Lion's Head, and a third for the tug "Ann Long" to the Warton Tug Co., consisting of a boiler and steeple compound engine, and another Fitzgibbon boiler and fore and aft engine for Nickerson Bros., Midland.

OBITUARY.

J. P. Mowatt, lumber merchant, Campbellton, N. B., died in the Royal Victoria Hospital, Montreal, a fortnight ago. He was about fifty years of age. General regret was expressed in Toronto when the news was received of the sudden death of Mr. A. W. King, forest ranger for the Ontario government in the Ottawa district. The cause of death was the bursting of a blood vessel. Deceased was forty-three years of age and had been in the employ of the Ontario government for the past four years, prior to which time he was engaged in the lumber business. A highly respected resident of Ottawa passed away last week, in the person of Robert Rowley Booth, brother of J. R. Booth, the well-known Ottawa lumberman. Deceased was born at Waterloo, Que., sixty-six years ago, being the fourth son of the late John R. Booth, of that place. He removed to Ottawa about 1860, and was engaged in the lumber business for a number of years, but retired from active business some time ago.

WILLIAM CANE.

After an illness extending over a period of fifteen months, the death took place on May 17th of Mr. Wm. Cane, founder of the extensive wood-working factory at Newmarket, Ont., now operated by the Wm. Cane & Sons, Ltd. Mr. Cane was a descendant of the Cane family of Antrim, Ireland. His father, Mr. James Cane, emigrated to America and settled in Albany, N. Y., where Mr. Cane was born on October 8, 1822. When a child his father moved to Upper Canada and settled in the Township of Caven, about fifteen miles from Port Hope, both parents dying three or four years afterwards. He received an ordinary education, finished private study.

The subject of this sketch lived for a time in Mariposa and Lindsay, and in 1840 located at Queensville, in the Township of East Gwillimbury, seven miles from Newmarket, where he had a shop making pumps, wagons and other wood work. He also purchased a saw mill about a mile and a half north of Queensville. In 1864 he built a saw mill, boarding house and several other buildings on the fifth concession of East Gwillimbury, about one and a half miles southeast of the village of Queensville. Here he soon had a very extensive business, including a saw and planing mill, lumber yard and a large mill, besides engaging in several smaller lines. Here he met with his first great misfortune. The mill took fire and was burned to the ground. He rebuilt the mill and had it running once more, but he was not left long in peace. The place was again visited by a disastrous fire, which consumed the saw mill and thousands of feet of lumber. This was a terrible loss, but here he showed the pluck and energy which kept him up through life. The men were set to work and the mill rebuilt. He remained there until 1874, when he decided to move to Newmarket.

In February, 1875, he erected the present family residence, a steam saw mill, a planing factory and several buildings for his workmen. He also purchased the Sykes

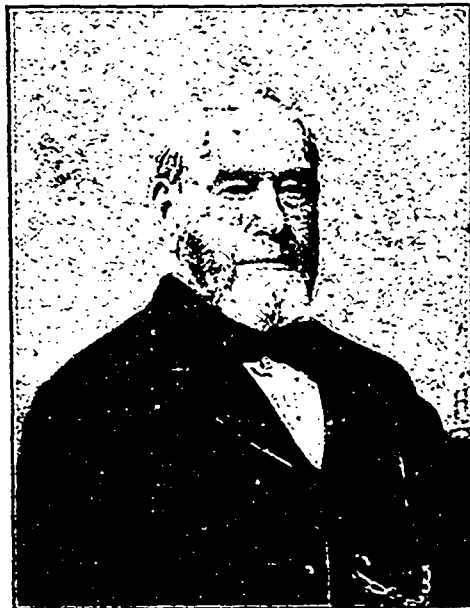
separated by solid brick fire walls. They also put in a splendid system of waterworks, built a fire hall, purchased a hose reel and full equipment for fighting fire. In 1887 the factory again caught fire, when the second storey of the mill factory was burned. To-day the company are among the largest manufacturers of woodenware in Canada, doing a large home trade and also shipping to foreign countries.

The late Mr. Cane held various public offices in East Gwillimbury, and when Newmarket was incorporated as a town, he was elected mayor by acclamation, serving in that capacity for nine years, and then resigning. He was prominently associated with the town's advancement, and aided greatly in pushing forward a number of local enterprises to completion. He was president of the North York Reform Association, but refused to accept further honors.

In private life the deeds of Mr. Cane were such as to command the highest esteem. He was a friend to the poor, of Christian character, and of noble impulses. In 1844 he was married to Miss Belfry, and his wife, six sons and two daughters survive him. Four of his sons are now connected with the business, Mr. H. S. Cane, the general manager, being mayor of Newmarket.

JOHN A. CAMERON.

A widely known and most highly respected citizen of Ottawa passed away at his residence, Stadacona Hall, on May 14th, in the person of Mr. John A. Cameron.



THE LATE JOHN A. CAMERON.

For nearly 60 years he had been associated with the commercial and industrial development of the Ottawa valley, while at the same time giving liberally of his time and talent to public service.

The late Mr. Cameron was born in the county of Glengarry in the year 1820, was educated at the Baptist College at that time existing in Montreal, and as a young man began his business career with the late Stephen Tucker, then an extensive lumberman at Papineauville, P. Q. After being in his service for a few years, he entered the employ of the well known and extensive lumber concern of Gilmour & Co., in whose employ he remained for several years. In the early fifties, he, with his late brother, Mr. G. W. Cameron, established saw mills and a general lumber business on the Blanche river at Thurso, P. Q., which business a few years later passed into the hands of Gilmour & Co., the management, however, remaining in the hands of the subject of this sketch.

In 1862 Mr. Cameron formed a co-partnership with Mr. J. C. Edwards and purchased the Blanche limits and the mills at Thurso from Gilmour & Co., the firm name being Cameron & Edwards. Later this firm, together with the late James McLaren, of Buckingham, purchased the limits and mills belonging to Gilmour & Co. on the North Nation river, and for several years the business was carried on under the name of J. A. Cameron & Co. In 1871 Cameron & Edwards sold their Blanche limits and properties to W. C. Edwards & Co., of Rockland, the business of which firm was established there in 1868 by W. C. Edwards and James Wood, and each Mr. Cameron and Mr. J. C. Edwards, at the time of the sale of the Blanche properties, became partners in the firm of W. C. Edwards & Co. In 1882 W. C. Edwards & Co. purchased the limits, mills and other properties of J. A. Cameron & Co. on the North Nation river, and thus those properties finally became amalgamated in one business, and with the amalgamation Mr. Cameron retired from the active management of the business, and since that time has devoted himself to the management of his large farm and to giving attention to the various charitable and philanthropic interests to which he was so much devoted. In his earlier and middle life, however, he had much experience in the conduct of the various branches of the lumber industry, and perhaps more particularly the woods part of it, in which branch he was regarded as an authority.

During the many years that he resided in Thurso, Mr. Cameron was the leading man of his district, always taking a prominent part politically as well as in municipal and agricultural matters, and in fact, in every way in which he believed the general good of the community could be promoted. He was for many years the mayor of his town, was for some years captain of the Thurso infantry company of volunteers, and in 1878 was an unsuccessful candidate in the Liberal interest for the Dominion House against the late Alonzo Wright.

In 1884 Mr. Cameron moved with his family to Ottawa, where at Stadacona Hall, his beautiful residence, he lived until the time of his death. Mrs. Cameron having died some three years ago, and the greater share of his large family of ten children being scattered over the various parts of Canada, only two sons and one daughter remain to occupy the homestead.

In so far as a donor to various charities is concerned, Mr. Cameron pursued a course very different to most men. Instead of waiting till the time of his death to be a benefactor in this direction, he acted on the principle of being his own executor, and during his life he gave of his means as few men do in aid of religious and charitable objects. Few know to the full extent of his doing in this direction, and those few have always felt that, considering his very large family, his charities towards others went frequently too far. The Baptist denomination, to which he was strongly attached, profited the most largely from his benevolence, but he was a never ending contributor to public charities generally, as well as to individuals. He was one of the pioneers of the Ottawa valley, and will be much and generally missed and his loss regretted in the many spheres of usefulness in which he lived.

BRITISH COLUMBIA LETTER.

(Correspondence of the CANADA LUMBERMAN.)

