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THE CANADA LUMBERMAN

Wood-Workers', Manufacturers' and Millers' Gazette

XXII. 5 | TORONTO, CANADA, MAY, 1902 | TERMS, $1.00 PER YEAR Single Copies, 10 Cents

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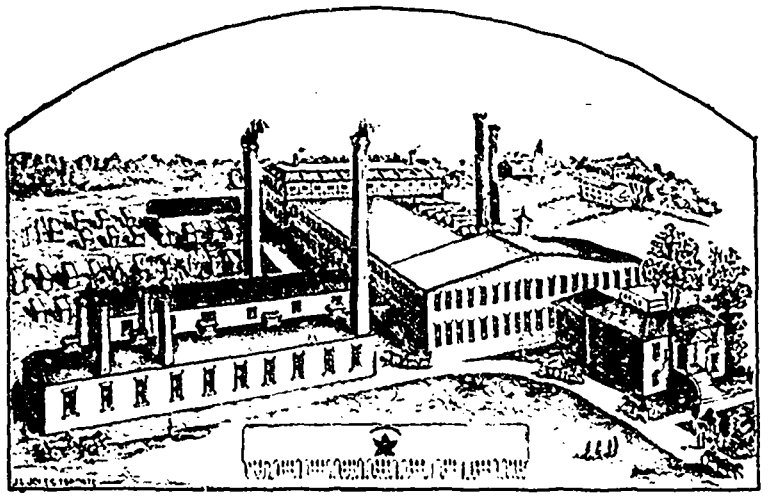

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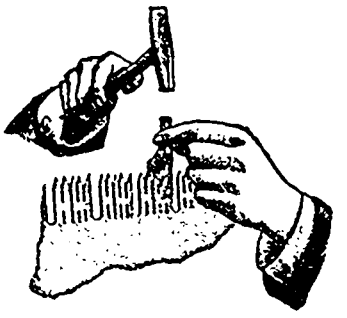

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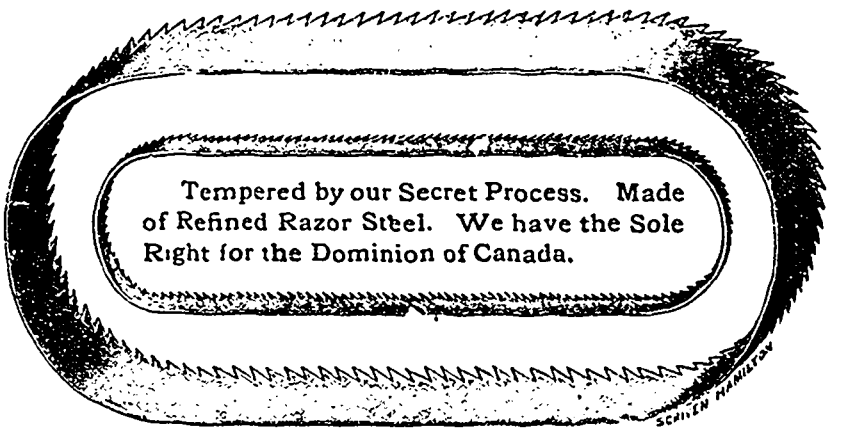

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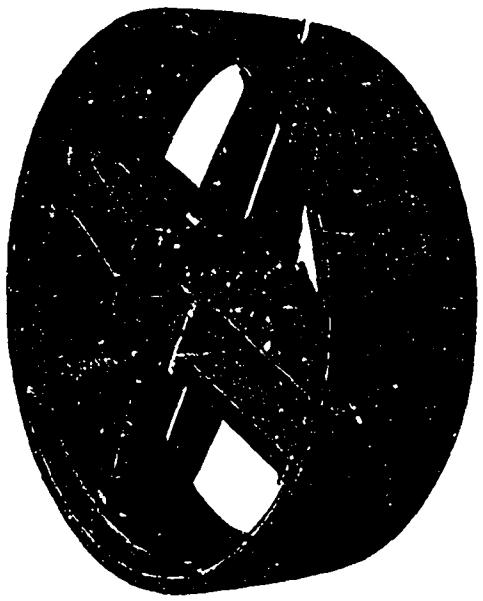

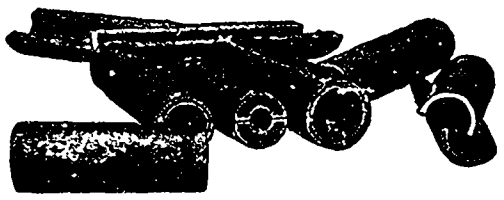

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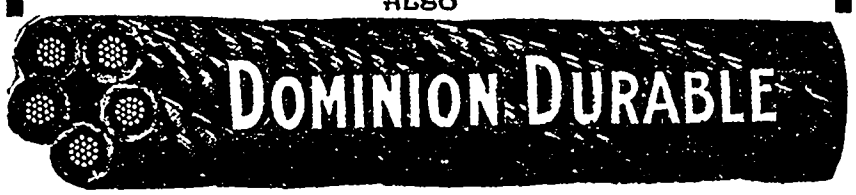

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THE CANADA LUMBERMAN

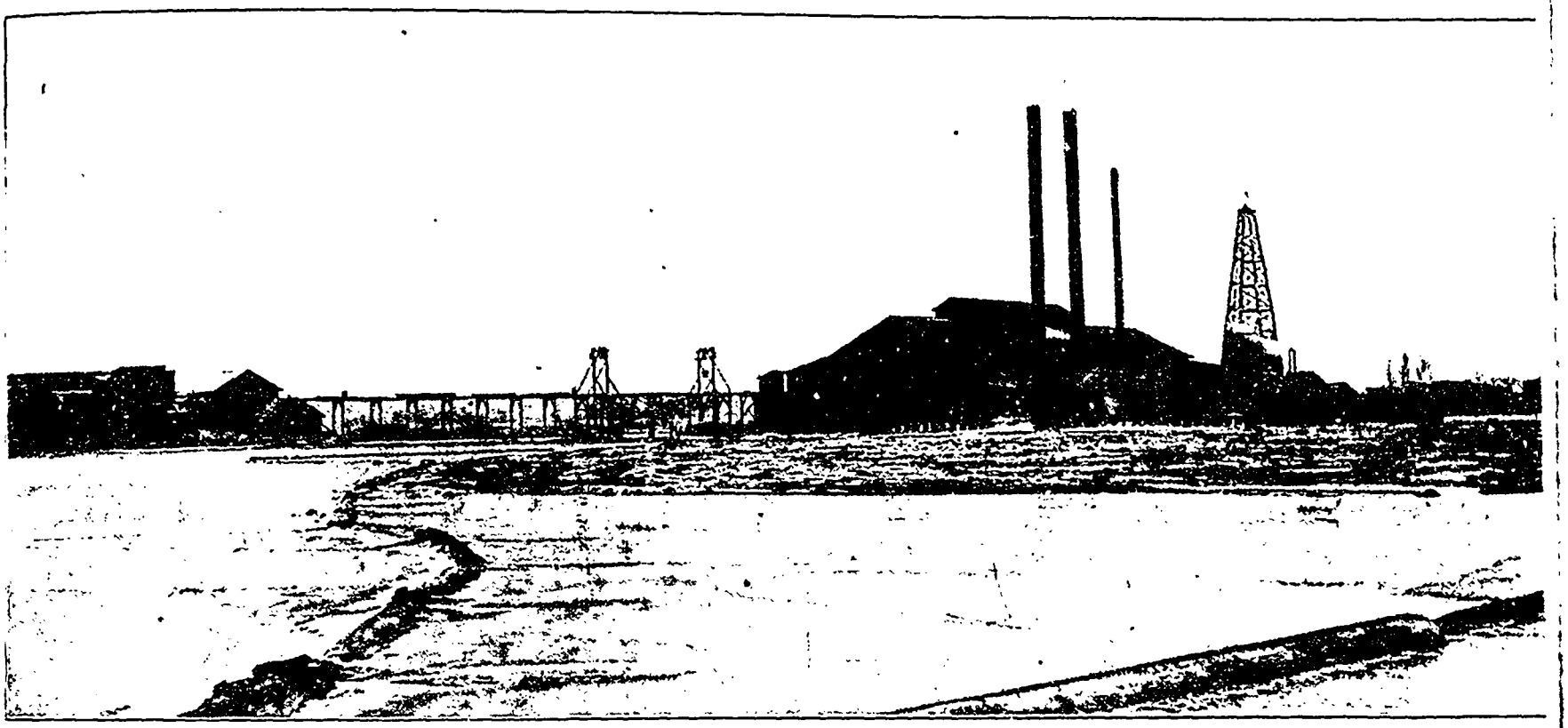
VOLUME XXII. NUMBER 5 } TORONTO, CANADA, MAY, 1902 { TERMS, $1.00 PER YEAR Single Copies, 10 Cents

THE SARNIA BAY MILL.

Mr. Edmund Hull, of Detroit, has for many years conducted lumbering operations in Michigan. The difficulty of obtaining a supply of raw material induced him to establish, last year, a mill on the Canadian border, where he would have access to the pine timber of Northern Ontario. This mill has been built at Sarnia and is shown by the accompanying illustration. It contains a band saw, circular and gang, and has a capacity of 25,000,000 feet a running season. The power is supplied by seven boilers and two engines.

The timber manufactured is chiefly white and red pine and is obtained from the Spanish river. The lumber is disposed of both wholesale and retail, and shipments are made by water and by Grand Trunk Railway. There is about a mile of tramway leading to the St. Clair river docks and to G. T. R. sidings. Large quantities of lath and shingles are also manufactured, and the company are building a salt block.

Mr. Hall is the owner of sufficient standing timber to stock the mill for a number of years. The local manager is Mr. H. Morey.



THE SARNIA BAY MILL, SARNIA, ONT., OWNED BY MR. EDMUND HALL.

CANADIAN LUMBER WANTED IN SOUTH AFRICA.

Mr. James Cumming, special commissioner appointed by the Dominion Government to report respecting the possibilities of increased trade between the Dominion of Canada and British South Africa, has submitted the results of his investigations. First among the articles that will find a ready market he places lumber and manufactures of wood, concerning which he says :

The demand for lumber of all kinds is enormous, and this should be one of Canada's largest exports to South Africa ; Sweden, Norway and the United States have heretofore furnished the bulk of the timber and lumber required. Canadian lumber has been going in via New York, bought by United States dealers at a low price, in the rough, taken down in United States barges from Ottawa, Oswego and Buffalo, prepared and dressed in suitable width and sizes, as ceilings, skirting, flooring and casings, for the African trade, and $30.00 to $60.00 per M. realized, c. i. f. New York, for what probably cost $15.00 to $25.00 in Ontario.

In this as in other Canadian products, the United States exporters buy our raw materials, prepare them for the foreign consumer, and sell in the foreign market, thereby getting the cream of the trade and giving the skimmed milk to the Canadian lumberman, who is only the hewer of wood for the United States exporter. I would strongly urge our Canadian lumberman to study the methods of Scandinavian mills, import some Swedish or Norwegian mill hands, and economically prepare their lumber ready for consumption, and export direct to South Africa and Europe.

Most of the timber and wood imported is planed, grooved, and prepared ready for use, so that it can be easily worked up by the natives and Coolies. The scarcity of lime for plastering makes a large demand for wooden ceilings and interior housefurnishing. Large quantities of rough timber are also used for pit props in the mines and for docks and bridges, but the ravages of white ants in some districts cause southern United States pine to be preferred for work touching the ground.

The chief demand is for building purposes, as stone is not available and the bricks are generally very poor ; the principally buildings throughout the country consist of wood and iron. Africa is comparatively treeless and will always import all kinds of wood. The large imports from Norway and Sweden cannot be sustained in the future, as their supply is diminishing. Our red pine and spruce somewhat resembles the Norwegian lumber and should very easily fill its place ; consequently if our lumber is specially sawed and prepared in sizes, styles and finish now supplied from Norway and Sweden, there will be a healthy growing market.

Everything in the wood line for South Africa should be finished as near as possible ready for use, so that an ordinary carpenter can work it up. They require longer lengths of dressed lumber than is generally sold in Canada, ranging from 12 ft. to 24 ft. A steady demand exists for red pine and spruce, dressed and undressed, from 12 to 25 ft. in length, ¾-in., 1-in, 1¼-in., 1½-in. and 2-in., in thickness, by 6-in., 8-in., 9-in., and 11-in. in width. British Columbia cedar is in demand and lately Oregon pine deals have been introduced.

THE PULP INDUSTRY IN CANADA.*

By D. LORNE McGIBBON,
Manager Laurentide Pulp Company, Grand Mere, Que.

