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TORONTO, CANADA, JULY, 1899

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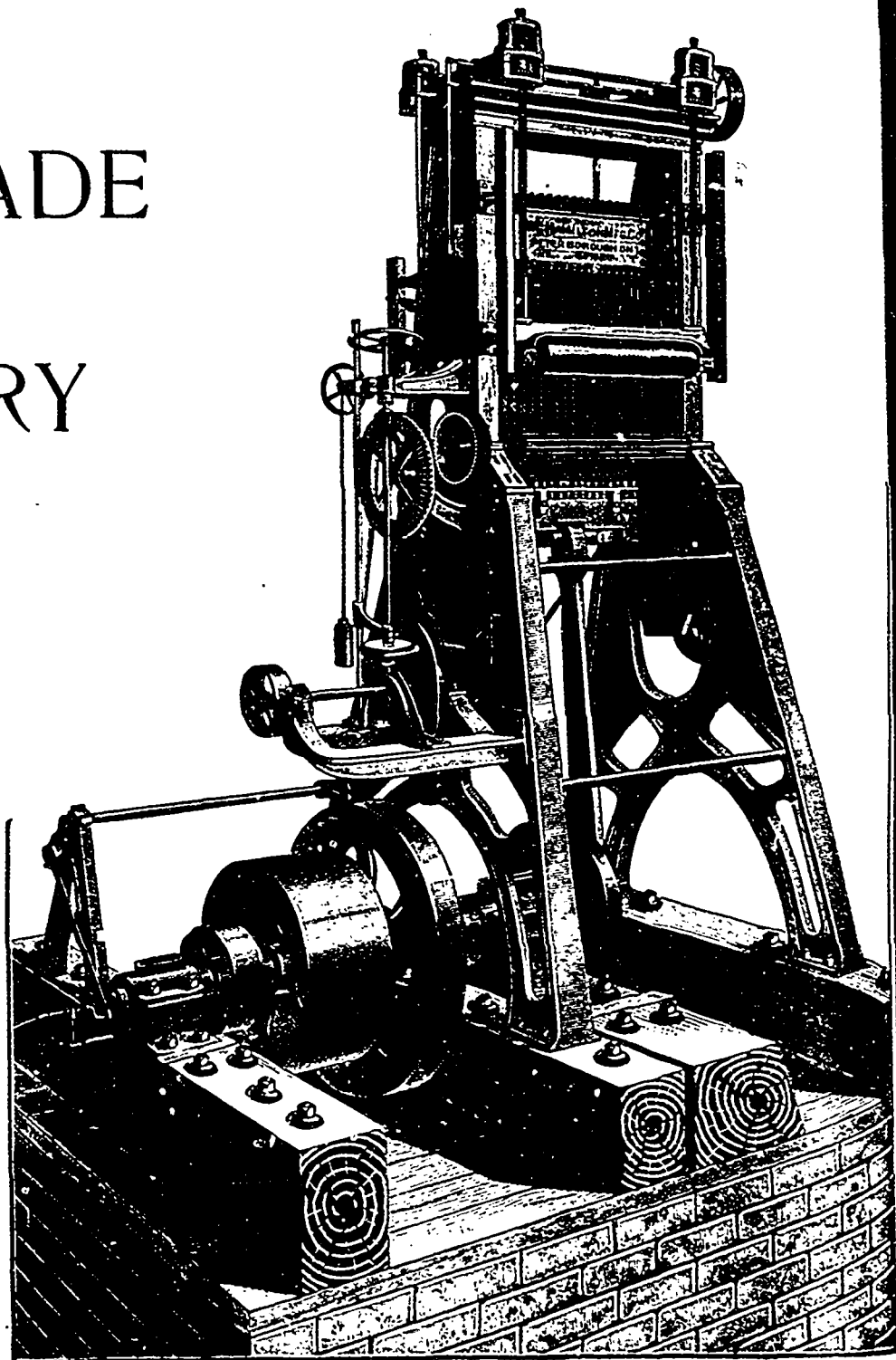
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Yours truly, KILGOUR SHIVES.