The lumbermen of the province are in better spirits than they have been for several years, due to the fact that their mills are crowded with orders and that prices have stiffened considerably. But considering the prices that are paid the jobbers for logs, the margin of profit in the business is yet too limited. Manufacturers south of the border continue to ship in low grade stock at ridiculously low prices, and until some protection is afforded Canadian lumbermen by the Dominion government, the conditions will not be materially improved. The increased demand for lumber has resulted in the starting up of several mills which have been idle for some time. The McLaren-Ross mill, on the Fraser river, about two miles from New Westminster, is about to be put in operation. For this purpose Mr. J. M. Portias arrived from Ottawa a fortnight ago. This mill is one of the best equipped on the coast, has a capacity of 125,000 feet per day, and is complete in every respect. Arrangements will probably be made to do an export trade, although the owners are offering for sale both the mill and timber limits. The limits comprise over 55,000 acres of virgin Oregon pine, cedar and spruce. The Port Moody plant, owned by the Canadian Pacific Lumber Co., which has not been operated for years, is to start up again under the management of Mr. P. D. Roe. Mr. Geo. Cassidy formerly operated this mill.

The city of Vancouver recently invited tenders for the annual supply of lumber. When the tenders, four in number, were opened, it was discovered that in each instance the prices quoted were the same, the tenderers having evidently come to an agreement in this respect. Robertson & Hackett were awarded the contract, but I have not learned at what figures.

The price list issued by the British Columbia Shingle Manufacturers' Association gives the following quotations on red cedar shingles delivered to dealers at Ontario railway points and Montreal: No. 1 shingles, 6 butts to 2 inches, \$2.55; No. 2 shingles, 6 butts to 2 inches (5 in. clear), \$2.25; No. 1 shingles, 6 butts to 2 1/2 inches, \$2.70; No. 1 shingles, 5 butts to 2 inches, \$2.95. For plain dimension shingles add 50 cents and for fancy butts add \$1 per thousand.

The announcement has been made of a through rate of \$136.50 per thousand feet for all classes of lumber, with the exception of fancy milled work, for Dawson, by the White Pass route. This rate applies on all lots over 10,000 feet, and taking the first cost at British Columbia points at \$16 per thousand, building material could be delivered at the Klondike capital in ten days' time for a total cost of \$152.50. If lumber at Dawson is worth \$250 per thousand, as reported, there should be a gold mine in the business of shipping lumber from this province.

COAST CHIPS.

Christie & May have opened an office in Vancouver as lumber agents.

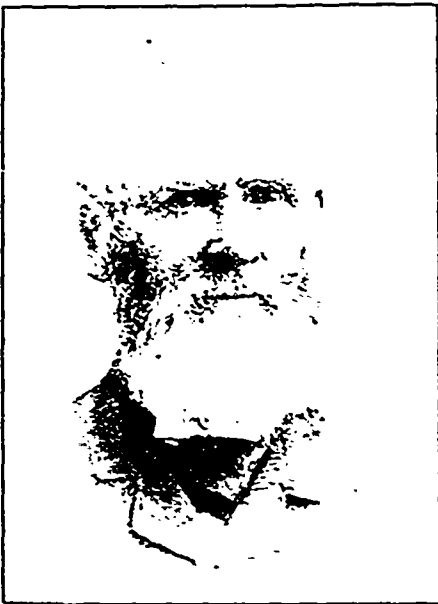
Houston & Co., manufacturers of sashes and doors, Golden, have been succeeded by W. L. Houston.

The Boundary Creek Milling and Lumber Company have purchased another plant, which will be erected in the vicinity of Rock Creek.

E. H. Heaps & Co., of Hastings, have recently put in a new shingle and saw mill plant. Thos. Kilpatrick, who has a shingle mill at Hastings, has put in saw mill for the manufacture of cedar.

Mr. Barnard Lequime has removed his saw mill plant from Kelowna to Midway. The plant, when complete, will include planers, stickers, hand saws, mortising machines, turning lathes, etc.

NEW WESTMINSTER, May 15, 1899.



THE LATE WILLIAM CANE.

foundry and engine works. In May, 1875, the foundry and engine works were burned. Shortly after he built the paper mill which he afterwards sold to Park & Co. In 1883 Mr. Cane suffered another terrible loss by fire. The large planing and woodenware factory, along with two large dry houses, a store house, office, several lumber sheds and a large quantity of valuable lumber were consumed.

Mr. Cane and his sons decided to form a joint stock company. The present Wm. Cane & Sons Manufacturing Co., Limited, was formed, with Mr. Cane as president. A temporary factory was built and used during the season of 1884. The company then built the present large brick structure, which is really three factories,

THE NEWS.

—A. E. Howse is erecting a saw mill at Princeton, Ont.

—John Letherby has opened up in the lumber business at Midland, Ont.

—D. G. Loomis & Sons are erecting a box factory at Sherbrooke, Que.

—Blenkhorn & Sons, of Canning, N.S., are rebuilding their axe factory.

—The Granby Box Co. are enlarging their box factory and dry kilns at Granby, Que.

—The Midland Box Shook & Planing Co. have just erected a new mill at Midland, Ont.

—Coon Bros. are erecting a veneer factory at Morton, Ont., and will employ a large number of hands.

—John Morris is erecting a new planing mill at Goderich, Ont., to be fifty feet square, two storeys high, with engine room 16x20 feet.

—The Conger Lumber Co. are making considerable improvements to their mill at Parry Sound. The circular saw will be replaced by a band mill.

—W. C. Williams, of Midhurst, Ont., has put a new 30 h.p. boiler in his planing mill. It was manufactured by Dymet, Butterfield & Co., of Barrie.

—The Board of Examiners of Cullers for the province of Quebec will meet at Hull on June 12th, to examine candidates desirous of obtaining licenses as cullers.

—J. Clarkson, for many years foreman for the Rat Portage Lumber Co. at Norman, has gone to British Columbia, where he has secured a lucrative position.

—G. B. Housser & Co., lumber manufacturers, Portage la Prairie, Man., have opened branch yards at Bagot, on the C.P.R., and at Willow Range, on the Northern Pacific.

—It is reported that H. R. McLellan, the well-known lumberman of St. John, N.B., recently put on an additional \$100,000 of life insurance, making the total amount carried \$275,000.

—The steamer Bavaria recently loaded at St. John, N.B., the largest cargo of lumber ever moved from that port. It consisted of 1,700 standards of spruce deals, 500 tons of birch timber, and 100 tons of pine.

—The new mill of Wood, McKinley, Argue & Co., at Parry Sound, Ont., commenced operations recently, under the management of E. C. McKinley. It will cut about 12,000 feet per day, and will be enlarged next summer.

—J. J. Hill, of the Great Northern railway, recently acquired a logging railroad running north from the main line of the Great Northern to Hibbing, in the Rat Portage district. It is said that he intends to extend it northward to Koochieling.

—V. L. Emerson, of Ottawa, has received from the authorities of McGill University, Montreal, a report of the result of a test of his method of manufacturing calcium carbide from sawdust. It is said that the report is favorable to the project.

—The Rathbun Co., of Deseronto, Ont., are erecting a saw mill at Tweed, where they will cut railroad ties and small logs. This company recently invited tenders for freighting about 60,000 cedar railway ties from Manitoulin Island ports to Buffalo.

—Frank Laurie has been engaged for some time in overhauling the Parry Sound Lumber Co.'s shingle mill at Parry Sound, Ont. An addition to the mill has been built and a new Trevor shingle splitting machine put in. The output of the mill will be 150,000 shingles per day.

—W. H. Murray, W. M. Mackay, John E. Moore and others, of St. John, and Chas. T. and S. H. White, of Sussex, N.B., are seeking incorporation as the St. John Iron Works, Limited, to take over the business conducted by Waring, White & Co. The capital is to be \$60,000.

—Incorporation has been asked for the General Chemical Carbide Co., of Ottawa, the petition being signed by Wm. C. Edwards, H. K. Egan and V. L. Emerson. The purpose of the company is to convert waste wood, shavings, sawdust and wood products into calcium carbide and other by-products.

—The annual meeting of the Lake St. John Railway Company was held in Quebec last month. The statement presented showed that there were carried during the year 1898, 4,043 cars of lumber, 347 cars of timber, 1,426 cars of pulpwood, 807 cars of ties, 258 cars of logs, and 2461 cars of pulp and paper.