You will notice by referring to your programme that the title of the paper which I am to give you is "The Pulp Industry in Canada." The pulp industry in Canada embraces so much matter that were I to attempt to cover it in all its details, I would consume so much of your valuable time and attention that I feel sure you would never want to hear the word "pulp" mentioned again.

When your worthy assistant secretary first requested me to give a paper before this convention, he mentioned the fact that Mr. J. C. Langelier, Superintendent of Forest Rangers for the Province of Quebec, in his paper entitled "The Pulp Industry in Relation to our Forests," had made reference to the complete system with regard to cutting timber, which would assure a supply ad finitum for the Laurentide Pulp Company and asked me for a paper dealing with the system and organization of the operation of our timber limits, as well as the system pursued for the preservation of our forests. In reply to this request I stated that I thought a paper on the subjects he mentioned would be superfluous at the present time, owing to the fact that enormous quantities of pulp wood were allowed to leave Canada with a very small export charge, and that in the procuring of pulp wood for exportation more ruthless cutting, damage to forests and depreciation of same took place annually than the Forestry Association could hope to offset by the preservation of limits controlled and owned by the Crown or Canadian manufacturers. At the same time I mentioned the fact to your assistant secretary that I was not competent to give a paper on forestry or the preservation of forests, but that if it would be acceptable to your Association, I would endeavor to show that Canada was not pursuing a proper policy for the preservation of her forests as an asset, and also was not getting the best possible results.

As you are all probably aware, pulp, whilst being a manufactured article from wood, is still only a basis of raw material for the manufacture of paper. The two principal grades of pulp in use to-day are mechanical, or ground wood pulp, and chemical, or sulphite pulp. Mechanical, or ground wood pulp, is almost explained by its name, as the process of manufacture is very simple, consisting principally of grinding wood into pulp. Chemical, or sulphite, pulp is a very much more intricate process of manufacture, and consists in treating the wood by chemical process, and thus separating the fibres of the wood by the extraction of resinous material. In the manufacture of paper 70 to 75 per cent. of the pulp used is mechanical, and the balance, 25 to 30 per cent. is chemical. Paper made altogether from mechanical pulp would not be satisfactory for newspaper or any of the finer grades, as the fibres of the pulp are to short too give the paper sufficient strength, so that it is necessary to use a proportion of sulphite pulp, which by its process of manufacture retains the long fibres of the wood, and thus gives the strength to the paper.

The first consideration, therefore, to the manufacturer of pulp is his raw material and power. An enormous quantity of water power, on account of its cheapness, is necessary for the manufacture of mechanical pulp, and therefore it is usual for a pulp manufacturer to locate his mill at a point where there is good water power and where his source of supply of pulp wood is close at hand. A pulp manufacturer, having his water power assured and his source of supply of pulp wood for his raw material located, then figures on the quantity of raw material he will require for a season's operations. For the manufacture of a ton of mechanical pulp it takes a trifle over a cord of spruce wood, and for the manufacture of a ton of chemical pulp it takes almost two cords of spruce pulp wood. If, therefore, the pulp manufacturer has a capacity of so many tons of each kind of pulp per day, it is very easy for him to figure the exact amount of pulp wood he will require for the operation of his mills for a year. If he should have his own limits, his first step in procuring his pulp wood is to know exactly what his limits consist of and the amount of available spruce logs that are contained in same. As the Government regulate the size of a tree to be cut, he must therefore only figure on cutting trees in accordance with these regulations. In the case of the Laurentide Pulp Company, who own such a large area of timber limits, we have found it much more practicable to divide these limits into three districts, having a superintendent over each district. We have also found it much more practicable for each of these superintendents, by giving his whole time and attention to his district, to become thoroughly acquainted with all rivers, streams and lakes in same, and where the best points are to procure logs to advantage, rather than have one or two men for the entire limits, which by their large area would only permit them, to say the least, to have a superficial knowledge of it all.

Having, then, determined the quantity of pulp wood to get out in a season, and having your limits divided into districts, with a man thoroughly familiar with the conditions of each district, you determine the quantity you will get from each district. As a pulp manufacfacturer wants to ensure a uniform cost of his raw material for years, it is therefore bad policy for him to attempt to pick out the easiest spots to get pulp wood one year, and leave the hardest and more expensive places for a following year. Under the circumstances it is necessary for him to average this up, taking some of the expensive wood each year so as not to leave it all for future operations.

It is the policy of most pulp manufacturers to procure their pulp wood, or, at least, a large portion of it, by letting contracts to jobbers or contractors. This to my mind is a very cheap way to procure pulp wood, but from my experience the results of this method are but temporary. It has been the practice in the past to allot a certain territory to a contractor and give him a contract for a certain number of logs. As far as I can learn, the territory allotted to a jobber in the past has been much too large for the quantity of logs that his contract calls for. As a natural consequence this jobber, who has only one aim, viz., to make money out of his contract, picks out the easiest spots in his territory, and no matter whether there are some large fine spruce logs in his territory that should be cut, but which would cost him a trifle more to get out, he will leave these standing. The following year, therefore, when a contract is let in the same territory, a higher price is demanded owing to the timber being scattered and only the hard places left to lumber in, and it usually ends up with the result that no contractor will go into this territory except at an exorbitant price, and it therefore falls to the lot of the pulp manufacturer to establish his own camps and get out the remaining available logs at a very high cost. This point I wish to emphasize more particularly, and that is, when a contract is let for a certain quantity of logs the area of territory should be limited, and so thoroughly explored that it can be cleared systematically of the logs that should be cut. As contractors for logs are more or less men of moderate means, and who, if a bad season sets in and a possible loss in fulfilling their contract stares them in the face, either fall far short of their contract or abandon it, it is therefore necessary for a pulp manufacturer, in order to be safe regarding his raw material, to establish some of his own camps which will get the logs out no matter what the set-backs are. It has been amply demonstrated that a camp, or camps, operated by a company cannot get logs out as cheaply as a jobber or contractor, at least in the Province of Quebec where the timber is scattered and the country very mountainous, but the results obtained by operating camps direct are in the long run very much more beneficial than from contractors. The Laurentide Pulp Company, as mentioned before, having such a large territory, and requiring such an enormous quantity of pulp wood for the operation of their mills, have found it advisable to employ two inspectors, one for the jobbers or contractors and the other for its own camps. It is the duty of the former inspector to inspect regularly and frequently all jobbers' camps, and to see that these jobbers do not waste the timber nor break the Government regulations. He also sees that all logs are stamped and properly culled, and when he finds anything out of the way, he reports it direct to the management of the company. The inspector of the camps acts in a similar capacity, but reports on the general conditions of the camps in addition to the above.

Another bad feature of giving contracts to jobbers for logs is, that it is usual to give a contract for a certain quantity of logs to be of a uniform length. Suppose, for example, that a contract has been let for 50,000 spruce logs 13 feet in length, 7 inches at the small end and up. A contractor, when he cuts down a tree, will only make from this tree logs of 13 feet in length, and I have found from personal experience that a large proportion of these trees would permit of another log being cut from 8 to 10 feet in length, and still not be under 7 inches in diameter at the small end. This part of the tree is just as good for making pulp as anything else, but, as you know, the cost of handling and driving a small log is almost as great as a large log, and if a manufacturer only considers his immediate circumstances, and his immediate cost of raw material, he will not bother with these ends of a tree, but if he considers the fact that his raw material is worth money, and that by leaving these ends of the trees in the woods he is simply throwing away part of his assets, and in addition to this is enhancing the danger of forest fires, he will, even at a slight extra cost, have these taken to his mills with the larger logs. In the case of a company operating its own camps this should be done in any case. In the case of the logs being cut for export to the United States, these ends of trees are not considered of any value.

The next step in the cost of raw material is the handling and driving of these logs to the pulp mills, and this is a point I wish to emphasize very particularly. The cost of pulp is determined largely by the quantity produced, as the fixed charges of a pulp manufacturing concern are almost the same whether a larger or smaller quantity of pulp is manufactured. It therefore is apparent that a large pulp mill has an advantage over a smaller one, and this refers more particularly to the cost of handling and driving the logs to the mill. As you are all no doubt aware, it costs very little more to drive a larger quantity of logs than a smaller quantity, and therefore if a pulp manufacturer has a large quantity of logs to handle, it pays him to make permanent improvements on his streams, lakes and rivers so as to lessen the cost of driving operations as well as ensure the safety of the logs.

The cost of manufacturing pulp is determined largely by the cost of the raw material, viz., pulp wood, and it is natural, therefore, for a pulp manufacturer to endeavor to obtain his supply of raw material at the very lowest possible cost. In doing this, however, it seems to me that in the past, at least, it has been done at the expense of his prime asset, viz., his pulp wood limits, and he will find that each year his cost will grow greater; whereas by systematically getting a proportion of expensive wood each year with the cheap wood, and eliminating all source of wastefulness in the cutting of logs, and by making improvements so as to lessen the expense of driving operations, he will in the long run make more money and be better off than the manufacturer who simply looks one year ahead.

The raw material, or pulp wood logs, having arrived at the booms in front of the mills, their conversion into pulp is an entirely different business from the logging operations. I do not intend to go into the details of manufacturing pulp wood into pulp, except to say that so far as the pulp wood is concerned, it should be as carefully watched as coal or any other article that costs money. I fear, however, that a great deal of waste is incurred in preparing the pulp wood for manufacturing. In the case of the Laurentide Pulp Company, we allow nothing to go to waste, and even if a block of wood should come along with a certain amount of rot in it, instead, as is the usual custom, of using it for fire wood, the rot or imperfections in the wood are extracted and the balance used for manufacturing pulp.

In Canada there are more mills manufacturing mechanical pulp than anything else, and as this is a comparatively easy matter and requiring less capital, it is bound to grow considerably. The manufacture of chemical pulp is very much more intricate, entailing more expert labor, and therefore has not grown to the extent of mechanical pulp mills.

As stated previously, the manufacture of pulp is only a step in the manufacture of paper, and the object of my paper is more for the purpose of showing what Canada is losing by not manufacturing this pulp into the finished product of paper than anything else. As an example of what this means to Canada, we will commence with a cord of wood. We will say, for con-

* Paper read before the Canadian Forestry Association.

venience sake, that a cord of wood is worth $3.50. When this is exported out of the country all the benefit Canada derives from it is the amount of labor expended in cutting this cord of wood, and the stumpage, if any, which is paid the Government. By converting this cord of wood into mechanical or ground wood pulp, it means an expenditure in Canada of at least $7.00 per cord for both labor and material, and all of which can be obtained and produced by Canada. By converting a cord of wood into chemical or sulphite pulp, it means that an expenditure of at least $15.00 per cord is made for both material and labor. All of this, with the exception of the sulphur, which has to be imported from Sicily, can be produced in Canada. In the conversion of these pulps into paper, it means that a cord of wood, originally costing $3.50, is manufactured into a finished product worth about $40.00 per cord, all of which is for material and labor, the most of which could be produced and manufactured in Canada if the business were sufficiently large. At the present time there are over one million cords of pulpwood exported to the United States annually, worth, we will say, three and a half to four million dollars. If this quantity of one million cords of pulpwood was converted into pulp, and then into paper in Canada, it would mean that an expenditure for labor and material in Canada would take place of over thirty millions of dollars annually. For the manufacture of this large quantity of pulp and paper it would require, however, several times this amount for permanent investment in the limits, water power, mills and machinery, and this in itself would mean a huge thing for Cadada.

It therefore seems to me that the principal question before the Dominion and Provincial Governments is, first, how to accomplish the manufacture of this large quantity of paper in Canada, and secondly, how to dispose of it after it is manufactured. At the present time the United States exacts a duty of $1.67 per ton for mechanical, or ground wood pulp, and $3.33 per ton for chemical, or sulphite pulp, and has a duty on newspaper that is prohibitive. The effect of this policy is apparent on the surface, as it provides the manufacturers in the United States with their raw material in a partly manufactured state at a low cost, and prohibits the competition of foreign paper. In addition to this, Canada seems to be the ally and friend of the United States manufacturers, as it allows them to come into Canada and procure their raw material, in the shape of pulp wood, with little, if any charge, and the United States government allows it to enter into the United States free of any duty. The effect of this policy on Canadian manufacturers is, to say the least, very unfair. The Canadian manufacturer of both kinds of pulp has to compete with the American manufacturer of both kinds of pulp at a disadvantage, by the amount of the duty imposed by the United States government on the pulp. This competition at certain times has been ruinous to the Canadian manufacturer. As an example, during the summer of 1901 the paper market was very dull, and as a consequence the amount of pulp consumed by paper manufacturers diminished considerably. The over-production of pulp in Canada and the United States was very large, and the prices dropped until they reached a point where a loss was incurred. The over-production was caused absolutely by the American pulp mills that procured their supply of pulp wood from Canada, and as a consequence, owing to the protective duty the United States pulp manufacturers had, the Canadian pulp manufacturers were obliged to curtail their manufacturing operations until such time as prices reasserted themselves. This state of affairs would not have happened had not Canada allowed her pulp wood to go out of the country for a mere song.