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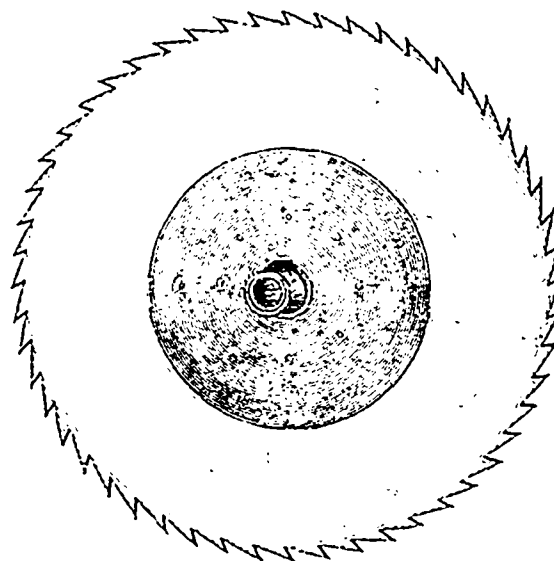
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Yours truly, W. G. SIMMIE.

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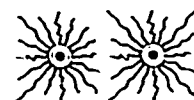
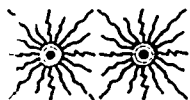
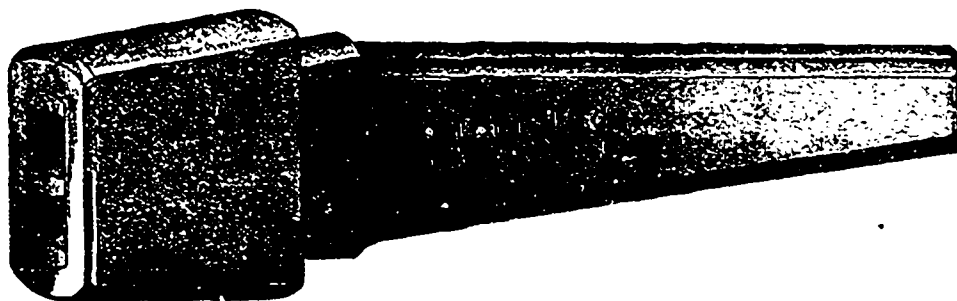
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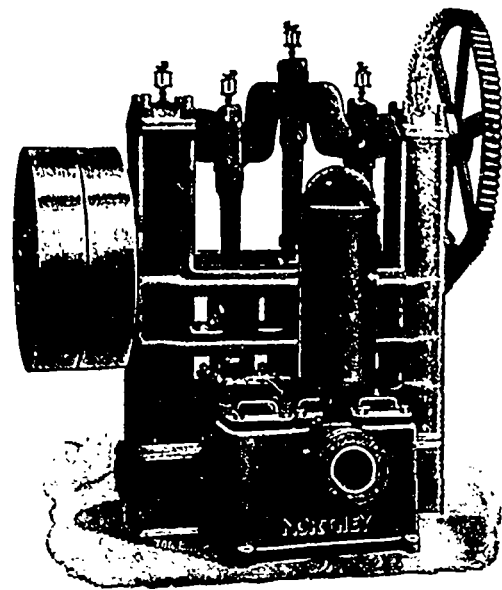
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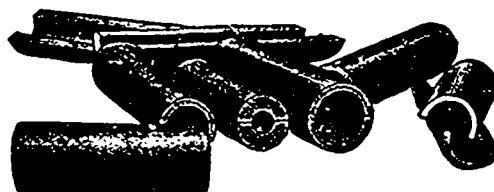
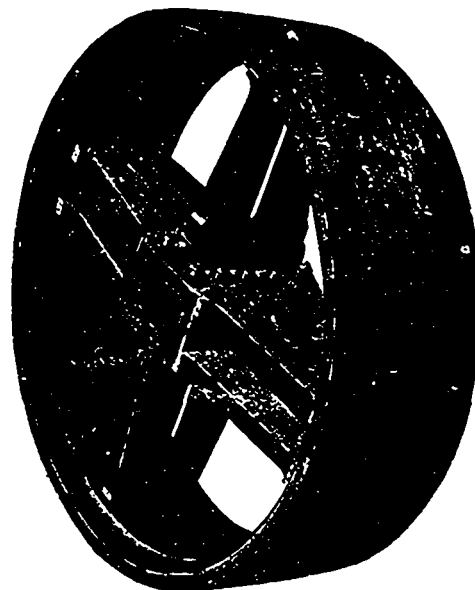
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# THE CANADA LUMBERMAN

VOLUME XX.  
NUMBER 7.

TORONTO, CANADA, JULY, 1899

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## CHARACTER SKETCH.