—Allan Rutledge, of Newcastle, Ernest Hatchison, of Douglastown, Edward Eastman, of Petitecodiac, New Brunswick lumber merchants, together with a number of other capitalists, are applying for incorporation as the New Brunswick Oil & Gas Co., Limited, with a capital of \$1,000,000 and head office in Moncton.

—E. H. Bronson and Levi Crannell, of the Bronson & Weston Lumber Co., Ottawa, are among the incorporators of the Union Match Company, of Trenton, N.J., which has an authorized capital of \$10,000,000. The purpose is to manufacture and sell matches in the United States and Canada in competition with the Diamond Match Company and other concerns.

—A dispatch from Ottawa, dated May 11th, stated that C. Langelier, superintendent of forest rangers for the province of Quebec, was in Hull for the purpose of appointing special cullers and shippers at the various saw

mills at the Chaudiere which cut logs taken from Quebec limits. It is understood that the returns heretofore handed into the government are believed in some cases to have been incorrect.

—Work is proceeding rapidly on the Restigouche and Western railway, which will extend from the town of Campbellton, N.B., to St. Leonards, on the St. John river, a distance of 110 miles. This railway will open up what has been pronounced the finest spruce areas in Canada, but which have been inaccessible on account of their remoteness from rail or river.

—The lumbering business carried on for many years on the Miramichi river, in New Brunswick, by Wm. Richards has been put into a joint stock company, known as Wm. Richards & Company, Limited. The headquarters will be at Boiestown, and the capital stock \$500,000. Wm. Richards, Wm. D. Richards, David Richards, H. W. Gunter and Dow Shields are provisional directors.

—The summer activity at the Chaudiere mills has commenced. The mills of J. R. Booth, Hull Lumber Co. and Gilmour & Hughson are working to their full capacity, but it is improbable that those of Bronson & Weston and Mason & Sons will run this season. Large tows of logs arrived recently, although the first lot was three weeks later, owing to high water, than the first run made last year.

—We note the incorporation of the Lumbermen's Marine Insurance Co., of Norfolk, Va., with a capital of \$50,000. The company is composed entirely of lumber firms who ship lumber by vessel, and the intention is to do a general marine insurance business. The formation of the company is said to have been made necessary by unsatisfactory conditions prevailing with the general marine insurance companies, who are claimed to have advanced rates to an unreasonable point.

—The Hardy Lumber Co. and Turner & Fisher, both Michigan concerns, recently made application to the Minister of Crown Lands to readjust the tolls levied by the Pickering River Improvement Co. It follows that the longer the term the lighter the tolls. The charter of the Improvement Co. was for twenty-three years, but thirteen years had expired before application was made in 1895 for the arrangement of tolls. The commissioner then fixed the tolls on a basis of a ten years' sinking fund, representing the entire future life of the company. In view of this, the application of the above-named companies to adjust the tolls on a twenty-three year basis was refused.

CASUALTIES.

—Fred Richards had one of his hands cut off in Kilmington's saw mill at Wingham, Ont.

—At Draper's saw mill at Millville, N.B., Weldon Stairs was caught in the shafting and injured to such an extent that he died in a few hours.

—Charles Dawson, foreman at Kennedy & Down's saw mill at Sycamore Siding, Ont., was instantly killed while taking a belt off the tightening pulley. As the pulley was relieved the belt struck deceased on the head.

PUBLICATIONS.

Paul Leicester Ford, the historian and novelist, has gathered together from various sources a number of new stories of Washington, and publishes them in the May Ladies' Home Journal as "The Anecdotal Side of George Washington."

Entering upon the fifteenth year of publication, the publishers of the National Coopers' Journal, Philadelphia, Pa., have issued an appropriate and creditable anniversary number. The frontispiece is an artistic and striking design, surrounding the names of fifteen manufacturers of cooperage stock who have been represented in the advertising pages of that journal during the fifteen years of its existence. We bespeak for The Journal a future even brighter than the past.

CANADA'S COMMERCIAL AGENTS.

FOLLOWING is the correct official list of Canada's Commercial Agents in Great Britain, British possessions and foreign countries:

J. S. Larke, Sydney, N.S.W., agent for Australasia.
G. Eustace Burke, Kingston, Jamaica, agent for Jamaica.

Robert Bryson, St. John, Antigua, agent for Antigua, Montserrat and Dominica.

S. L. Horsford, St. Kitts, agent for St. Kitts, Nevis and Virgin Islands.

Edgar Tripp, Port of Spain, Trinidad, agent for Trinidad and Tobago.

C. E. Sontum, Christiania, Norway, agent for Sweden and Denmark.

D. M. Rennie, Buenos Ayres, Argentine Republic, agent for Argentine Republic and Uruguay.

In addition to their other duties, the undermentioned will answer inquiries relative to trade matters, and their services are available in furthering the interests of Canadian traders.

J. G. Colmer, 17 Victoria street, London, S.W., England.
Thomas Moffat, 16 Church street, Cape Town, South Africa.

G. H. Mitchell, 15 Water street, Liverpool, England.
H. M. Murray, 40 St. Enoch Square, Glasgow, Scotland.

Harrison Watson, Curator, Imperial Institute, London, England.

WOOD PULP DEPARTMENT

THE PROCESS OF MANUFACTURING MECHANICAL WOOD PULP.

BY W. A. HARE.

(Concluded)

HYDRAULIC PRESSING.

DESCRIPTION OF PRESSES AND PUMPS.—When the pulp is cut off the wet machine, it contains a large amount of water. The per cent. of dry pulp in wet pressed pulp generally averages about 35 per cent. To ship pulp having this amount of water would be very expensive, as freight would have to be paid on 65 pounds of water for every 100 pounds of wet pulp shipped. In order to reduce this loss, the pulp, after coming from the wet machine, is sent to the baling room, where are situated heavy hydraulic presses, whose duty is to remove some of the water. In most of the mills in Canada the percentage of pulp is raised from 35 to 50 per cent. by means of these presses. It may be advantageous to take the pulp from the wet machine wetter than 35 per cent., relying on the hydraulic press to remove enough water to bring the percentage to 50 per cent. of pulp. Experiments should be conducted in each mill to determine the most economical degree of wetness that the pulp should be delivered from the wet machine. The style and capacity of the hydraulic press will make a difference in determining the above. Fig. 13 shows an hydraulic press, manufactured by I. Matheson & Co., Limited, New Glasgow, Nova Scotia. It is made especially for this work, and is used in a good many of the mills in the eastern provinces.

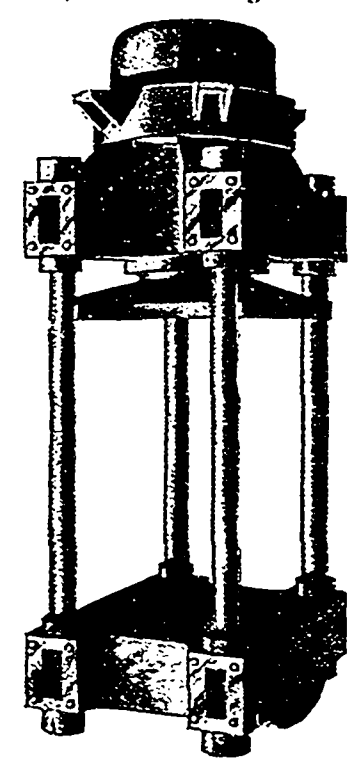


FIG. 13—HYDRAULIC PULP PRESS.
(Made by I. Matheson & Co.)