As mentioned before, the overproduction of pulp was caused by the pulp manufacturers of the United States, who procured their supply of wood in Canada. If these mills had been out of the market, it would not have been necessary for Canadian manufacturers to have curtailed their operations last summer. It is true people say Canada has the world for its markets in pulp and paper, but I am afraid that too many people hazard this opinion without giving it the consideration it demands. In England, where our principal market at present for both pulp and paper lies, we have the serious competition of Norway and Sweden, and it is no mean competition. Whilst I do not believe that either Norway or Sweden have as good wood for manufacturing pulp or paper as Canada has, still they have many advantages that we have not, and as a consequence they are able to sell their pulp and paper in England at a very low cost, and which Canada is obliged to meet in order to procure business.

It certainly seems absurd that Canada should allow her pulp wood to be exported from the country for a very slight charge, and that the American manufacturers, who use this wood, do not have any competition in the finished product, paper, from Canada in the United States but when Canada exports her paper to England or any other foreign country, she not only has to compete against paper and pulp manufactured in Norway and Sweden, but also comes into competition with paper and pulp manufactured in the United States from Canadian wood obtained from Canada almost for nothing. In addition to all this, the Canadian manufacturer to-day labors under great difficulties. He has to import from the United States the greater portion of his machinery and clothing of his paper machines, consisting of felts and wires, which amount to many thousand dollars a year, he has to use coal that is protected by the Canadian government to the extent of 60 cents per ton, he has to import his china clay from England, and the best grindstones also from the same place; he has to bring his sulphur from Sicily, and his chemicals from various countries of the world; he has to employ his expert labor from the United States, and which is controled by a union which curtails the production, and which union, while enforcing this rigidly on Canadian manufacturers, makes exceptions in the United States. We are also handicapped in our export trade during the winter months by the long haul to our winter ports.

The sum up the whole matter, it appears very much as if the Canadian Government did not want to increase the manufacture of pulp and paper in Canada, but rather would prefer to supply American manufacturers with their raw material and be satisfied with a small revenue derived from the same. In conversation with a capitalist in New York two or three weeks ago, one who is largely interested in Canadian timber limits, I used the argument that if Canada prohibited the exportation of pulp wood until such time as the American government abolished, or diminished its duty on pulp and paper, the American manufacturers would in a very short while remove their mills to Canada. This gentleman, after arguing this point for a long time, said: "I believe that what you say is correct, but I cannot understand why you, representing a large manufacturing concern, should wish to make this fact prominent, as it would only invite competition for the company you represent. My answer to this was, that we would prefer all the competition that would take place, and having the United States market open to us, rather than have less competition and our present markets. In conversation with another United States manufacturer within the last few days, he made the same statement, and from my own personal knowledge, I feel quite certain that it would not be long before a certain proportion of the United States manufacturers would be obliged to remove their mills to Canada if they wished to compete with Canadian manufacturers when the United States market was open to them.

It is true that the United States is not wholly dependent upon Canada for its supply of pulp wood, as is evident by ex-Governor Powers' remarks at the Paper Trade banquet in New York, two or three weeks ago. Ex-Governor Powers made the statement that in Maine alone they had 12,000 square miles of territory, containing five hundred million feet of spruce, and which in his judgment, if properly handled, would be an inexhaustible supply for American paper manufacturers. I do not agree with ex-Governor Powers in this statement, as five hundred million feet is a mere bagatelle to United States manufacturers of pulp and paper.

In addition to this, the Canadian Government saw fit a short while ago to reduce the duty on newspaper entering into Canada. The Canadian market is so small that this only interferes with the smaller mills, who are dependent on the Canadian trade for their existence, but it certainly seems unfair that the Canadian Government should do this, as it will enable the United States paper mills, when their production is greater than the demand, to dump their surplus in Canada. As long as the United States have a prohibitive duty on paper, Canada should do the same, but an abolishment of both would be the best.

I ask you also, why is it that American capitalists have to-day invested in Canadian timber limits and Canadian water powers, without developing the powers and cutting the limits. Why is it, I ask, but to prepare for the time when Canada will come to her senses and they will be obliged to manufacture in Canada, or otherwise get out of business. These men are not short-sighted, and although they did procure a promise from the Quebec government that no extra stumpage over and above 25 cents per cord would be charged by them for the next ten years, they still feel that it is necessary to look farther ahead than this. I ask you also why it is that the Quebec government a short while ago raised the stumpage on pulp wood cut from Crown timber limits for export into the United States to $1.90 per cord, thus giving a preference to the Canadian manufacturer of $1 50 per cord –why is it that they reduced this later on to 65 cents per cord without any advance notice of what their intentions were? Why is it that they reduced this to 65 cents per cord, thus reducing the preference in favor of Canadian manufacturers to 25 cents per cord? Would it not be better for the Quebec government, instead of selling its timber limits with a guarantee of this kind, to assist in building up Canadian manufactures of pulp and paper, which would necessitate their purchasing further timber limits from the Quebec government, and in the development of these the stumpage to the Quebec government would increase, and be a regular source of revenue, rather than to continue its present policy.

The Laurentide Pulp Company to-day manufacture about 100 tons of paper and cardboard per day; 125 tons of ground wood pulp per day; 70 tons of sulphite per day, and cut from ten to fifteen million feet of pine umber each year. To do this, it has required an investment of nearly four millions of dollars, and the annual payment in wages of about one million dollars, and as a result of this the town of Grand Mere, wholly and absolutely dependent upon the Laurentide Pulp Company, has sprung into existence, and to-day has a population close on to five thousand. In addition to this, the villages adjacent to Grand Mere have all grown, and the rural population in the vicinity of Grand Mere are thriving and doing well. Canada could have twenty such mills as these in a short time if she would come to her senses and adopt the proper policy. Would it not be better for Canadians to have a permanent advancement of this kind, even though it did take a few years to obtain?

Possibly the question might arise as to the Canadian farmers who dispose of their pulp wood at the present time. These farmers would have a better market with just as good prices as they have at present, if their purchasers were Canadian manufacturers instead of American manufacturers. Whilst on this subject, I might make mention of the fact that the so-called farmers of Canada who dispose of their pulp wood to American manufacturers do not deserve all the sympathy and support that one would think. In our own district, I know several instances where these men obtained lots from the government, presumably for settling purposes, but who, when the timber was cleared off, obtained another lot in somebody else's name. These men are doing more damage to Canadian forestry than any one else, and it is the duty of the present government to give this special attention, and see that it is stopped as soon as possible.

Canada has an opportunity to-day to show her wisdom and her foresight. If the government would take up this question as seriously and as vigorously as the Department of Public Works has taken up the question of river and harbor improvements, we might hope in the near future to see the paper industry of the world centered in Canada. At present Canada is floundering in the dark, and her wide-awake competitors are taking advantage of this. Nothing in this world is gained without a struggle, and a struggle cannot take place unless the parties are determined. Canada should be determined to make the most out of her timber assets, and should not fear to take a decided step in this connection. The trouble is that Canadian politicians do not study the question sufficiently, and are too easily swayed by outside influences. I do not say that it would be a wise thing for Canada to always have an export duty on her pulp wood, but I do say that there should be a sufficiently high export duty on pulp wood so as to make it practically prohibitive until such time as the United States government open their market for the finished product to Canadian manufacturers. This is only fair and just, and I cannot see why any hesitation should take place in adopting it. Canada has an opportunity now that should be taken advantage of. If she does not do so quickly, it simply means that she is not only losing an opportunity, but is losing time that cannot be recalled.

THE
Canada Lumberman

MONTHLY AND WEEKLY EDITIONS

PUBLISHED BY

The C.H. Mortimer Publishing Company of Toronto, Limited

CONFEDERATION LIFE BUILDING, TORONTO.

BRANCH OFFICE:
IMPERIAL BUILDING, MONTREAL.

The LUMBERMAN Weekly Edition is published every Wednesday, and the Monthly Edition on the 1st day of every month.

TERMS OF SUBSCRIPTION:

One Copy, Weekly and Monthly, One Year, in advance... $ 2.00
One Copy, Weekly and Monthly, Six Months, in advance.. .50
Foreign Subscription, $3.00 a Year.

ADVERTISING RATES ON APPLICATION.

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

Especial 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 in which it can rely in its operations.

Advertisers will receive careful attention and liberal treatment. We need not point out that for many the CANADA LUMBERMAN, with its special class of readers, is not only an exceptionally good medium for securing publicity, but is indispensable for those who would bring themselves before the notice of that class. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which will be inserted in a conspicuous position at the uniform price of 15 cents per line for each insertion. Announcements of this character will be subject to a discount of 25 per cent. if ordered for four successive issues or longer.

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

LOGGING METHODS.

AMONG the many problems which confront the saw mill man, that of getting the logs to the mill is perhaps surrounded by more uncertainties than any other. It is one, too, that is growing in importance as the timber supply adjacent to the streams becomes cut away.

This increased difficulty of insuring a log supply has not, it would seem, aroused the spirit of the inventive genius to the same extent as in other branches of lumbering. The modern saw mill represents improvements to meet almost every conceivable contingency which may arise; but in logging methods there has been little advance within the past decade at least.

It is indeed an ideal season when the logs do not become stranded at some point between the stump and the mill. If there is too much snow in the woods cutting is interfered with; if the snow leaves too early in the spring the logs cannot be hauled to the streams; if they reach the streams and the snow goes away rapidly, they are likely to be hung up; if the snow leaves too gradually and there are no heavy rains, the moisture sinks into the soil and the streams do not swell sufficiently for driving operations. The discovery of some practical method by which lumbermen will be less dependent upon weather conditions would be a great boon to the industry.

The building of railroads for logging purposes alone is expensive, yet it has been resorted to quite largely in some sections of the United States. The adoption of the cable and donkey engine, as employed in the west, suggests itself, but one of the difficulties with that method in this country is that the timber is too scattered. It is practical where from 20,000 to 40,000 superficial feet of merchantable timber per acre can be obtained.

The employment of steam logging machines instead of horses would seem to offer one of the most likely solutions of the logging problem, and yet the experience of Canadian lumbermen in this direction in the past has not been encouraging. A few years ago a logging machine was used by Messrs. Perley & Pattee, of Ottawa, but was found unsatisfactory. The Hawkesbury Lumber Company also sent a similar machine into the Petawawa country. They made a first-class road five miles long, and had some 30,000 logs to haul. The parties, however, failed in the contract. It is understood that the machine in question was too heavy. It weighed 13 tons and was 30 feet long. The claim of the manufacturers was that three men on a five-mile haul would perform the work of forty double teams and their drivers.

It is reported that a logging machine of unique design was employed last winter with success in the Maine woods. Its peculiar feature is said to be the system of driving the machine over the road. Outside the driving wheels, which have gear teeth cut in them, is an endless chain, made of heavy plates of cast steel. These plates also have gear teeth cut in the side of them that run on the driving wheels. On the outside of these plates are projections which prevent them from slipping as the wheels turn them round and give them a better hold on the road-bed over which they run. It is claimed that the engine can easily haul as much as forty horses.

It may be expected that some tangible improvements in logging methods will be accomplished in the near future, for which the lumber trade will be sincerely thankful.

THE TIMBER POLICY VINDICATED.

WE must once more refer to what is now recognized as the national timber policy of Canada, as another link has been added to the chain of evidence which so admirably vindicates the principle of home manufacture. Assurance has been given by the British Columbia Government that the export law of that province will not be repealed. The effects of the law have been almost instantaneous. Only a few months have elapsed since it became operative, yet in that time it has been clearly shown that the legislation is in the interest of the province. The shingle trade, the branch of the lumber industry directly affected, has quickly attained greater prominence. Many American firms which formerly operated their mills on Canadian cedar, are building mills in British Columbia. The result has been the immediate transfer of large industries from American to Canadian soil, and before long the British Columbia shingle industry promises to assume its true importance.

Subsequent developments have blotted out almost every argument which the opponents of the prohibitory measure put forward. More employment has been provided for the working man, and when the mills to be built by American firms are put in operation, the population will doubtless be considerably increased. There is little doubt that the improved conditions which are being brought about will be permanent, as it has been proven that the country which supplies the raw material may control the industry dependent on it. That Canada has not always done this in the past is due to a disposition to give away our raw material to our neighbors to the south.

And now we look to Quebec to fall into line by prohibiting the export of pulp wood. At present the law gives a preference of 25 cents per cord when the wood is manufactured into pulp within the province. This preference is not sufficient to restrict the export of pulp wood in the slightest degree, and it has never been clear why the government should have reduced the preference to this small sum.