### HON. PETER WHITE.

IT affords THE LUMBERMAN much pleasure to present to its readers a portrait of Hon. Peter White, together with some particulars of his active and useful life. Mr. White is a son of the late Lieut. Col. Peter White, a native of Edinburgh, Scotland, who came to Canada and founded the town of Pembroke in 1828, and was for years one of the principal lumber merchants of the Ottawa valley. Born at Pembroke in the year 1838, the subject of our sketch was educated at the local schools, receiving his business training in a mercantile house in Ottawa. In 1858, in partnership with his brother, Mr. A. T. White, he embarked in the lumber trade, the firm name being A. & P. White. This partnership has continued ever since. For many years their business was chiefly confined to the production of square and waney timber in the Ottawa valley, but latterly they have been engaged in the manufacture of sawn lumber. Their mills are located at Pembroke, and have a capacity of about six million feet per annum. The members of the firm are also shareholders and directors of the Pembroke Lumber Company, which have extensive saw mills in the same town.

Mr. White has devoted much time and energy to advancing the interests of the town of Pembroke, and aided very materially in promoting the Kingston & Pembroke railway. He was first elected to the House of Commons for North Renfrew at the general election in 1874, and with the exception of one session, continued to represent that constituency until 1896, when he was defeated by Mr. Thos. Mackie, M. P. For some years he was chairman of the Standing Committee on Agriculture and Mining, and during the Seventh Parliament, 1891 to 1896, held the office of Speaker. He was appointed a member of the Advisory Board of the Liberal-Conservative Union of Ontario in 1896, and in March of the following year was called to the Privy Council of Canada. He is president of the Pembroke Electric Light Company and of the Crystal Gold Mining Company, and a director of the Pembroke Lumber Company, Pembroke Navigation Company, and the Tobique Gypsum Company. His senior partner, Mr. A. T. White, M.P.P., was elected to the local legislature of Ontario at the general election of 1898.

### EXACTLY SO.

An "ad." in a trade journal will do what traveling men, as a rule, do not do. It will go to towns off from the railroad, where there are no hotels. It will work nights, Sundays and holidays, in wet weather or dry, hot weather or cool. It will talk to the merchant before some of the boys are out of bed in the morning and after they have gone to bed at night. It's one of the few things that has not as yet struck for eight hours.

## CANADIAN WOODS IN GERMANY.

IN a report on the subject of American woods in Germany, the Consul of the United States at Bremen writes to his Government pointing out some curious features of German trade. For example, in the April consular report, he says that the freights charged on non-European woods average from 41 to 47 per cent. higher than those on European woods. The longer the distance, the higher becomes this indirect tax. The difference is especially detrimental to American walnut and hickory, while American oak can be sent to South Germany only over the waterways. Mr. Lange gives some hints as to shipment of lumber which may be worth the observation of Canadian exporters. Although Canada's trade in lumber with Germany is very



HON. PETER WHITE.

small, it has shown signs of increase in the last three years. It is recommended by this American consul that: The boards and balks must be more carefully (i.e., slowly) dried, thus avoiding dry rot; that exporters must be more prompt in fulfilling their engagements; and that sea freight should be kept down as low as possible throughout the year. This might be accomplished by a combination of exporters. The woods cannot stand, he says, a freight of more than 18 cents per hundred pounds to Bremen and 15 cents to Rotterdam. Higher freights prevent a larger import.

As to what kinds of American wood the Germans want, Mr. Lange says that the white maple is liked, and the required white color can be obtained by a careful treatment of the wood, which will save the trouble. It is imported in balks and blocks. The consumption of white wood (poplar) grows steadily in Germany. It is the most suitable material for many purposes, such as carriage making, construction of pianos, etc. Stout blocks of first-class quality are preferred. Small trunks are cut to much greater

disadvantage in Germany than in the United States.

Hickory would be much more imported by the Germans if the exporters would adhere more to the wishes of the market. Split hickory for making spokes is hardly offered at all, although there is always a demand for it. American cherry makes very slow headway in Vaterland. The beautiful quality of this wood should make it more popular; but the prices asked for it are high. Pitch pine, yellow pine, and Carolina pine have a constant demand. It is highly advisable for exporters to take care in sorting these.

## TIMBER ELECTRICALLY SEASONED.

THE process of seasoning and preserving wood by electricity, which has of late attracted much attention, has many points of advantage which are likely to go a long way toward insuring the ultimate success of the method. One great recommendation of the new system is that certain woods which are at present used only for fire wood, since they will not stand seasoning in the ordinary way, can thus be rendered available for structural work. Among the specimens exhibited to illustrate this quality are some species of larch, very common in France, but hitherto quite unusable in carpentry, owing to the extent to which shakes developed in seasoning. The specimens were perfectly sound, and both heart and sap wood could be planed with equal ease and efficiency. The treatment makes the wood absolutely impervious to damp and prevents its decay. Another advantage of the method is that, so far, none of the large class of wood-destroying or wood-puncturing insects have been known to attack wood electrically seasoned. Even now more than 25 cubic feet can be cured for one cent, and the process is of the kind that will naturally be cheapened. The wood to be treated is placed on rests in a tank containing a solution of 10 per cent. of borax, 5 per cent. of resin and 5 per cent. of carbonate of soda. A heavy current is turned on, which causes the solution to be sucked from the bottom to the top, and the whole mass of wood permeated by the combined resin, borax and soda, through electrocapillary attraction. The resin seals the fibers of the wood after cooling, and the boric acid acts as an antiseptic. The sap displaced from the wood rises to the surface of the bath during the operation, and the resin in it mixes with that in the solution. The time required for the operation varies from five to eight hours, according to the nature and state of the wood under treatment, green wood being easier to treat than wood nearly dry.