The lower frame is of very heavy cast iron, containing the chamber and ram. Four large steel rods are situated, one at each corner of the frame, and serve to support the top casting, and also the whole strain of the ram. The ram is made of cast iron, of a suitable diameter, and on top of which is carried the platen. The pipes are connected to the chamber through the cast iron frame of the base. In erecting, the press is let down through the floor, so that the platen will be of a sufficient height from the floor to accommodate the trolleys. Owing to its weight, it is best to put the press on an independent foundation where possible, or else to introduce special bracing in the frame of the mill. The pressure which these presses use varies considerably, according to the size of ram and capacity of pump. In a large press a pressure of 150 tons on the ram is not unusual. The water is supplied to these presses by a triplex pressure pump, one of which is shown in Fig. 14. This pump is also manufactured by I. Matheson & Company. It is made for use in connection with the press shown in Fig. 13, and is constructed in a very substantial manner. The plunger shaft is made of steel, as shown, and is fitted with a spur gear for driving. The pump is back geared from a pinion shaft, which carries the driving wheel. The speed of the crank shaft is 70 r.p.m. The pressure at which it is capable of working is 5,000 lbs. per sq. inch. The standards, which carry the plunger shaft, are made very heavy, and are cast in one piece with the base. In order to give the plungers a true vertical motion, without creating a lateral strain on the glands, they are provided with cylindrical guides, mounted on a cross-bar which is bolted to the two standards. The pressure pump is usually placed upon the roof trusses of the wet machine room and driven from the main shaft. It is connected to the press by special hydraulic piping and fittings. A pressure gauge is placed near the press, which shows the pressure per sq. inch, and also the tons on the ram. A suitable valve is also connected near at hand for operating the press. The overflow from the pump is led back to the water chamber of the pump, so that the water is used over

* Paper read before the Engineering Society of the School of Practical Science, Toronto, and published by permission.

gain. In this way no attention is necessary to supply the pump with water. Some makers of hydraulic pumps prefer to make one of the plungers larger than the other and arranged so that when the pressure reaches a certain limit this plunger is automatically cut out, the pump then becoming a duplex. The reason for introducing this feature is to raise the ram faster, thereby saving time and increasing the output of the press. The result is not very satisfactory, owing to various reasons. When the 3 plungers are working, they are acting 120 apart, giving an even strain on the gearing and belt. Now when one is cut out, the pump is simply a badly-

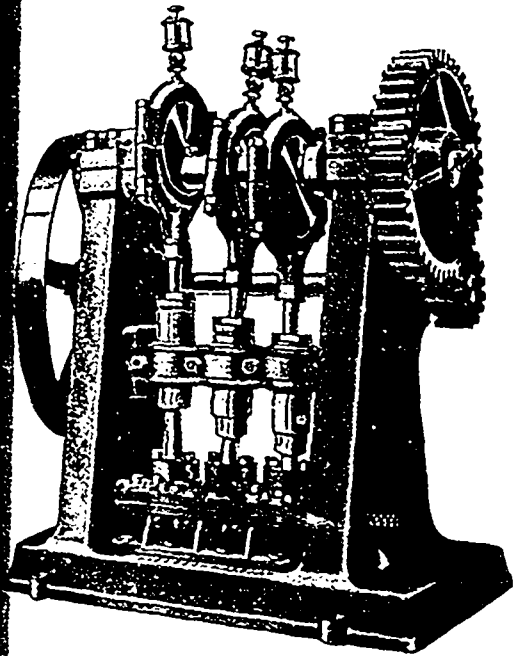


FIG. 14—HIGH PRESSURE TRIPLEX PUMP. (Made by I. Matheson & Co.)

designed duplex, as the cranks of the remaining two plungers are not opposite each other. This causes uneven wear on the gear, and a periodic swing in the belt. If it is desirable to increase the output of the press by a special design in the pump, it would be better to have three of the plungers the same size and introduce a fourth one of larger diameter than the rest. As the three smaller ones do the greater part of the work, they should be spaced 120 apart, as in an ordinary triplex, and the extra and larger one midway between any two of them. The strain on the gear and belt will not be even at first, when the load is light, but occurs when the pressure is heavy, when the pump is working properly as a triplex. There may be objections to this, but when it is remem-

always under pressure, the other one in the meantime being either discharging or loading with wet pulp again. The operation is somewhat as follows: The pressman, in loading trolley B, places on it first a layer of felts, then a layer of pulp, and so on alternately until the pile will just go under the top of the press. B is now run into the press and the pressure turned on. While this load is being pressed he proceeds to load trolley C, from the supply on the wet pulp table D. When B has been pressed sufficiently, the water is turned off, which lowers the trolley down on the rails again. It is now run out, and trolley C run in and the water turned on as before. B is now unloaded, the pressed pulp being thrown on the dry pulp table at E and the felts on the felt rack. When B is empty it is immediately loaded again, the trolley D being run up conveniently near for the purpose. In this way there is no carrying of the pulp by the workman, an advantage which will easily be seen when the quantity handled is considered. The rails for the press trolleys are laid across the plate of the press, and are cut at each side so that the ram can rise. The trolley is made with the distances between the centres of its wheels a few inches greater than the length of the press plate, so that when the ram rises the plate clears the axles, and bears up the trolley with its load, without causing any strain to come on the wheels or bearings. The trolley is, in this way, better able to stand the strain which otherwise would break it down at once. On lowering the ram again the wheels find the rails and it is rolled off as before stated. It is hardly necessary to mention that under these circumstances it is necessary to build the frame of the trolley very strong to stand the crushing load.

The felts used for the pressing are a good deal heavier than those used on the wet machine, sometimes being 1/2 inch thick. Some mills use coarse bagging instead of felts, and find them very serviceable. The open grain or texture of the material facilitates the flow of the moisture. One of the difficulties encountered by Canadian shippers to the English market is the variation in the moisture test. Export pulp is supposed to be 50 per cent. pulp and 50 per cent. water, but it will vary from time to time, even with the product of the same mill, as much as 4 or 5 per cent. above or below the standard. Steps should be taken to insure uniformity of moisture, not only in the product of any one corporation, but in that of all exporters. This is one of the many questions to be solved by pulp mill men who export. The percentage of 50 per cent. has been almost universally adopted as being the best, considering the present method of extracting the water. It is necessary, from the standpoint of freight and carriage, that the amount of water in the pulp should be reduced as low as possible. If this were all, the question would be much simpler than it is. It is extremely difficult, however, to press pulp much higher than 50 per cent. by present methods. It could be done, but the output of the press could not be maintained. Another consideration presents itself, i.e., that when the pulp is baled it is springy and often will burst the wires of the bundle when the pressure is removed. This springiness is found to increase as the percentage of pulp is increased. These difficulties can be met, but it is not along this line that the solution will be found. Inventors are at work now on the problem, and some already claim a solution of it.

BALING.

DESCRIPTION AND OPERATION.—After the pulp has been pressed to remove excess of water, it is next baled into flexible bundles for shipment. This part of the process is effected in a hydraulic baling press, which is somewhat similar in design to that shown in Fig. 15, though being of much lighter construction. On the platen of the press, and also on the under side of the cast iron cap, are bolted heavy blocks of hardwood, having grooves cut laterally in them, to accommodate the wire for binding the bundle. The same result could be arrived at by having slots or grooves cast in the cap and platen at the required places. In the process of baling, the operator weighs out a sufficient amount of pulp to contain 100 pounds dry. If the pulp is exported as 50 per cent. pulp, then the weight of the bundle will be 200 pounds. On the platen are put two wires, which lie in the grooves prepared for them. Two laths are next laid on, and on top of these a wrapper, if pulp wrappers are used. The 200 pounds of pulp being put in, then another wrapper, with two laths, is placed the same as before. The pressure is now turned on, which compresses the bundle firmly. The two wires are pushed through the top holes and twisted to the ends which pass below the bundle. On the pressure being removed the pulp expands and draws the binding wires tight, making a firm, compact bundle. It is now sent to the store sheds to await shipment.

The arrangement of the piping and connections are different in this press than in the larger one. Fig. 16 is a drawing showing the pipe connections. The accumulator

is connected in the pressure pipe between the pump and the baling press valve. When the press is not in operation or the valve closed at the point H, the discharge from the pump forces the plunger and weight of the accumulator up to the top, where it is stopped. Should the pressure rise higher it will be relieved by the safety valve shown at D, the discharge from which is connected to the supply tank of the pump. If, for instance, a bale should be ready for pressing, the valve is thrown over to the position G, which connects the high pressure pipe to the chamber of the baling press, forcing the piston up and compressing the bale. This effect has been caused by the descent of the plunger and weight of the accumulator, very little coming direct from the pump. If the piston of the press is forced up far enough, simply by the direct fall of the accumulator weight, the valve may be turned to the point H, thereby stopping all communication between the pump and the press, allowing the pump to raise the accumulator plunger and weight so as to be ready for the next bundle. On the other hand, if the fall of the weight is not sufficient to run up the press piston, the valve may