As the export of pulp wood from Ontario is prohibited, almost the entire quantity which goes to the United States is exported from the province of Quebec. At the lowest estimate, about one-sixth of the pulp wood supply of the United States is obtained from Canada. In this way we are contributing to the building up of a large pulp and paper industry in the United States, the product of which is in large part exported to other countries. The exports of paper from the United States last year amounted to 115,000,000 pounds. By prohibiting the export of pulp wood, many of these pulp and paper establishments would be transferred to Canada, as has been the case with the saw and shingle mill industries in Ontario and British Columbia.

At the recent forestry meeting in Ottawa Dr. Fernow, Director of the New York State College of Forestry, remarked that he regarded it as a piece of stupidity for the Canadian Government to permit the export of timber. This opinion is more general in the United States than may be supposed. The American Lumberman, the exponent of the lumber industry of that country, elucidates this fact in the following extract from a recent issue:

"The pulp mills of the United States are able to bring across the border without duty all the wood they care to, and as a matter of fact they buy vast quantities in Canada, especially in the provinces of New Brunswick and Quebec. The latter province allows the exportation of pulp wood on very easy terms, the charge being only 25 cents a cord, and one of the chief sources of revenue of the roads that cross the St. Lawrence and enter the United States from Canada is the transportation of pulp wood. It is to be regretted that we have no statistics at hand as to this business, but it is heavy and growing rapidly. Something less than a year ago the Quebec Government lowered its discrimination against exportation of pulp wood, and many pulp mills on this side of the line get all or a large portion of their supplies of wood from the provinces. The lumbermen all along the St. Lawrence are busy getting out pulp wood for the American market."

Efforts are made by the United States to conceal their dependence upon Canada for a supply of raw material, but it is not difficult to realize the true situation. The Eastern States possesses comparatively little timber, and but for the lenient policy adopted in the past by some of our provincial governments, many of the mills established there would ere this have been removed to this side. With the precedents now existing, the Quebec Government should have sufficient backbone to compel the manufacture of timber within the province.

EDITORIAL NOTES.

APPARENTLY the British timber market is not to be disturbed by an import duty, as Sir Michael Hicks-Beach, Chancellor of the Exchequer, has submitted his budget, which contains no provision for a tax on timber. To some persons this is a surprise, as there was a firm conviction in certain quarters that a duty would be imposed. This is evidenced by the fact that insurance rates against the imposition of the tax rose to 30 guineas per cent. While Canada would not likely be seriously affected by such a duty, it is a matter of gratification that none has been imposed, as it would necessitate a certain readjustment of the timber business.

THERE is said to exist a slight prejudice against the use of spruce lath on the ground that sometimes they discolor the plaster. Recent inquiries from leading contractors in the Maritime Provinces would seem to disprove this contention. Messrs. B. Mooney & Sons, of St. John, write they have never seen any stain or discoloration from spruce laths, and that, when clear of sap and wane, they give good satisfaction. In the eastern markets, including Boston, New York, and Philadelphia, spruce laths made from slab stock bring higher prices than any other. It is claimed that pine laths containing knots or balsam will discolor the plaster, whereas this drawback is not met with in the case of spruce. As the merits of spruce laths become more generally known a greater demand for them will develop.

A VOLUMINOUS report on railway commissions and railway rate grievances was presented to the Dominion Government last month by Prof. S. J. McLean, commissioner appointed for that purpose. Prof. McLean has evidently thoroughly investigated the question, and his report seems to confirm the contention that there is room for improvement in the regulation of railway rates and traffic. Acting upon his recommendation, Hon. Mr. Blair has introduced a bill in the Dominion Parliament providing for the appointment of a railway commission and to amend and consolidate the existing railway laws. The commission is to consist of three persons, one a lawyer of large experience and some knowledge of railway business, another an experienced railway man, and a third a man with large knowledge of general business. This board will replace the existing railway committee of the privy council, and in it is to be vested power to fix all traffic rates on railroads and lakes, rivers and canals. While the appointment of this commission is not likely to lead to the redress of all grievances, it is in accord with popular sentiment, and will probably result in securing more equitable rates for all classes and localities.

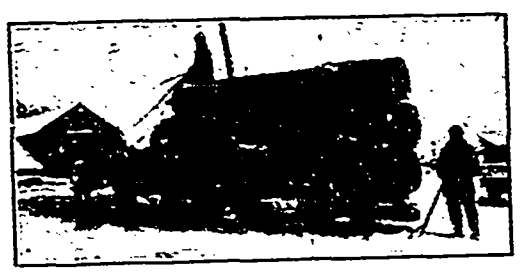
THE papers relating to pulp wood and pulp wood logging published in this number, in conjunction with the one in the April issue by Mr. Joly, are valuable additions to the literature of interest to pulp companies. They contain many instructive points, not the least of which is Mr. Joly's observations regarding the growth of spruce, a question on which opinions differ. Mr. Joly holds that nine years will be required for spruce to grow one inch in diameter on land not cut over, and seven years when the land has been cut over. This is a slower rate of growth than is usually calculated. Mr. McGibbon offers some valuable hints regarding logging methods. His experience that the diameter regulation for cutting should not hold good under all conditions, but should be subject to variation under certain physical conditions, is borne out by Dr. Fernow, director of the New York State College of Forestry. Mr. McGibbon advocates restricting the territory allotted to jobbers and the exploring by competent persons of all territory before it is cut upon, with a view to adopting the most economical methods of cutting and of giving consideration to forestry conditions. A strong objection to giving contracts to jobbers is shown to be the disposition to waste timber, as the contract specifying, as it usually does, logs of a certain length, the jobber will leave all shorter logs in the woods, whereas if the pulp company were conducting the operations itself, these logs would be taken. By the former method there is not only the loss to the company, but the government loses the dues on the timber which is left in the woods.

NATIONAL HARDWOOD LUMBER ASSOCIATION.

The next annual meeting of the National Hardwood Lumber Association will be held at St. Louis, Mo., on May 15th and 16th. In pleading for a large attendance the secretary says: "It is especially desirable that the coming meeting be thoroughly representative and that every section and department of the trade shall have a voice in its councils. The inspection rules will be considered and passed upon. Sentiment is divided as to whether the rules should be amended or left as they are, but it is practically unanimous that whatever action is taken should be final. No department of the trade can afford to be unrepresented in the deliberations upon this matter."

LOAD OF PINE LOGS.

Below is a reproduction of a mammoth load of logs recently received at Mr. J. R.



Booth's mill at Ottawa. The six logs on the load contain 14 standards, equal to 3,500 feet board measure. The logs were made 141 miles from Ottawa and railed to Ottawa next day, and sawn the following day.

A CANADIAN SAW LOG.

The illustration herewith is a reproduction of probably the largest pine saw log that has passed through an Eastern Canada saw mill in recent years. It holds the record in Mr. J. R. Booth's lumbering experience covering a period of 45 years. The log was seven feet in diameter at one end and 51 inches in diameter at the other. It was cut on Mr. Booth's limits near Madawaska, 181 miles from Ottawa, and brought by rail over the Canada Atlantic Railway to the Capital, where it reached the saw 24 hours after it left the stump. The log was too large to be sawn in the mill. About 6 inches had to be removed before it could pass under the upper saw guard.

A CANADIAN SAW LOG.

MANITOBA TIMBER RESERVES.

Mr. E. F. Stephenson, of Winnipeg, furnishes the following list of the timber reserves in Manitoba, and their areas:

	Acres.
1. Riding Mountain reserve, approximate area	927,376
2. Moose Mountain (Assa) reserve, approximate area	103,760
3. Turtle Mountain reserve, approximate area.	70,400
4. Spruce Woods reserve (near Carberry) approximate area	151,040
5. Lake Manitoba, West Tuelon reserve, approximate area	159,360
Total	1,411,936

LOST A CONTRACT.

A South African correspondent of the Toronto Globe writes as follows: "I remember a prominent Canadian out in this country had the option of giving a large contract. He knew that there were many firms in Canada willing and able to fill the contract, but could not recollect their names. I went over to the Government Library at Pretoria with him, to see if we could find any advertisement in The Canadian Magazine giving us the names we wanted. Oh, no; we could find no advertisement. We then looked in Montreal, Toronto and Ottawa papers, but there was no hint. All these cities had the factories that could have filled the contract, but none of the factories had enough enterprise to advertise in any of the papers one would meet outside of Canada. The contract, of course, went to Australia, whose business men have agents in this country hunting for a market, and finding out the exact requirements of their customers. I think we are supposed to have an agent in Cape Town, but as one can never find him, and as no one ever sees or hears him in connection with commerce, it is hardly to be wondered at that we get none of the trade that legitimately belongs to us."

THE MANAGEMENT OF PULP WOOD FORESTS.*

BY AUSTIN CARY,
Forester of the Berlin Mills Company, Brunswick Maine

I have received here the programme of your meeting, and note that you have put my name down on it. It is, therefore, with more than the strong regret I feel at the loss involved to myself, that I have to tell you I cannot attend. Neither have I opportunity to write an extended paper. The best I can do is to tell you very briefly of the methods of control of lands and logging practised by the concern by which I am employed, and indicate what has been our experience in the way of conservative cutting.

But first I wish put you and any others who may have control of spruce woods on your guard against a beetle which destroys spruce timber by boring round in the inner bark of the trees, thus girdling them. It is this insect, apparently, which has destroyed large quantities of spruce timber in Maine and New Hampshire at different time in the last thirty years. It is now doing considerable damage in the Androscoggin Basin and on neighboring land in both states, and I have myself traced it at different points across the boundary into Canada. This beetle, Dendroctonus by name, has been under observation in our forests for the last four years, and it has also been studied by an expert entomologist. From all we can learn it is by far the most formibable enemy that spruce has to dread in this country. Formidable it certainly is here. In my opinion it has destroyed half a million dollars worth of stumpage in the last ten years. You may have observed it in Canada. If not, I feel sure that its ravages have been overlooked and that careful examination of your land will disclose it. I will not say more of this matter, but will refer those interested to the literature sent and particularly to the box of specimens shipped you by express from Rangeley.

As for conservative cutting of spruce woods, I will say first and most emphatically that it a difficult and ticklish process, one that is likely to bring more loss than gain unless done with great care and considerable skill. It may be different in other countries, but that is the case here. Our timber is typically large and tall; much of it stands in exposed situations, on ridges and mountains; much is on extremely rocky lands. The winds are continually damaging our native uncut stands, and the thinning of woods in all such places as above is either entirely impracticable or must be done with the greatest caution to ensure what is left standing will not blow down.

As already said, the danger from the wind might be much less in another country. In this very region, indeed, considerable light cutting was done in decades past without incurring great proportional loss. That, however, was different work from what is required now.

Not more than a third or half the timber was taken then and that in bunches, the biggest and best, leaving thin strips and the difficult and steep places entirely alone. At the present time business conditions are different. A stick of spruce or fir scaling only 20 feet B. M. is merchantable, and has stumpage value if it is not too far away from other stuff. We are logging a good deal of rough, difficult lands with frequently a long and costly road built into it, requiring a heavy cut to pay the bills. At any rate, owners through this region expect that on any land logged over three-quarters of the stand shall be taken, and to take out three-quarters of the timber from most of the lands we have to handle, leaving the balance safe to grow and reproduce, is as I have indicated above, a very ticklish matter.

My experience in the actual handling of spruce lands covers four years. According to my observation, a logging boss trained to hard cutting when told that we wish to cut conservatively, is pretty sure to leave what he does leave not in the shape of small growth so much as in strips of scattering timber and odd corners on rough and difficult ground. This makes the logging show up cheaper, but it may be, on the other hand, that what is left standing is the very stuff that most needs cutting off. In other words, as a first result, instead of thinning or conservative cutting, we are apt to get simply slack cutting.

When this has been corrected and the man gets a better notion of what we are about, his next move is to leave the small growth uniformly all over the land. This may do in some countries, but it means loss here. Tall and slender trees left too open, anything less than a full stand, on divides and knolls, tall timber shoally rooted on rocky land—these items together may amount to a good deal in a logging job, and all of them are such that sooner or later they are sure to blow down.

Our day of reckoning came in December, 1900. Two gales came that month before the ground was frozen, one of them after a soaking rain. The loss suffered was not in cut over lands alone. Some of the down stuff we have picked up since at added expense. Some of it is so scattered that it is impossible to get it. Something of that, however, was to be expected.