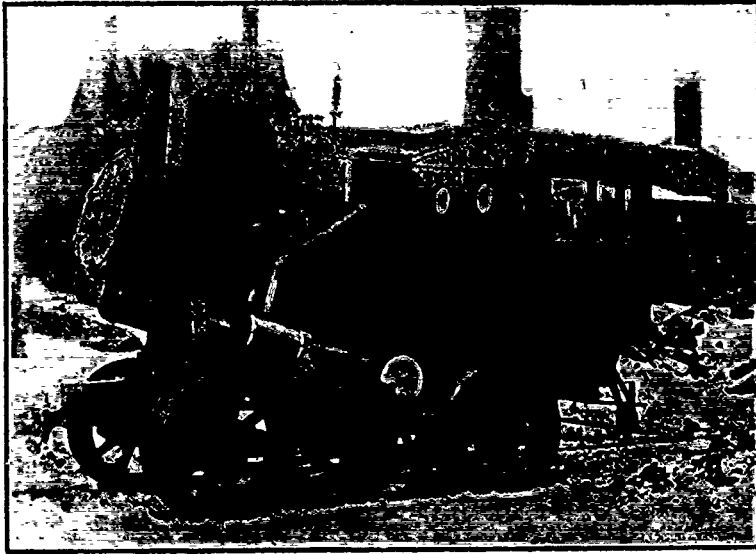
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### A LOGGING LOCOMOTIVE.

We illustrate on this page a logging locomotive of rather novel design. This machine was designed and built by the Robb Engineering Company, of Amherst, N.S., for Mr. Emile Stehelin, formerly of Paris, who has emigrated to Nova Scotia and taken up an extensive tract of timber land containing valuable spruce and other woods, which he manufactures into dimension timber and deals for export. The locomotive is used for hauling the lumber from the mills at Nouvelle France, N.S., to the point of shipment at the port of Weymouth, N.S., about 15 miles, over which Messrs. Stehelin & Sons have constructed their own railway and laid it with timber rails from the adjacent forest.

The boiler has a cylindrical shell and furnace, the smoke box end being set about two feet higher than the front end in order to assist the circulation and draught. The furnace is arranged for burning wood, and two-inch tubes connect the back end of the furnace with the smoke box in the ordinary way. The shell is completely filled with water around the furnace and tubes, steam space being provided in a large dome.



LOGGING LOCOMOTIVE BUILT FOR MR. EMILE STEHELIN, NEW FRANCE, N.S.

The water spaces and base of dome are so arranged as to give a rapid and continuous circulation; the ascending current of water and steam being around the furnace and tubes up to the dome, and the descending current flows from the sides of the dome around the tubes to the bottom of the boiler. This form of boiler has been manufactured for several years by the Robb Engineering Co. for portable purposes, and has proven to be a remarkably quick and economical steamer, its simplicity and freedom from stays rendering it very durable. The driving wheels are made to conform to the wooden rails, having flanges both outside and inside, the tread being slightly conical in order to run freely around curves.

The engines are of the ordinary side crank type, with balanced valves and link motion, both engines being attached to a frame which supports the boiler and rests upon the main driving axles. The engine shaft is fitted with a steel pinion geared four to one, with an intermediate shaft carrying sprocket wheels, which drive from it, by heavy forged steel sprocket chains, to the driving axles. The entire locomotive, except the driving wheels and axles, is carried on springs, which permit the wheels to follow the unevenness of the

track and lessen the jar on the engines and other working parts, flexibility in the driving gear being provided by the sprocket chains.

The principal dimensions are as follows: Boiler shell diameter, 3 ft. 4 in.; length 10 ft. 6 in. Furnace diameter, 2 ft. 10 in.; length, 5 ft. 6 in. Number tubes, 109; diameter, 2 in.; length, 5 ft. Dome diameter, 3 ft.; height, 3 ft. 4 in. Total heating surface, 316 square ft.; working pressure, 125 lbs. per square in.; engine cylinders, diameter 9 in., stroke 10 in.; driving wheels diameter, 3 ft.; total weight, not including water in boiler, 22,000 lbs.