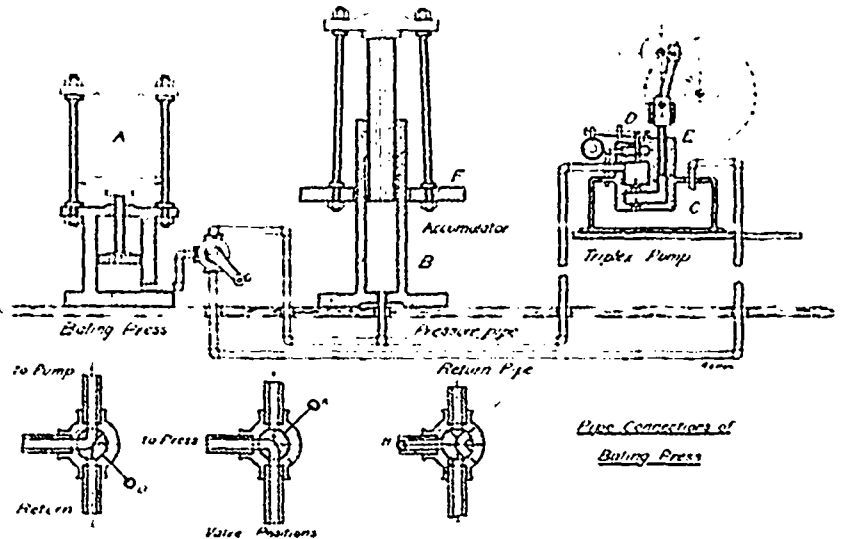


FIG. 16—PIPE CONNECTIONS OF BALING PRESS.

be left at the point G, and the pump will soon bring it up. The pressure will continue to rise until a point is reached which corresponds to that produced by the fall of the plunger, after which it will remain constant as the accumulator piston with its weight rises.

Fig. 17 shows a longitudinal cross section of the accumulator. Upon the base F stands the barrel E, which contains the plunger A, and is fitted with a gland at the top. The upper end of the plunger carries the crosshead, suspended from which is the platform D, by means of the rods B B. At G the pressure pipe is connected to the barrel. Weights are placed on the platform D if necessary, until the pressure required to raise the plunger is equal to the pressure wanted at the press. By the use of

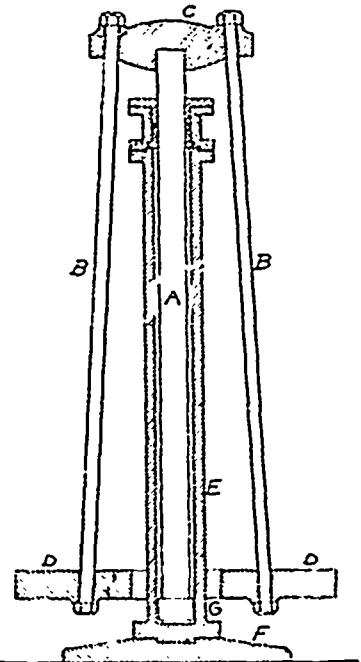


FIG. 17—SECTION OF ACCUMULATOR.

this accumulator, the pump is doing effective work continually, thereby saving much time. Before the introduction of this reservoir, the operator, after opening the valve, would have to wait while the pump slowly raised the press piston and pressed the bale. Much valuable time was lost in this way, while the capacity of the press was very limited.

In Fig. 15 is shown a drawing of a baling press room. This shows a very convenient arrangement of the hydraulic press and trolleys, and also of the baling press.

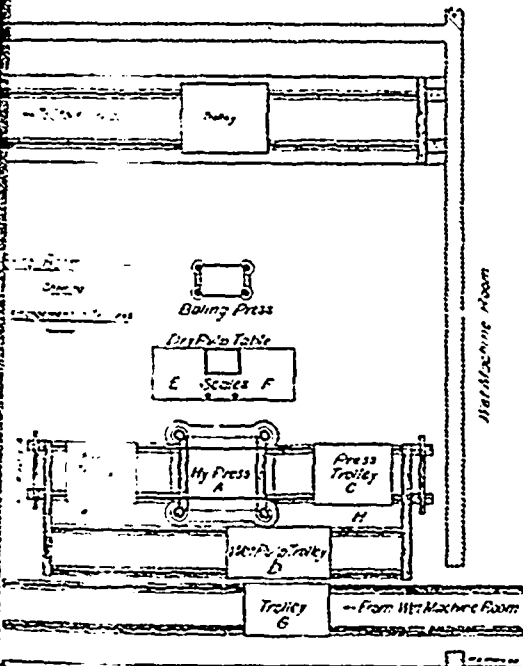


FIG. 15—METHOD OF HANDLING THE PULP.

bered that the extra plunger cuts out automatically before of the total load on the pump is reached, it will be seen that it does not disturb the balance of the pump as much as it appears to do at first sight.

ARRANGEMENT OF TROLLEYS.—A very good method of handling the pulp is shown in Fig. 15. It is supposed, in this case, that the pulp is brought to the press by the trolley shown at G. The wet pulp is delivered from this trolley to trolley D, which is simply a large table mounted on a pair of wheels, so that it can be brought near to the press trolley that is being loaded, and within easy reach of the pressman. One press trolley with its load of pulp is

The accumulator can be placed anywhere out of the way, and piped to the pump and press, the pipes running beneath the floor. The pulp table E F is situated conveniently for loading and carries the scales in its centre. The size of the bale, if standard 72-inch wet machines are used, will be 24 inches long by 18 inches wide, while the height will vary according to the amount of pressing, generally about 12 inches to 14 inches. Its weight is 200 pounds if the pulp shows 50 per cent. in the moisture test.

WRAPPERS. Owing to the loss by abrasion and dirt that is always met with when pulp is shipped without a covering of some sort on the bundles, there have been many attempts made by different manufacturers of pulp to produce a serviceable and cheap wrapper. These efforts have been made with various degrees of success, using many different materials. The best form of wrapper yet introduced is a cloth bagging of either jute or calico. In some mills where this wrapper was tried, it was given up on account of its expense. Wrappers are made in some mills of pulp. The wood used is the usual spruce, such as is used in making the ordinary grade of pulp, but after being sawn and barked, it is steamed in a steamer, under a pressure of 60 to 75 pounds per sq. in., until the wood is practically cooked. This steaming loosens up the fibres of the wood, which, when ground, produces a dark colored pulp with a longer fibre than is obtained from the raw wood. It is cut from the wet machine by a pin to secure a smooth edge, as the knife tends to crumple the sheet. The wrappers are cut from the sheets and afterwards air dried. Two are placed on the bundle, one below and the other above, while their edges overlap. No covering is provided for the ends of the bundles when they are wrapped in this way. If more attention was given by Canadian manufacturers to secure a good cheap wrapper, which would insure their product landing in England in good condition, and also obtain uniformity in the moisture test, the demand for Canadian pulp would increase more than ever.

In conclusion, the writer desires to express his gratitude to the following firms for the privilege of presenting the accompanying illustrations:

The Waterous Engine Works Co., of Brantford, Ont.; the Jencks Machine Co., of Sherbrooke, Que.; I. Matheson & Co., of New Glasgow, N.S.; the Northey Manufacturing Co., of Toronto; the Robb Engineering Co., of Amherst, N.S.

PULP NOTES.

The Sturgeon Falls Pulp Co. are about to commence the building of a second paper mill at Sturgeon Falls, Ont.

It is reported that the project of building a pulp mill at St. Margaret's Bay, N.S., will be proceeded with this summer.

It is said that T. G. McMullen, M.P.P., of Truro, N.S., contemplates erecting a large pulp mill on the Salmon River, in New Brunswick.

Mr. S. A. Marks has about 17,000 cords of pulp wood to ship from the Blind river. This wood would make a pile four feet high and nearly twenty-six miles long.

The plans for the proposed pulp mill at St. John, N. B., in which Messrs. Cushing are interested, have arrived from England, and it is expected that the work of building the mill will be proceeded with at once.

It is announced that an expert will shortly arrive from England in connection with the proposal to build a pulp mill at Parrsboro, N. S. The stock of the Parrsboro Pulp Mill Co. is now being floated in London.