We have not been discouraged, but have simply inferred that we must be more careful and exercise closer control of the work. We learned something ourselves by experience, and in course of time came to have a better understanding with the men. For the last two years I think we have been doing fairly well. Considerable merchantable stuff has been left to grow and for the most part I feel pretty confident about it. The key to success is variation of the cutting according to the stand and lay of the land. The critical matter, the thing which must be continually thought about, is the safety of what is left from wind. Mixed growth, that is to say, growth in which hardwoods comprise half or thereabouts of the total stand, can generally be thinned with safety and comparative ease. Elsewhere great care has to be exercised, and there is a great deal in picking strips and bunches to be left entire. This we frequently do with areas of small thrifty growth if there is no dead, failing or down stuff in them. Lastly, we do not hesitate, when we think that is the proper thing to do, to cut clean.

There is one side issue that might be elucidated here, and that is the form of contract under which work of this nature is secured from jobbers. The Berlin Mills Company owns serveral hundred horses and does its own logging largely, but a portion of its work is done by jobbers cutting by the thousand, and strange as it may seem, these men do their work as well and are fully as amenable to control as the company's own men. They have always cut quite as economically as the others in respect to stumps, tops, picking up windfalls, dead timber, etc., and think we are securing from them now quite as good work in this other line.

The clause in our contracts which covers this feature of the business is as follows: "Spruce and fir timber shall be cut to the size of 12 inches on the stump, but this rule may be varied by the Berlin Mills Company with a view to leaving the land in good growing condition." This form of contract is not recommended as a solution of all difficulties and guarantee of success. It does not replace supervision, but distinctly implies it. Then men might understand its terms differently and get at loggerheads with one another before they had been at work a month. But this form of contract does allow latitude and adaptation to the country, and with two of our concerns the past winter it has worked very well. The men in charge were active, capable men who were anxious to do the work as well as they could. I endeavored to be reasonable myself, and we had worked together before, so we understood one another. I have spent a couple of days in each concern every three or four weeks, examining all work done and looking over the timber ahead to see how it should be handled. In this way we have come through the winter so far with very little friction, and I feel that the work is being done substantially in the company's interest, as near, probably, as it would be done by any of its own men.

One favorable condition I should not fail to mention here is the long established reputation of the company for fair dealing, and the certainty the contractors have in consequence that they will not be subjected to any underhand tricks. As to the volume of cutting that one man can look after in the fashion outlined above, I will say that seven camps have been under my oversight the past winter, scattered over a round trip by the road of 150 miles. The aggregate cut is about 18 millions. Even if a man has no care of supplies that is enough to have under his control.

It seems to me quite likely that what I have written may hit entirely aside the mark as far as relates to your conditions. Spruce timber with us is a commodity in strong demand. Stumpage is worth $2 to $4 a thousand according to lo[...]tion; very sm[...] have value, and great econ[...] and care in c[...] consequently demanded, fi[...]cially speakin[...] might think we had secured [...]s. I do not th[...] ever, that we yet do our w[...]s carefully as [...] of timber, present and pers[...]ive, warrants. [...] it seems to me we ought lar[...] to remodel o[...]ization.

In Canada, on the other [...], I suppose y[...] problems relate to great tra[...] of natural fore[...] you are only beginning to [...] and on which s[...] sells at a low rate In re[...] to such a situ[...] most that occurs to me to s[...]est is close stud[...] health and condition of the [...]her

Spruce woods contain trees of every age, th[...] coming on to replace the old when the latter f[...] it is natural to suppose that the replacing p[...] constant, the growth and de[...] on a tract, y[...] year, balance one another. As a matter of fact, [...]ing to my observation, that is not the ca[...] history of a tract is more often a wave motion[...] considerable difference oftentimes between th[...] and the crest; that is to say, for a period of [...] valley or a township of virgin timber land [...] healthy and thrifty, gaining all the time witho[...] loss from old age or disease Then will come [...]ing point when things begin to go the other w[...] big gale, perhaps, will start it, for some stand[...] once a break has been made in them keep co[...] down year after year. Insects oftentimes bear [...] part in the destruction, and fungi, no doubt, [...] same. But whatever the active agent, over-[...] of the timber is the great pre-disposing caus[...] no unusual thing for tracts to lose in this wa[...] course of a few years a quarter, half, or even [...] proportion of their value. Now it is evident th[...] is the case, economical handling of large bo[...] timber land must take this matter clearly into a[...] Very likely you in Canada are fully alive to s[...] matters. I hope you are, but I know on this sid[...] boundary they have been mainly overlooked [...] plorers and neglected by business men. Whol[...] ships have died down and owners have hard[...] aware of it. On one tract belonging to my own[...] I can show where probably $50,000 worth of st[...] on very accessible land was destroyed and the[...] no realizing sense of it until two years ago. L[...] after and controlling these things is one of th[...] profitable fields of work for well trained men in[...] or private employ.

I believe I am the first man calling himself a [...] to be employed regularly by an American busin[...] It is in this field that I feel surest that the meas[...] been justified. My work outside the logging [...] has been the survey and exploration of the la[...] basis for their operation. Topographical m[...] models result from this, also sheets descripti[...] timber. As far as may be, the logging jobs are [...] on the territories that most need cutting, and [...] careful while there to take all the defective [...] useable timber. The tracts are kept under wat[...] and no big blow-down can occur, nor beg w[...] much of a start without our being aware of it.

What has been lately written gives a cle[...] motive for conservative cutting as we practice [...] have not settled down to the European idea of s[...] yield, of running a business of a certain volume [...] from a given tract of land. Whatever has been [...] do not believe that any business concern in the [...] States, knowing what it means, has settled o[...] The reason is that we have large tracts of tim[...] badly need cutting, and the sooner we can g[...] them, saving the dead and declining stuff and [...] them in shape to grow, the better it will be. [...] the chief motive and, balanced by considera[...] cost and practicability, is the key to our ope[...] along this line.

Of course, expected growth is a considera[...] as it is not offset by windfall. Then we believe [...] the future better stumpage can be had on the s[...] classes of timber. But certain of its tracts the [...] Mills Company cuts as closely as anyone can [...] if ever in the future the question comes up whe[...] shrink the volume of manufacture or to maintai[...] a time longer by cutting the lands down to the l[...] practical point, that will be a new question to [...] For myself and as a forester I feel like felicitat[...] Canadians on having retained so much of the [...] land of Canada under Government control.

*Paper read at the annual meeting of the Canadian Forestry Association, Ottawa, March 7th, 1902.

CONSTITUTES A COMPLETE FILING ROOM OUTFIT.

ssful saw fitting requires two essentials—a pped filing room and a capable saw filer in of it. Saws do not run or fit themselves and uire fine fitting to produce a maximum quan- d improved quality of output on a minimum saw Hence it is usually an unwise economy that does vide both essentials, and the most successful and factory operators consider it good practice ly every machine or tool calculated to improve tate the filer's work.

operator of a sawmill or woodworking plant ubstantial investment in mill and saws. His epend largely upon having his lumber or finish- duct well manufactured on a maximum output inimum saw kerf. He spends money for saws or some operators last for years until worn out; rs, last for weeks until worthless from cracks or defective conditions.

are some operators whose saws run finely; others aws run ndifferently well or poorly, on an irre- e wave line, because of poor swaging, sharpen- e-dressing, irregular tensioning, etc. This is a ion of no swage, no sharpener, no shaper, no r; or, if such tools are in use they are defective, epair, and not uniform or efficient in operation. ult the buyer may take the stock for a dollar or ss per thousand feet than market prices.

suggests that the filing room is the initial point fits in the use of saws. The purchase of filing quipment is variously approached by different s. One can observe all manner of ideas on the ranging from those of the man in whose mind ominant this proposition: "I want just as few ap machines as my filer can possibly get along want him to work and earn his money by con hand labor—what have you second-hand, to those of the man who says: "I want the fitting outfit obtainable—a machine and tool y service, everything must be up-to-date if not date."

per conservatism in buying is always judicious, manifestly true that not all mill men have the rchasing power, or can afford to be similarly d, or can carry on their business with equal and profit, but it is a self-evident truth to the rmed that the best results from saws are con- upon fine swaging, sharpening, sidedressing, ng and brazing; results obtainable only from of high-grade, efficient saw fitting appliances in ds of a capable operator. The life of saw fitting ery depends directly on the quality and strength truction, and on the care bestowed by the r. Defective contruction and lack of proper count for the number of sharpeners, stretchers, , brazing clamps, etc., in the mills to-day in dis- nsatisfactory use.

ideas of millmen and filers differ as to what ma- and tools comprise an efficient filing room out- as manufacturers of such equipment familiar e possibilities in the way of a machine or tool for ervice, we enumerate below the several appli- that are found in practice to be necessary or le for the several processes of sharpening, g, sidedressing, jointing, leveling, tensioning, ing, shearing, lap making, brazing, patching, his list contemplates an outfit that will please st critical and provides a machine or tool for ervice so far as conceived to date—our own cture. It is an elastic list that will accommodate the requirements of the most or the least critic- eral buyers. It may be observed that there are es" in filing room outfits, the "positive degree" to the outfit that includes only the absolutely sable machines; the "comparative degree" to fit which includes in general a fair assortment, to the equipment of the average operator; the tive degree" to that outfit which includes a or tool for every service, each the best obtain- the whole calculated to secure the greatest in mill operation as a result of the perfect fit- he saws. The practical millman or filer can compare his own outfit in use with the list d note his comparative efficiency. A few dollars more or less is the measurement in money between the positive and the superlative degree in filing room equipment, the saving in investment cost at 7 per cent. ranging from $15 to $50 per year. There are millmen who are saving this difference in first cost and fixed investment and who are losing thousands of dollars annually in poorly manufactured lumber, ruined saws and expense for labor idle while the mill waits on the saw fitting. There are millmen who spend from $10,000 to $50,000 on a plant, critical to a degree in everything that pertains to the heavy machinery, power plant, belting and saws, who fail to maintain the same high standard of excellence in the saw fitting department, regardless of the fact that a magnificent power plant, and the rapid handling of logs by steam, and their manufacture by the most modern of mills, cannot compensate for poor saw fitting.

A LOG BAND SAW FILING ROOM OUTFIT.

For Sharpening. An automatic sharpener of suitable capacity, equipped with double feed finger device and post brackets for support of saw, and with idle pulley for use in fitting up work. This system does not contemplate the support of saw to sharpener on a set of adjustable pulleys, the use of which for this purpose has been largely discarded owing to the fact that they are not found to afford the most accurate feed.

For Swaging. An automatic power or hand swage, either of which may on occasion be supplemented by the use of an upset swage or a swage bar. A grass-hopper type of swage is desirable in any filing room and a power swage also unless the teeth cannot be maintained of fairly even length.

For Sidedressing. A swage shaper or pressure sidedressing tool is now generally regarded as indispensable, as its use secures the ideal tooth. A file sidedresser may also prove useful, but for regular use it is not highly recommended.

For Leveling and Tensioning.—A doghead and a crossface hammer weighing from 2 to 3 lbs. An iron leveling block, face 14x72 inches or smaller, surfaced both sides to permit of reversing. A steel faced anvil 12x16 or smaller. A concave back gauge from 6 to 10 feet long for testing the back of saw. A straight edge and tension gauge of proper lengths. A saw stretcher of abundant power, with rolls properly crowned that track and travel together. Perfect efficiency in this machine is of the utmost importance and a machine lacking in the particulars mentioned is inferior, as its work may have to be undone. If there is much shearing of saws, the stretcher should be equipped with a rotary shear, a feature of our geared machines.

For Shearing.—A combined shearing and crosscutting machine that may be used either to shear the back or toothed edge of saw or to cut saw in two preparatory to lap making.

For Retoothing.—A retoother with dies made specially to suit the special requirements. This machine may also have combined with it dies for shearing. Additional sets of dies for special requirements are often to advantage.

For Lap Making.—A lap grinder or a lap cutter. As between an efficient machine of either type there is little to choose.

For Brazing.—A powerful brazing clamp that will insure uniform pressure across the entire surface of the lap. A machine for this service cannot be too heavy and powerful. A forge for heating the irons. The ordinary open hearth portable forge may be used for the purpose, but a special forge with tuyures arranged to secure a uniform heating of the irons their entire length, is more efficient. Good silver solder, brazine, etc

For Fitting Up.—An iron filing clamp with planed jaws of proper length A set of adjustable pulleys for support of saw is convenient but not necessary if saw is fitted in connection with sharpener, and an idle pulley is in place for use in pulling saw around. A file jointer. An emery wheel dresser. Instrection book on hammering.

For Checking Cracks.—A crack drill or prick punch may be used for checking small cracks. But the use of our patch machine for preparing the surface of a cracked saw ready for repairing by means of the application of a patch is highly desirable.

For Power.—An engine for driving the filing room machinery independent of the mill machinery, to afford a steady, independent power at any time, is highly desirable.

Add to the above good saws and emery wheels and a capable saw filer and the successful fitting of the saws will be assured.

A BAND RESAW FILING ROOM OUTFIT.