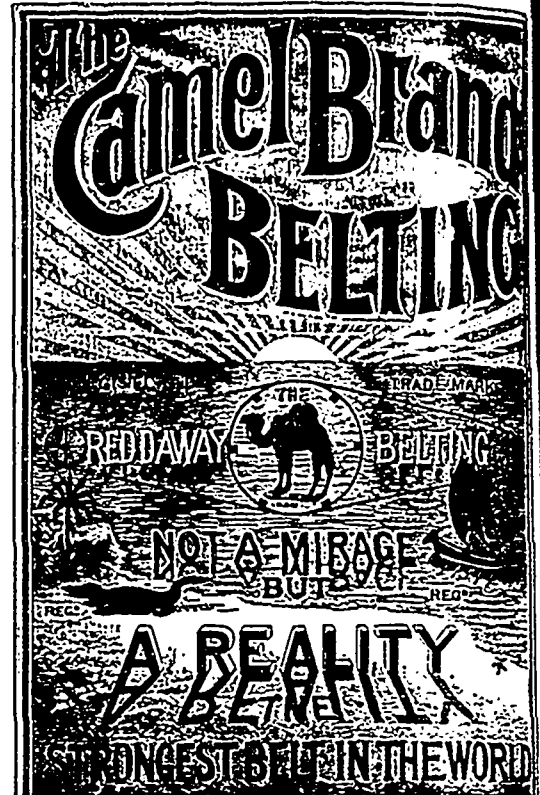
The town council of Woodstock, N. B., will take \$50,000 stock in a pulp mill. Mr. H. E. Gillis, of Annapolis, N. S., representing English capitalists, is said to be looking into the question of building a mill there.

Mr. Chas. McCombie, pulp expert from Sweden, has been in Canada looking into the question of developing the pulp industry. Mr. McCombie is said to have inspected the timber limits held by the Muskoka Mill & Lumber Co., in Restigouche country, N. B.

Incorporation has been asked for the British American Pulp & Paper Co., with headquarters in Montreal. The applicants are: Raymond Prefontaine, Robert Bickerdike, A. A. Thibaudeau, D. A. McCaskill and, E. G. Penny, all of Montreal, and the capital is placed at \$3,000,000. It is proposed to manufacture lumber, pulp and paper in the Lake St John district, province of Quebec.

One of the most important projects yet undertaken in Canada is that proposed by the New Brunswick Pulp & Paper Company. This company, which is backed up by English capital, has its head office at Perth, Victoria county, N. B., and a capital stock of \$900,000. The directors are Frank Lloyd, of London, Eng., T. R. Hilyard, A. H. Hilyard and H. A. Hilyard, of St. John. The company purposes erecting pulp and paper mills on the

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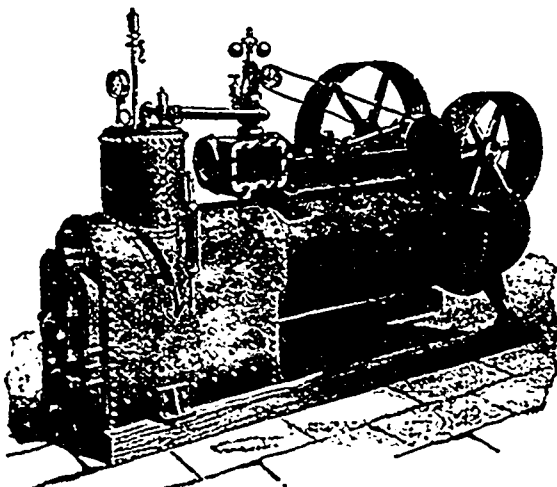
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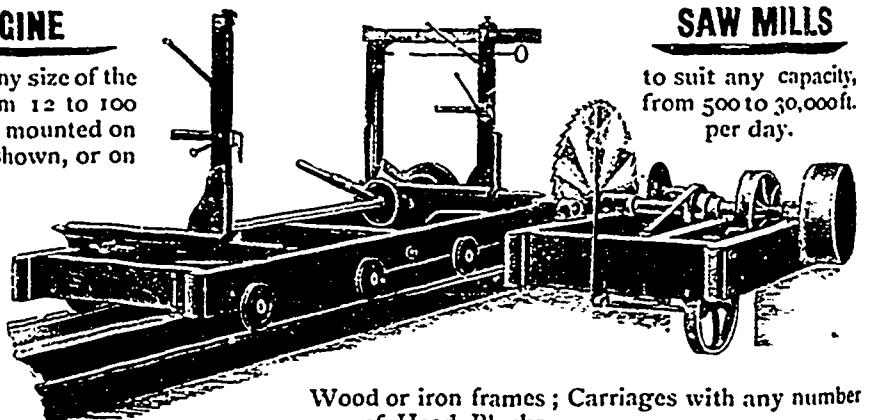
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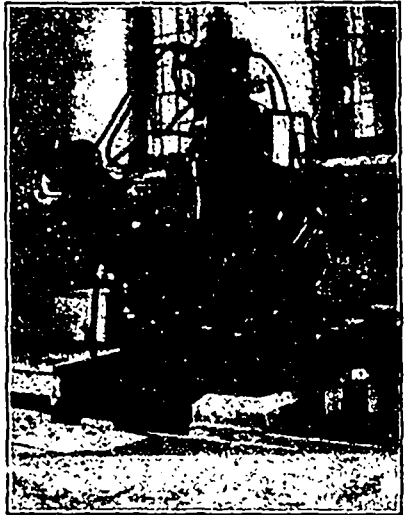
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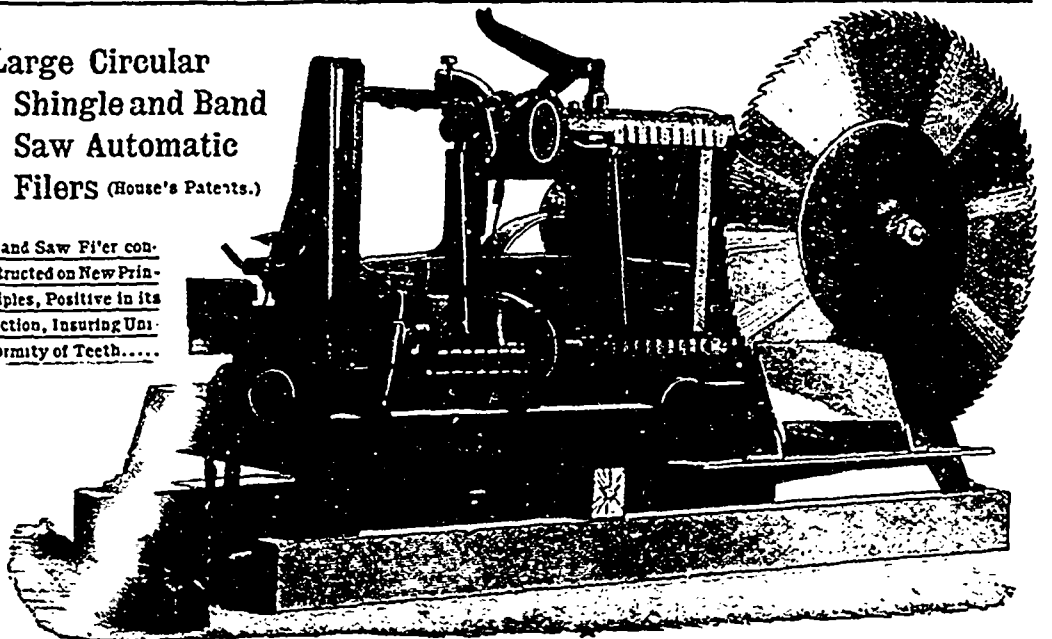
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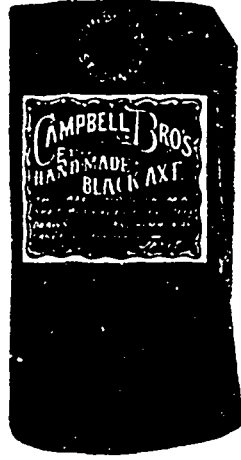
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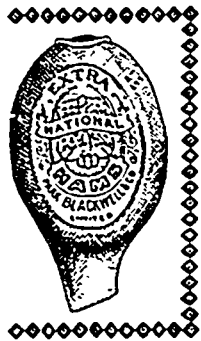
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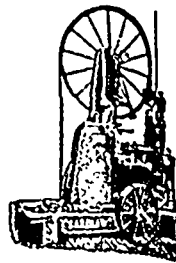
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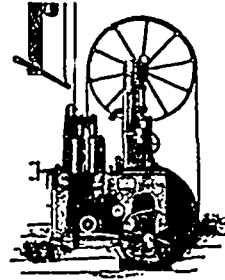
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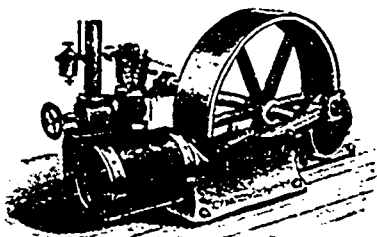
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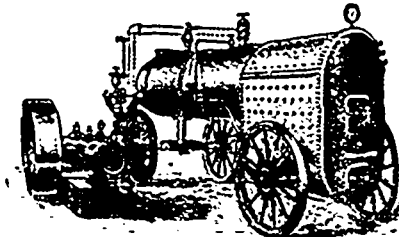
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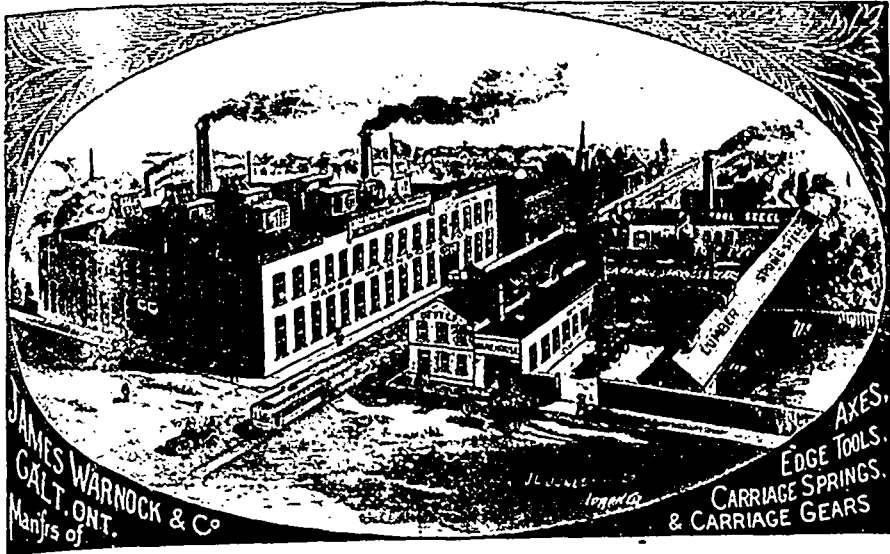
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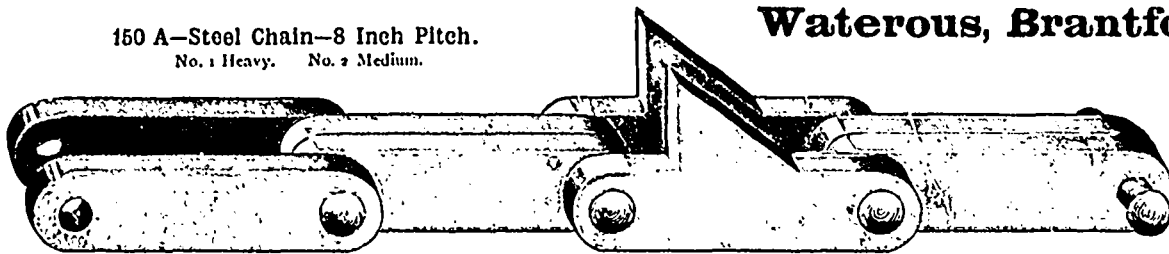
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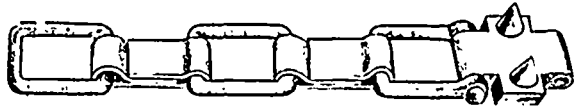
Endless Chains for Log Jacks and Bullwheels