Band resaws in general use vary from 2 to 8 inches wide and from 16 to 24 gauge, and differ from the log band saw only in size. Compared with log bands, resaws require as great or even greater care and skill in fitting, because of the thinner gauges employed and the desirability of perfectly converting valuable lumber into proper thicknesses without waste.

The attempt to fit resaws without a suitable equipment of machines and tools is not economical, because of the waste in stock, poor manufacture involving extra care and labor on the part of those that work up the stuff into manufactured form, and the loss arising from breakage and destruction of saws. The greater need of suitable appliances is also evident from the fact that many of the filers called upon to take care of band resaws are men of little or no previous experience on such saws, and hence whatever is calculated to facilitate and improve their work is not only desirable but also essential.

Our outfits as regularly furnished comprise the following: (1) Automatic sharpener equipped with double feed finger device and post brackets for support of saw, with an idle pulley for use in fitting up work. (2) A stretcher for tensioning. (3) A grass-hopper swage, with a small upset for occasional use. (4) A swage shaper for sidedressing, which is indispensable to the best results, although some make use of a file sidedresser. (5) A brazing clamp. (6) A filing clamp. (7) A jointer (8) A steel faced anvil 6x10 or larger. (9) A leveling block 8x48, surfaced both sides. (10) A pair of 2 to 2½ lb. resaw hammers. (11) A set of resaw straight edges and tension gauges (12) For those that make their own saws or have much shearing or retoothing to do, a retoother and shear. (13) A lap cutter or lap grinder, if many brazes are necessary. (14) A forge of suitable character for heating the brazing irons, silver solder, acid. (15) An emery wheel dresser. (16) A book of instruction on band saw fitting and tensioning will be found of use to beginners or those who have had little experience in saw work, and are not familiar with the best practice.

A SMALL BAND SAW FILING ROOM OUTFIT

The appliances necessary to the proper care of small band saws ranging from 1-8 to 1, 2 or 3 inches, include an automatic filing machine, automatic setting machine, set of adjustable stretching wheels for support of saw, a filing vise, a brazing lamp, solder or spelter, etc.

A FILING ROOM OUTFIT FOR RECIPROCATING SAWS.

For gang, frame, web, and jib saws, the outfit of machines and tools must depend upon the size and kind of the saws and the methods employed in the fitting, which vary in different localities, but in general for saws that exceed 3 inches wide and 18 inches long, the following appliances, in size suited to requirements, are found desirable:

Automatic sharpener, swage, upset swage, or bar and swaging hammer, filing clamp, stretcher, jointer, swage shaper or file sidedresser, anvil, hammers, straight edges, emery wheel dresser.

For very small gang saws a swage, shaper and filing clamp.

A CIRCULAR SAW FILING ROOM OUTFIT.

The selection of circular saw fitting equipment must depend entirely upon the size and character of the saws, which differ materially in the various sawmills and woodworking plants.

No sawmill of 10,000 or more feet per day capacity can afford to do without an automatic sharpener, and in mills or factories where there are a considerable number of rip and cut-off saws in use, an automatic rip and cut-off sharpener should be employed.

The use of a machine swage on all large ripsaws is indespensable, and a more general introduction of such a tool for swaging small factory saws would afford results far superior to hand swaging or the mixed use of swage and spring set, or the use of spring set only.

A suitable outfit of hammering tools is always essential. A good equipment will include the following: Automatic rip saw sharpener for large saws. Automatic or hand rip and cut-off sharpener for medium or small saws. Swage shaper or file sidedresser Jointer. Hammering bench. Anvil and hammers of proper size. Emery wheel dresser. Instruction book on saw hammering and fitting.—From catalogue of Baldwin, Tuthill & Bolton, Grand Rapids, Mich.

THE NEWS

—D. R. Galbraith is starting a saw mill at Mar, Ont.

—G.B. Johnston is opening a lumber yard at Edrans, Man.

—John Reid contemplates building a saw mill at Fort Francis, Ont.

—Laird Bros. are building a new planing mill at Dresden, Ont.

—Coward & Company are opening a sash and door factory at Fernie, B.C.

—S. Larue & Son are building a sash and door factory at Mountain, Ont.

—Mr. Moses, of Kemptville, Ont., is building a saw mill and tub factory at Carp.

—W. W. Peck & Son have registered partnership as lumber dealers at Sutton, Ont.

—Hamm & Klassen have purchased the planing mill of J. Wiebe, at Hague, Man.

—Truman Bros. have sold their saw mill at Ponoka, N.W.T., to Loewen & Company.

—A. A. Ryley is refitting his mill at Little Current, Ont., and putting in a Dutch oven.

—Delorme & Cardinal have just commenced business as lumber dealers in Montreal.

—James McEwen, lumber dealer, Arcola, N.W.T., has been succeeded by R. E. Gordon.

—Owen Bros. have installed a new shingle machine in their mill at Richard's Landing, Ont.

—M. Brennan & sons, of Hamilton, Ont., are building an addition to their woodworking factory.

—The saw mill of George Gilmour at Edraelon, N. B., which was recently burned, is being rebuilt.

—Robert Hannington is building a saw mill near Glassville, N.B., for the manufacture of hardwoods.

—Mork ll & Whitworth, lumber dealers, Morris, Man., have sold out to the Morris Lumber Company.

—It is said that T. &. J. Conlon, of Little Current, Ont., intend installing a new band saw in their mill at Picnic Island.

—E. Hutchison s saw mill at Campbellton, N.B., commenced operations on March 31st, the earliest in its history.

—Charles Miller's shingle mill at Pokiok, N.B., which was closed down last fall, has commenced operations.

—The Prescott Lumber Company, New Mills, N.B., are building a shingle mill of an annual capacity of about 12,000,000 shingles.

—Clarke Bros., of Beaver River, N.S., are adding a planer and other machinery for the purpose of utilizing the waste of their saw mill.

—A new saw mill is being built at Hintonburg, Ont., by James Lunney & Company. It is expected to be ready for operations in May.

—The ratepayers of Sturgeon Falls, Ont., carried a by-law on April 4th to assist Cockburn & Sons, of that place, in building a new saw mill.

McLachlin Bros., of Arnprior, Ont., are macadamazing the roads throughout their extensive lumber yards. Stone to a depth of eight inches is being laid.

—A bill to encourage the establishment of industries in the province of New Brunswick for the manufacture of hardwood specialties was defeated in the legislature last month.

—The lumber firms of Willoughby & Duncan and R. F. Williams, Regina, N.W.T., have been amalgamated under the name of the Regina Lumber & Supply Company, Limited.

—It is the intention of the J. & T. Charlton Saw Mill Company to operate their mill at Collingwood, Ont., day and night during the greater portion of this season. The company are building a new office.

—William Bradon, of Bayfield, Ont., recently cut an elm tree which measured 7 feet across the butt and made eleven 10-foot logs, containing in all about 6,000 superficial feet of lumber and 10 cords of stove wood.

—Caldwell & Company, of the Virden, Man., Nurseries, has received an order from the Dominion Government Forestry Department for 200,000 Manitoba maple seedlings and 60,000 Russian poplar trees.

—Recent heavy rains in New Brunswick caused destruction to the property of C. M. Bostwick at Salmon River. The large dam gave way and the mill was practically destroyed. The damage will exceed $20,000.

—The Revelstoke Lumber Company, of Revelstoke, B.C., have made improvements to their saw mill, having added a moulding machine, resaw and a 30 h.p. engine for driving the planers. The mill and boiler house have been roofed with iron.

—The Keewatin Lumber Company, of Keewatin, Ont., repaired their saw mill prepatory to commencing the season's operations. They had a stock of logs on hand, and did not have to wait for the opening of navigation on the Lake of the Woods.

—The Muskoka Wood Manufacturing Company, Limited, has been organized for the purpose of manufacturing broom and tool handles, dowels, chair parts, and other wooden specialties. It is proposed to build a factory at Huntsville, Ont., and to engage in the export trade.

—The annual meeting of the Lower West Miramichi Log Driving Company was held at Fredericton, N. B., on March 12th. A small dividend was declared, and the following officers elected: President, W. M. Richards; secretary, H. Beckwith; directors, M. Welsh, T. Lynch and William Richards.

—The shareholders of the Blonde Lumber & Manufacturing Company, Chatham, have elected the following officers: President, William Ball; vice-president, N. H. Stevens; secretary-treasurer, T. C. O'Rourke; assistant secretary, T. J. Doyle; manager, Benjamin Blonde; assistant manager, George Blonde.

—It is understood that the British Columbia Mills, Timber and Trading Company, who purchased the property of the Moodyville Land and Saw Mill Company, will not operate the Moodyville mill, the object in making the purchase being to secure the ownership of the timber limits, which are estimated to contain 150,000,000 superficial feet of spruce, cedar, etc.

—M. J. McKercher and associates have just completed the erection of a saw mill at a point fourteen miles from Elko, B.C., on the line of the Crow's Nest Southern Railway. The mill has a daily capacity of 40,000 feet, and will be operated night and day for the next three months. The owners have a contract to supply piling, bridge timber and ties for the Crow's Nest Southern road.

—The Cushing Box Company, Limited, which is applying for incorporation, has not been formed to take over the lumber business of Andre, Cushing & Company at St. John, N. B., but is a new concern. The company have fitted up a box mill at Milford, where modern machinery has been installed for the manufacture of box shooks. George S. Cushing is associated with the enterprise.

—The largest tree known to have been discovered in British Columbia was found recently by Mr. Higgins, who purchased the timber in Hastings Park from the city of Vancouver, and is now taking out shingle bolts there. He came across the shell of a burnt cedar that measured sixteen feet across on the inside. It is fifty-seven feet in circumference and six horses could, according to Mr. Higgins, stand abreast inside the tree.

—The business of the Boake Manufacturing Company, Toronto, has been transferred to the Boake Manufacturing Company, Limited, G. W. Boake becoming president and manager, A. U. DePencier vice-president, and F. K. Ebbitt secretary. Mr. Ebbitt was for a number of years with J. R. Booth, of Ottawa. It is the intention of the new company to extend their yards and build a large dry kiln. They have the sole agency for the J. D. Shier Lumber Company's end-matched birch and maple flooring.

—The employees of A. Cushing & Company's shingle mill at St. John, N.B., went on strike last month for higher wages. It is said to have been the custom to reduce the wages of the employees during the winter months and to restore them to a higher scale on May 1st. The employees demanded that the advance to the summer scale should be put into effect earlier in the spring. It is stated that if the men do not accept the terms of the engagement it is possible that the mill may be closed all summer.

—McDougal, Brandon & Austin, of Lindsay, Ont., have purchased Grand Island, in Balsam Lake, from the executors of the R. C. Smith estate. The island contains 1,200 acres, 300 of which is totally cleared, the remainder being good hemlock and hardwood bush.

—The Cleveland Sarnia Saw Mills Company, of Sarnia, Ont., has recently been sinking a well, hoping to find salt. When the well was driven a depth of 700 feet a gas vein was struck. The tools were driven out of the well as though shot from a dynamite gun. The drill house and a derrick were demolished, and the gas was ignited by a fire in the building. The result was a pyrotechnic display such as is seldom seen. A blaze of gas rose to a height of 75 feet and for several nights illuminated the St. Clair river about Sarnia. The gas burned itself out in a few days and work on the salt well was continued.

—In reply to a question in the Quebec Legislature as to the area in square miles sold as timber limits in Quebec, Hon. Mr. Parent submitted the following figures:—1. 61,886 miles, or 39,607,040 acres. 2. Upper Ottawa, 22,230 miles; Lower Ottawa, 3,8[illegible] miles; St. Maurice, 11,598 miles; St. Charles, 1,[illegible] miles; Lake St. John, 5,876 miles; Bonaventure and Gaspe, 3,483 miles; Rimouski, 2,175 miles; Saguenay, 5,030 miles; Granville, 1,393 miles; Montmagny, [illegible] miles; Metapedia, 665 miles; Chaudiere, 688 miles; St. Francis, 517 miles; Arthabaska, 94 miles.

—In the British Columbia Legislature Mr. Tatlow moved for an order for the return setting forth the amount of royalties collected on timber cut within the Esquimalt and Nanaimo Railway belt in the past three years, from which such royalties were collected and the amount of timber cut; also how much had been reported not manufactured, and what quantity paid no royalty whatever. His object was to show that the amendment of the land act prohibiting the export of timber was ill considered. He contends that provincial lands are thereby decreased in value, to the advantage of those held privately, such as those within the Esquimalt and Nanaimo Railway belt. Hon. Mr. Wells said that so far as the Esquimalt and Nanaimo Railway lands were concerned, the Government had no means of exacting terms in regard to them, as they were held in free simple, and not amenable to the laws of the province.

CASUALTIES.

Fredinand Demers was killed recently in his father's saw mill at St. Raymond, Que., by being caught in the shafting.

A Chinaman employed at Roche's mill on Berry Inlet, B.C., fell across a circular saw and was almost severed in twain.

THE LAURIE ENGINE COMPANY.

The Laurie Engine Company, of Montreal, which has for years been well-known as the principal builders of large engines in Canada, has just had an important change made in its control. The majority of the old board of directors having retired, the company's affairs are now under the direction of a new board, consisting of Messrs. C. E. L. Porteous, Wm. Yuile, F. L. Wanklyn, C. W. Davis, W. G. Ross, Walter H. Laurie and John Laurie. Mr. Porteous has been chosen president, and Mr. Yuile vice-president. The change will, without doubt, result in a large extension of the business, as on account of the extensive connections of the new members of the board, it will bring the company into touch with a much larger field. The increased financial facilities afforded will also enable the company to undertake much larger work than before, although it now holds the record for the biggest engine in Canada. The change will also add greatly to the strength of the company. The intimate connection of Mr. Porteous, who is president of the Montreal & St. Lawrence Light Heat & Power Company, and a director of several of the leading companies in Montreal, and Mr. Yuile, who is president of the Diamond Glass Company, with a large number of Canada's principal financial interests, will lead to a large increase in the financial resources of the company. Mr. Wanklyn, general manager of the Montreal Street Railway Company, and Mr. Davis, who is general manager of one of the largest manufacturing concerns in the city, will take an active interest in the mechanical side of the business. There is no change in the other offices, the position of managing director being retained by Mr. Walter H. Laurie, known to be an expert as a steam and mechanical engineer, thus assuring the continued success of the company in engineering matters.

THE E. LONG MANUFACTURING COMPANY.

usiness of the above company was established year 1865, by Mr. Robert Brammer, as a and machine shop. Mr. Brammer made a study of shingle machines, he being the inventor elebrated "Clipper," as well as holding patents eral other machines. In the year 1895 Messrs. & Thompson entered into partnership and ed the business of the late Mr. Brammer. New s were erected, including moulding shops, ing room, pattern rooms, etc., and the entire as equipped with the latest improved machinery ry for the manufacture of saw and shingle mill ery and general mill supplies. This firm carried business for five years, when Mr. Thompson

E. Long Mfg. Co. was organized in 1890, Mr. being appointed general manager. This com- rchased the foundry and machine shops owned Batton & Sons, and moved the plant into one

g the past two years, owing to the increase of ss, it has been found necessary to enlarge the and the company recently added a number of chines, including lathes, drill presses, shapers, complete plant for the manufacture of wood-

Mr. E. Long.

machinery. With this increase of new ma- , and their already thoroughly equipped plant, pany are now in a position to manufacture all saw and pulp mill machinery, engines, boilers, he company are now installing an induction manufactured by the Canadian General Electric ry, Toronto, to be used in operating their ery, the power being generated at Ragged

of their leading features is the manufacture elebrated "Clipper" shingle machine, which by new improvements. This machine has been market for a number of years, and is widely and ly known, being used from coast to coast. machine is automatic in set and feed, cuts all all butts from either end of bolt, or will cut a tip or butt alternately, also runs long and short stroke. The seven trip dogs for shortening the stroke each quicken the speed of the carriage, so that at the stroke for narrow shingles the carriage will make as high as ninety cuts per minute, the average cut per minute is about sixty, speed of saw, 1300 to 1600. Seven sets of ratchet wheels are sent with each machine, so that the shingles can be kept to a uniform thickness with a thick or thin saw.

The average cutting capacity of this machine, with the usual run of bolts, is from 35,000 to 45,000 per day of ten hours. With good timber 60,000 has been cut in nine hours.

LUMBERING ON DOMINION LANDS.

The last annual report of the Department of Interior furnishes particulars regarding lumbering operations on lands controlled by the Dominion Government during the year ended June 30th, 1901. The total revenue on account of timber dues amounted to $209,399.32, or an increase of $83,053.50 over the previous year. Three hundred and seventy-one licenses to cut timber over a total area of 4,479.20 square miles were issued, as compared with 306 licenses, and an area of 3,610.37 square miles, during the year 1899-1900.

The total revenue received from timber in Manitoba, the North-West Territories, British Columbia and the Yukon Territory, up to July 1, 1901, was $2,060,998.94. The total revenue from timber within the railway belt in British Columbia up to the same date was $418,521.36, and in Manitoba and the North-west Territories, $1,434,105.97.

The output of manufactured timber in Manitoba during the past season was 23,532,300 feet B.M., as compared with 23,692,680 during the previous year, or a decrease of 160,380 feet B.M. It is estimated, however, that the total quantities of lumber disposed of in Manitoba during the year amounted to 150,532,300 feet B.M. Although about one-sixth of the above quantity was imported, in the log, from the United States, it may be observed, the report states, that as regards manufactured lumber our importation from the States is decreasing year by year, it having fallen off to 11,000,000 feet this year from 24,000,000 during the year ending June 30th, 1900. The same remark applies to shingles, there having been but 2,340,000 imported during the year 1900-1 as compared with 10,235,000 during the previous year.

The output of manufactured lumber in the North-west Territories was 16,129,189 feet B.M., showing an increase of 2,618,902 over the preceding year; in the railway belt in British Columbia the output was 32,877,216 feet, or an increase of over 3,000,000 as compared with the year 1899-1900, and for the Yukon Territory it was 6,233,917 feet B.M. The total output of manufactured lumber by mills operating under licenses of the department was 78,772,622 feet B.M., as compared with 66,880,970 for the preceding year.

The number of timber berths licensed, or authorized to be licensed, in Manitoba and the Territories is 209, and on Dominion lands in the province of British Columbia, 177. Ninety-seven berths have been granted in the Yukon Territory, covering a total area of 225.11 square miles.

The report of Mr. E. H. Stephenson, Crown Timber Agent at Winnipeg, contains the following statement showing approximately the quantities of lumber disposed of during the year in Manitoba:

	Feet, B.M
Rat Portage Lumber Co., Rat Portage, Ont.	55,000,00
Beaver Mills, Rainy River, Ont.	6,000,00
Keewatin Mills, Keewatin, Ont.	12,000,00
Savanne Mills, Savanne, Ont.	5,000,00
Port Arthur Mills, Port Arthur, Ont.	4,000,00
Fort William Mills, Fort William, Ont.	8,000,00
Imported from British Columbia	16,000,00
Manufactured under government license in Manitoba	23,532,300
Cut under Dominion government permits for sale	4,000,000
Taken under settler's free permits (approximately)	6,000,000
Manufactured lumber imported from the United States	11,000,000
	150,532,300

Mr. Stephenson states that the American shingle is evidently being forced out of the market by the British Columbia product. The prices for the various classes of manufactured lumber, lath and shingles are pretty much the same as for the preceding year, ranging from $14 to $20 for spruce, and from $19 to $36 per thousand feet for high grade stocks of pine, fir and cedar, &c.; laths, $4 to $4.50, and British Columbia shingles, $2.75 to $3.75 per M.

The completion of the Lac du Bonnet branch of the Canadian Pacific Railway has led to increased lumbering operations in the country tributary to the Winnipeg river and has made accessible to market an extensive area of timber lands Last winter 5,000,000 feet of logs were taken out by Mr. J. D. McArthur, as as well as 175,000 railway ties. It is roughly estimated that between two and three hundred million feet of merchantable timber, lying along the Winnipeg and English rivers, can be manufactured at Lac du Bonnet. Much of the timber is poplar and spruce.

The number of mills operating within the different agencies is as follows: Winnipeg agency, 33 mills; New Westminster, 24 mills; Calgary, 7 mills; Edmonton, 5 mills; Prince Albert, 3 mills.

WOOD PULP DEPARTMENT

MILLS OF THE BELGO-CANADIAN PULP COMPANY.

(Special Correspondence)

Shawinigan Falls is situated on the St. Maurice river, about 120 miles below Montreal, and 25 miles west of the St. Lawrence river, where there is a natural fall of 142 feet, and 50,000 horse power in the season of low water.

In July, 1900, the Belgo-Canadian Pulp Company, of Brussels, Belgium, came to this country to look over some water powers upon which former Consul-General Mr. Ferdnand von Bryssel had secured options. They also visited some of the modern pulp, sulphite and paper mills, both in the United States and Canada, that had been designed by different engineers, and decided finally to locate at Shawinigan Falls, and to engage Mr. A. C. Rice, the well-known hydraulic and mechanical engineer, of Worcester, Mass., to take location in its natural state, covered with a virgin forest, to furnish all plans, place all contracts, and furnish a managing superintendent to make the product for which the mills were designed.

The work of clearing the forest was begun on September 24th, 1900, and the ground wood mill completed in December of that year, starting off without any delays. It is now making 50 tons of 45 per cent. dry, and 30 tons of 88 per cent. dry pulp per day.

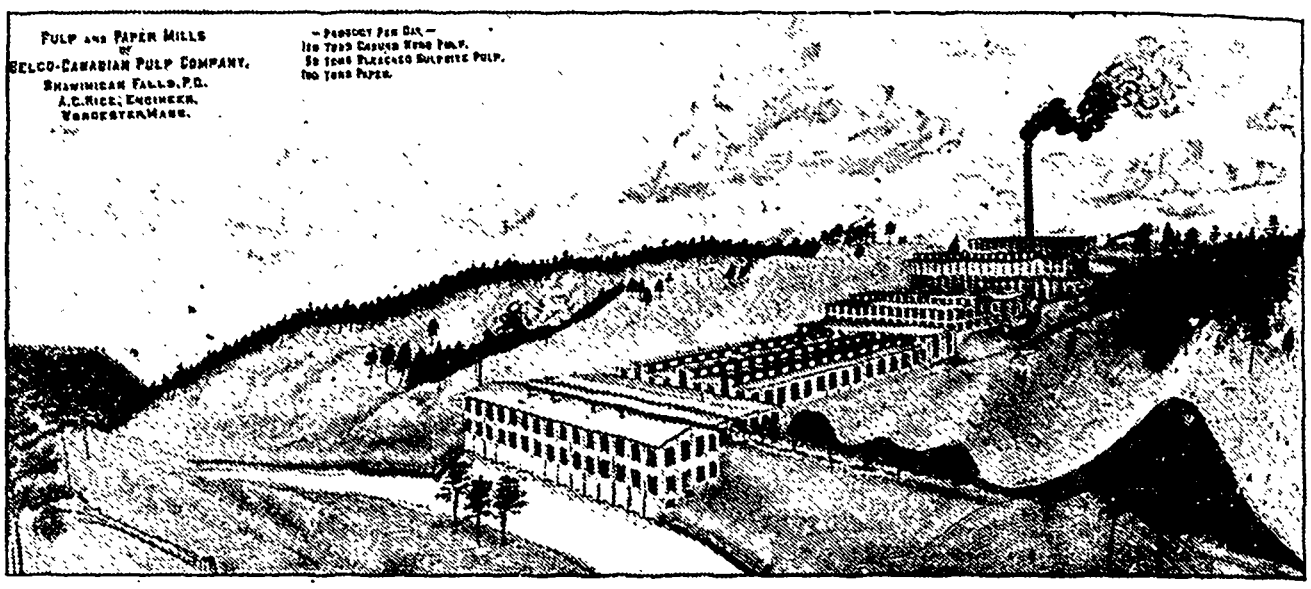
The ground wood mill is 64 x 270 feet, two stories, each 20 feet high. The shipping store house and wood preparing room are 100 x 250 feet, one storey and basement, each 18 feet high, and the boiler house 38 x 64 feet, one storey high. These buildings are of the most modern design and built of concrete, brick and steel, with concrete floors and gravel roofs. The mills when completed will use 15,000 horse power of water, taken from the upper bay of the St. Maurice river and conducted to the mills through two steel feeder pipes, 12 feet in diameter, and each about 850 feet long, where it is used through the turbine wheels and discharged into the Shawinigan river, which is at the same elevation as the lower bay of the St. Maurice river.

The wood is taken from the upper bay of the St. Maurice river through a tunnel and down an incline slide to the wood preparing room, where there are two cutting up saws, twelve barkers, two double splitters and necessary conveyors. After the wood is barked it is dropped through the floor into a concrete wood box and trough of running water so that it floats to each of the twenty-four grinders. Two of these grinders are driven by one special wheel of 600 horse power and 225 revolutions per minute. The pulp from these grinders flows by gravity to a large concrete tank, where it is pumped to the 26 screens and thence to the thirteen wet machine presses and two drying machines. The thirteen wet machine presses are intended to press fifty tons, about 45 per cent. dry, and the two drying machines fifty tons, about 88 per cent. dry, every twenty-four hours. This pulp is all pressed into bundles weighing 450 pounds each, and wrapped with jute for foreign shipment.