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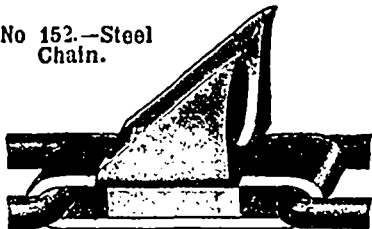
150 A—Steel Chain—8 Inch Pitch.
No. 1 Heavy. No. 2 Medium.



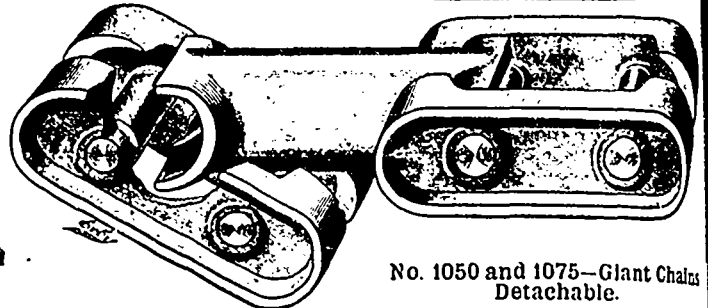
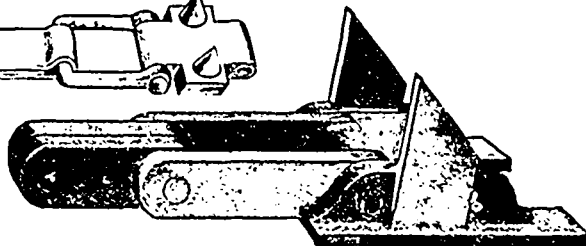
No. 105—Special Heavy Chain, 6" Pitch. Made in 3 Sizes. Showing Coupler and Forged Log Spur.



No 152.—Steel Chain.



No. 175 B—With Cast Steel Spurs.

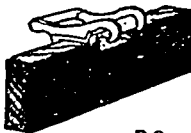
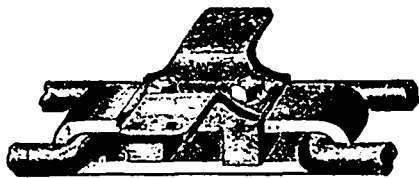


No. 1050 and 1075—Giant Chain Detachable.

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

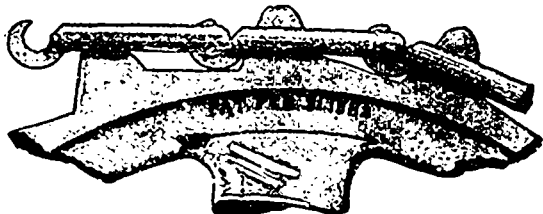
Refuse and Sawdust Carrier Chains

Waterous, Brantford, Canada

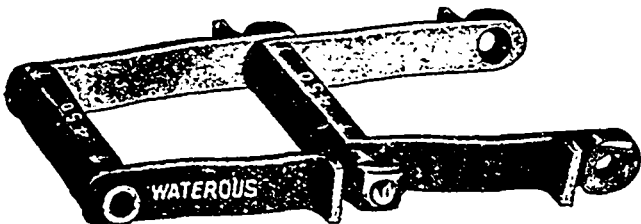


F 2
Scraper Attachment.

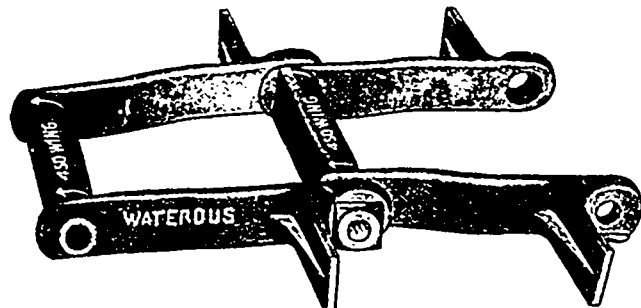
We carry in Stock 10 1/2 tons of EWART CHAIN in all the different sizes.



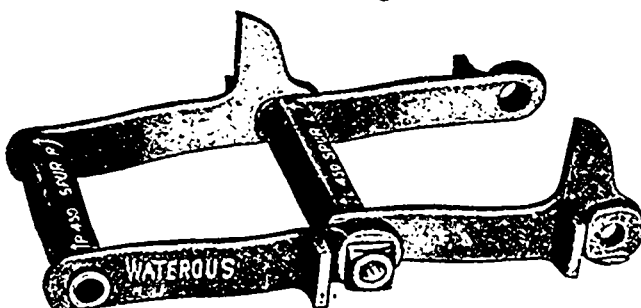
SPROCKET WHEELS OF ALL SIZES.



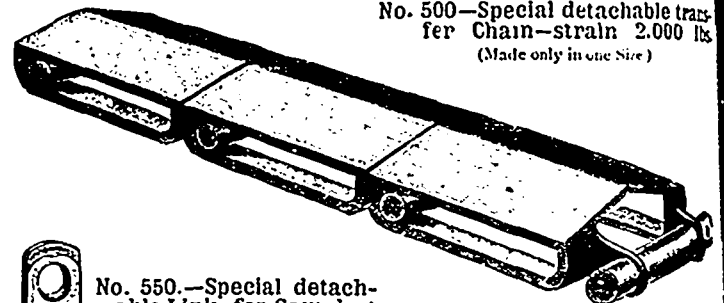
No. 450- Maleable Detachable Chain—Plain Link.