The wood preparing machinery was furnished by Waterous Engine Works Company, of Brantford, the grinders, screens and wet machine presses by Friction Pulley and Machine Works, Sandy Hill, the drying machines, cutters and Jordan engines the Black & Clawson Company, Hamilton, Ont., centrifugal pumps by the Lawrence Machine Co., Lawrence, Mass.; the wheels, feeder gates hydraulic presses by the Holyoke Machine Co., Holyoke, Mass.; the boilers and steel chimney by Sterling Company, Chicago, Ill.; the steel structural work, steel feeders and draft tubes by the Rice Manufacturing Company, Pittsburgh, Pa.; and the air heating plant by the B. F. Sturtevant Co., Boston, Mass.

The turbine wheels are all of the horizontal type special design by Mr. Rice, to meet the requirements for the high fall of 142 feet. Between each wheel the main feeder is an hydraulic feeder gate, so that one of the wheels can be removed for repairs without stopping any other part of the mill.

Some of the new and important features in the [illegible] of this mill are that twenty-six screens and



The Royal Paper Mills Company, of East [illegible] Que., have completed their new dam and are about to commence work on a new pulp mill.

PULP NOTES.

reported that J. R. Booth has definitely decided a pulp mill at Ottawa. He is said to have let ts for the water wheels and machinery.

prospectus of the Bonaventure Pulp Company n issued. The proposed mill of the company located on the Bay de Chaleurs, near Bonaven-e.

go capitalists are reported to have decided to large pulp mill on the Prince of Wales Island, h Columbia, the product to be exported to the l markets.

Hardy, C.E., of New York, has been commis-r the Canada Paper Company to prepare plans perintend the construction of a new mill to be St. Francis, Que., to replace the one destroyed last fall.

Lyall & Sons, of Montreal, have closed a con-th the Sturgeon Falls Pulp & Paper Company, n Falls, Ont., for the completion of the develop-ment of their water power and erection of pulp and paper mills. The contracts will approximate about half a million dollars.

Large quantities of pulp wood are lying along the route of the Athabaskaville division of the Grand Trunk Railway in Quebec, owing to lack of car accommodation. The railway has not sufficient cars to move the wood. As a result the owners will lose heavily owing to the deterioration of the timber.

A bill was introduced in the United States House of Representatives last month to repeal clause 393 of the existing tariff act levying a duty of one-twelfth of one per cent. per pound on mechanical wood pulp, one-sixth of one per cent. per pound on chemical unbleached wood pulp, and one-fourth of one per cent. per pound on chemical bleached wood pulp.

It is understood that the Pulp & Lumber Company which proposes to establish a pulp mill at Baddeck, N.S., were forced to abandon work in the woods, during a part of the winter, owing to the great depth of snow. The mill is to be built during the coming summer. The two locations under consideration are North River Central and Big Pond Barasois.

The Power, Pulp & Paper Company of North America has been incorporated by R. J. Campbell, of New York; John Foster, J. E. Gauthier, and E. J. C. Kennedy, of Montreal; C. S. Cherrier, of Laprairie; and J. Morin, of St. Hyacinthe, Quebec. The capital of the company is $5,000,000. It is proposed to build pulp and paper mills at La Tuque, Champlain county, Que.

The Sprague's Falls Manufacturing Company are seeking incorporation from the Dominion Government. The capital stock is to be $5,000,000, and the head office will be at St. Stephens, N. B. The company propose to erect a pulp mill at or near Sprague's Falls, on the St. Croix river, in the county of Charlotte. The members of the company are F. Todd, H. F. Todd, J. F. Grant, W. C. H. Grimmer and J. G. Stevens, jr.

Mr. Charles H. Vogel, A. M. Can. Soc. C.E., mill and hydraulic engineer, has established an office at 47

and 48 Carleton Chambers, Ottawa, and is open to accept engagements. Mr. Vogel makes a specialty of designing paper and pulp mills and water power developments. He built the pulp mill of the Thorold Pulp Company at Thorold, Ont., and has just completed the mill of the James MacLaren Company at Buckingham, Que., which is operating most successfully. Mr. Vogel will co-operate with Mr. Charles Proper, who is in a position to undertake anything in sawmill building.

Henry Holgate, C.E., of Toronto, is actively engaged in connection with the preliminary operations of the North Shore Power, Railway & Navigation Company. This company, promoted by Thomas Meaney, of Toronto, purposes establishing extensive pulp mills and other industries at Seven Islands, below the city of Quebec. Men are now at work clearing and grading the proposed railway from the harbor to the water power on the St. Marguerite river, and the building of the pulp mill will be commenced as soon as the railway can be got in operation to carry the supplies. Contracts have been awarded to Carrier, Laine & Company, of Levis, for a large quantity of iron, 25,000 barrels of cement, and a locomotive.

We have received from the promoters a copy of the prospectus of the Atlantic Pulp & Paper Company, which has been incorporated by the Ontario Government to manufacture pulp and paper in Canada. Mr. W. C. Edwards, M.P., of Ottawa, is president of the company. The prospectus states that it is proposed to erect a paper mill of 50 tons daily capacity, a ground wood pulp mill of 50 tons daily capacity, and a sulphite mill of 30 tons daily capacity. The mills will be built at New Richmond, on the Baie des Chaleurs, and about two miles from the limits. The Little Cascapedia river flows from end to end through the centre of the limits, and the large number of tributary streams does away with the greater part of the hauling usually entailed in getting out pulp wood, thereby greatly decreasing the cost. Mr. George Hardy, of New York, who has been retained by the company as consulting engineer, estimates the cost of erecting the pulp and paper mills, and of developing the water power, at $900,000. There is on the property a sawmill, equipped with the latest improved machinery, capable of turning out from 35,000 to 40,000 superficial feet of lumber in ten hours. The company has secured the services of Mr. William M. McIntyre, formerly mechanical superintendent for the Laurentide Pulp Company at Grand Mere, Que. Mr. McIntyre has had over twenty years experience in pulp and paper making, and will act as manager of the construction and operation of the mill.

PERSONAL.

The death is announced of Mr. Daniel K. McDonald, lumber merchant, Sunny Brae, N.S.

The death took place last month of Mr. Hugh H. Chalmers, government log scaler, of Bathurst, N. B., in his 68th year.

Mr. Robert Nobles, a well known lumberman, was taken suddenly ill at Fredericton, N.B., last month, and at last reports was in a precarious condition.

Mr. Wm. J. Rogers, Inspector of Timber for the British Admiralty Department, left England for Canada on April 24th. For the summer he will be located at Quebec.

The Conservative Association have nominated Mr. J. W. Pearce, of the Pearce Company, Marmora, Ont., as the candidate for Hastings at the provincial election.

Mr. George Porter, who has been manager of Victoria Mills at Truro, N. S., for some years, has accepted a position with Mr. Alfred Dickie, and will manage his lumber interests at Ship Harbor, N. S.

Mr. Albert McGowan, who has for some years been treasurer of the Davidson & Thackray Association, of Ottawa, was recently presented by the members with a gold locket as a token of appreciation of his valued services.

The Liberals of the New Ontario Constituency of Fort William and Lake of the Woods have nominated Mr. D. C. Cameron, manager of the Rat Portage Lumber Company, to contest that riding at the provincial election this month.

Messrs. William Craig, Allan Craig, and [illegible] Simpson left Dunchurch, Ont., on April 9th to go after a boom of logs in Whitestone Lake. The boom was crushed by the ice and sunk, Mr. William Craig owner of the saw mill at Dunchurch, being drowned.

Mr. James Kennedy, of Parry Sound, who has been living of the Beardmore Lumber Company's saw mill at that place, is about to remove his family to Nova Scotia. It is understood that he will build another mill for the same company in Newfoundland.

Mr. Alonzo W. Spooner, who has for many years been connected with the oil business, has associated himself with the Grant Hamilton Oil Company, Limited, of Toronto, in the capacity of Secretary-Treasurer. The success which has attended Mr. Spooner in the past will no doubt continue with him in his present position.

Mr. H. H. Spicer, manager of the Spicer Shingle Mill Company at Vancouver, B. C., is at present journeying in Southern California for the benefit of his health. Writing from Pomona, Cal., to the CANADA LUMBERMAN, Mr. Spicer says that he has a number of Canadians down there; in fact, he thinks there are too many there, as well as in other parts of the United States, for the good of Canada. There is a small town near Pomona called Ontario which, he is told, was started by Canadians. Mr. Spicer's many friends earnestly hope that he may be greatly benefited by the vacation.

Messrs. McEwan & Munro, of Moose Creek, have sold out their lumber business at that place to J. & T. Gagnon.

TRADE NOTES.

Messrs. R. H. Buchanan & Company, Montreal, Canadian agents for the Rossendale Belting Company, Manchester, report heavy orders for belting. Mr. E. Pikington, a member of the Rossendale Company who has recently been in Canada, returned to England last month.

A very attractive booklet has been issued by The John Palmer Company, Limited, of Fredericton, N. B., containing illustrations and particulars of the larrigans, moccasins packs and waterproof sporting boots of which this company are extensive manufacturers. We understand that a very large edition of this booklet has been published.

Messrs. Baldwin, Tuthill & Bolton, of Grand Rapids, Mich., have issued a new catalogue of their saw fitting machines and tools. It is most complete, and in addition to illustrations and particulars of their various devices, contains many special articles on saw fitting and kindred subjects. Every mill owner should have a copy of the catalogue.

C. N. Cornell, Vancouver representative for the William Hamilton Manufacturing Company, of Peterborough, Ont., has secured the contract to furnish the following apparatus. One 14 x 20 inch Corliss frame slide valve engine and one 60 inch by 16 feet stationary tubular boiler for Thomas Kirkpatrick, shingle manufacturer, Vancouver; one pair 20x24 inch engines for the new shingle mill of the Hastings Shingle Manufacturing Company; one 10x12 inch logging engine for the British Columbia Mills, Timber and Trading Company, Vancouver. The above will be of the William Hamilton Manufacturing Company's make.

Attention is directed to the advertisement of the Winnepeg Machinery and Supply Company. This company was organized in October of last year, Mr. J. C. Gibson being appointed vice-president and general manager. "Everything for Power" is their motto. They make a specialty of installing complete saw mill outfits, and are dealers in engines, boilers, iron and wood-working machinery, motors, dynamos, elevators, etc. In addition to the above they are sole Canadian representatives for the celebrated "Keasey" split wood pulley, with malleable iron hub, and western agents for the Jenckes Machine Company, Sherbrooke, Que., and Maddison Williams, Port Perry, Ont. Although only organized a short time, the company have found it necessary to erect new premises in order to meet the increasing demands of their business. The new building is 80x50 feet.

VIRGIN PINE BELT.

Mr. J. F. Whitson, of the Ontario Crown Lands Department, while in the Algoma district on an exploration trip, discovered a large belt of virgin pine forest aloug the Mississaga river. He reports that it comprises probably one thousand square miles. In some places it runs above four million feet to the mile, and, on the whole he thinks it will equal in quantity and quality the pine of the Temagami forest reserve, which is generally estimated at 3,000,000,000 feet. It is of the very best quality.

THE LATE JAMES SCOTT.

The death of Ex-Alderman James Scott, of Toronto, which took place simultaneously with the issue of our April number, brought the deepest regret to a wide circle of friends and acquaintances. Although Mr. Scott's illness for a year past was generally known, no one expected that the end was so near.

For twenty years Mr. Scott had been one of the most prominent lumber operators in Ontario, and until about three years ago he was manager and secretary-treasurer of the Georgian Bay Lumber Company, whose mills are at Waubaushene.

The deceased was born in Ireland, and came to this country when a boy and settled in Brockville. For many years he was connected with the Crown Lands Department. His entry into the lumber business was under the late W. E. Dodge, of New York, who organized the Georgian Bay Lumber Company. On Mr. Dodge's retirement Mr. Scott assumed the business management. He was also head of the Georgian Bay Navigation Company.

Mr. Scott, on the earnest solicitation of his many friends, consented to become an aldermanic candidate in 1894 for Ward No. 6. He was returned by a large majority. He continued to represent the ward for three years, when he retired. Four years ago, his friends requested that he become a candidate for the Mayoralty, but he would not be persuaded. In politics, he was a Conservative.

Always taking a deep interest in the welfare of the community in which he lived, his death is a distinct loss. Charity was one of his characteristic features. Of this trait a friend has said: "The late Mr. Scott was a man who employed a great deal of his time in unostentatious and energetic charitable work. Indeed, he was so reserved that, although I saw him almost every day in regard to his legal busines, it would be impossible for me to mention more than one or two of the charitable societies he belonged to, and the particular church interests in which he was engaged, though I know that they were many."

W. H. Miller has his new shingle mill at Campbellton, N. B., nearly completed.