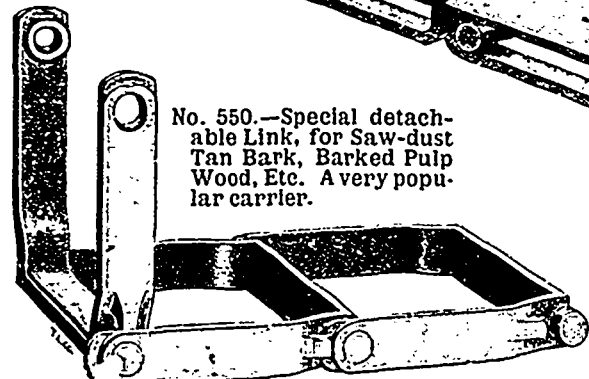
No. 450—Wing Link.



No. 450- Spur Link. (Right and Left.)

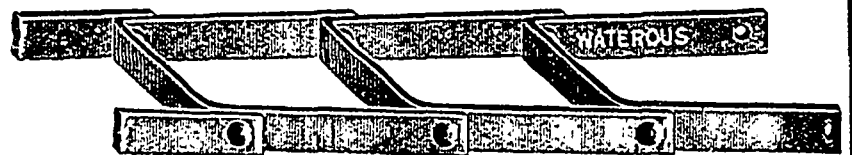


No. 500—Special detachable transfer Chain—strain 2,000 lbs.
(Made only in one size)

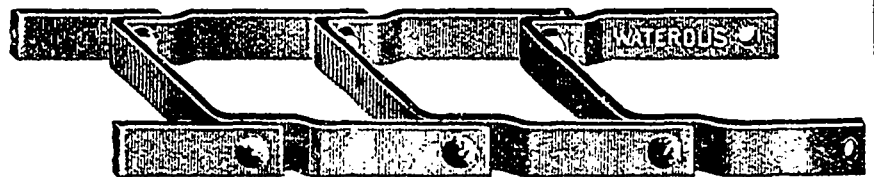


No. 550.—Special detachable Link, for Saw-dust Tan Bark, Barked Pulp Wood, Etc. A very popular carrier.

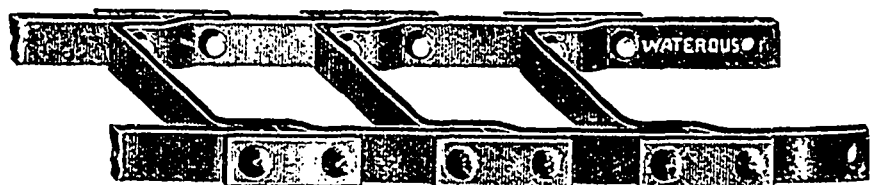
THE FORGED SAWDUST CHAINS



Style A Box Link.



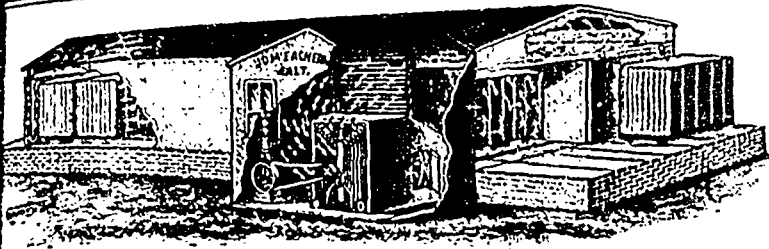
Style B Box Link.



Style C Box Link—with Strap.

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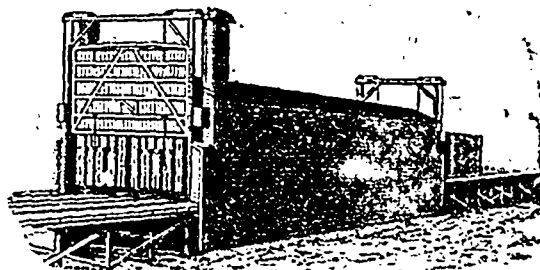
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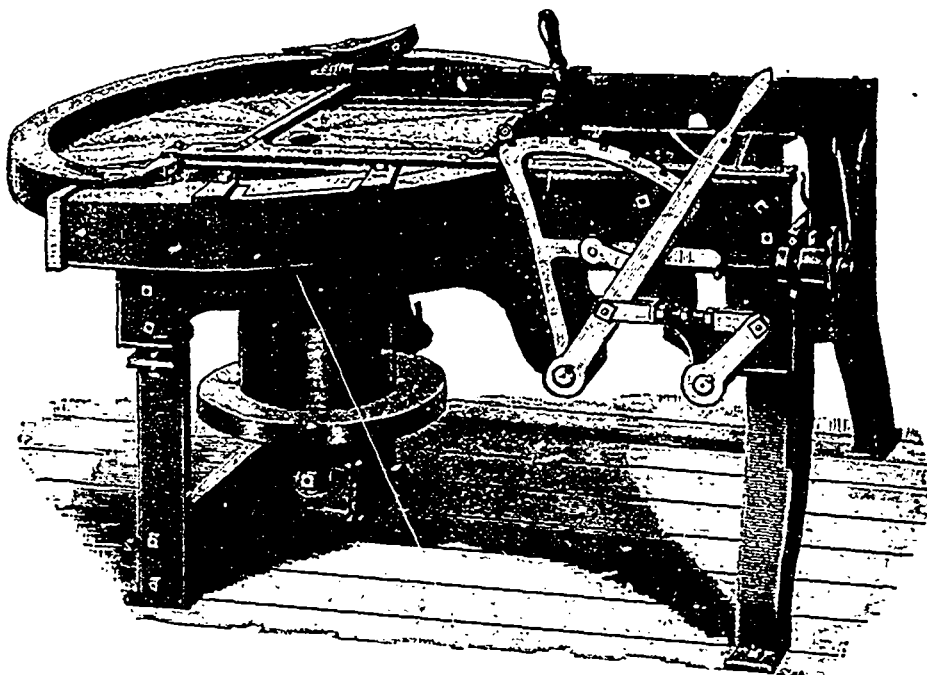
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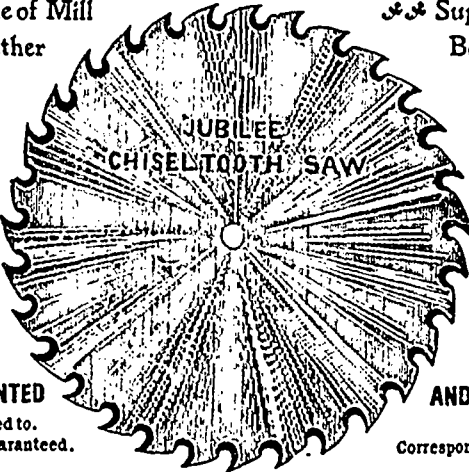
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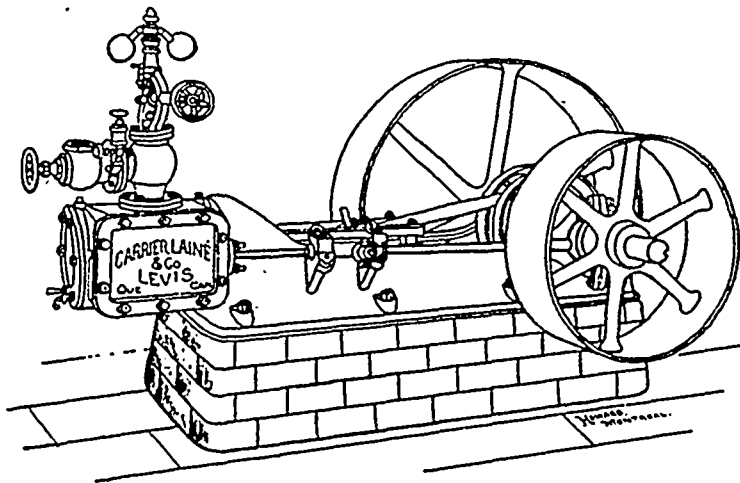
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