### A BANK MANAGER ON LUMBER.

MR. Geo. A. Cox, general manager of the Bank of Commerce, in his annual address delivered in Toronto last month, spoke regarding lumber as follows: "Our lumber industry, after the effects of several years of general depression in trade and of unfriendly legislation on the part of the United States, has entirely recovered its tone, and apparently nothing hangs over the market except the threats of the United States lumber lobbyist to engineer further adverse legislation,

once more, however, to urge the necessity of adequate forestry laws. The Government is, I am aware, taking more advanced views than hitherto, but it seems very desirable, now that we have the sharp experience of provincial taxes resulting from declining crown dues from timber, to create a public sentiment which will demand forestry laws as advanced as those of any other country. In British Columbia, where, because for the moment timber seemed to have little realizable value, vast areas have been burned, the future of lumbering looks more prosperous than at any time in the past, and we may hope that it will take its place as one of the safe and permanent industries of that province."

### THE MANUFACTURE OF EXCELSIOR.

EXCELSIOR is a staple article used largely for mattresses, upholstering, furniture, carriages, etc.; also for packing glassware, china, druggists' goods, hardware, toys, confectionery; in fact, its uses for packing are almost unlimited, and it is much preferred to hay or straw, as it is elastic, odorless and free from dust and dirt.

It is a wood shaving manufactured from basswood (which is the best), balm of gilead, white poplar and similar woods having a light colored, straight and tough fibre.

By far the greater quantity of excelsior is cut from  $\frac{1}{32}$  inch to  $\frac{1}{8}$  inch wide and about  $\frac{1}{100}$  inch thick. However, it is manufactured from  $\frac{1}{64}$  inch wide by  $\frac{1}{400}$  of an inch to  $\frac{1}{2}$  inch wide and  $\frac{1}{50}$  of an inch thick.

The wood should be cut in 38 inch lengths, and split into slabs 5 or 6 inches thick, the full width of the log, and then seasoned in the open air until dry. Green or damp wood is unsatisfactory; it does not work up good, clogging and otherwise interfering with the work, and molding in the bale when pressed. Wood should be full thickness that the machine will take to get full capacity of knives at each stroke.

To get the best results, open sheds with board roofs should be constructed so that the air will have free circulation, and at the same time keep the wood free from rain or snow.

After seasoning thoroughly, the 38 inch lengths are cut in two in the middle, and the ends trimmed square so as to make 18 inch lengths. The small pieces of bolts left from cutting excelsior are used for baling strips. Open air seasoned wood is preferred to kiln dried wood; the latter is more or less brittle.

An abundant supply of timber which can be handled without too great expense, together with proper shipping facilities, are, of course, the primary considerations. When the mill is located on the banks of a river, the logs may be cut many miles above, and "driven" when the water is high. Hauling by rail is also profitable when the distance is not too great.

There are many establishments throughout the country engaged in manufacturing that have a surplus of fuel for power which could be utilized for this purpose. When close to a supply of suitable timber, it is easily seen what a profit may be derived by adding an excelsior mill. Until recently, it was thought that this was the only way excelsior could be manufactured profitably, but the fact that plants erected exclusively for its manufacture find it necessary to enlarge from time to time to enable them to keep pace with the demand, proves conclusively that such is not the case. In fact, there are few better paying manufacturing businesses than this is when properly handled. — National Coopers' Journal.

in order, if possible, to keep the consumer in the United States at the mercy of the owners of the rapidly-diminishing supply of timber now left in that country. This unfriendly legislation hurt us for some years, but with the improvement in business the demand for low grades of lumber has been such as to clear out our yards to make the immediate outlook quite satisfactory. The demand for lumber of the higher grades continues to be good, and year by year the proportion we are able to export in a more advanced condition of manufacture than that of mere square timber or deals increases.

"The trade in doors, sashes, furniture, etc., is steadily growing, and with the exportation of sawlogs practically at an end, we may hope that out of our remaining forests in Ontario a much larger proportion of wage-earning from the same quantity of lumber will accrue to our people than in the past. As the best of our pine and hardwoods is being cut we are finding use as lumber for many woods hitherto despised, and with the development of our water-power for the making of cheap pulp, to be put doubtless to many uses not now thought of, we may look forward to national revenues and manufacturers' profits from our forests for all time to come. Permit me



I RECENTLY met a dealer who was a bold advocate of uniform inspection rules for the grading of hardwood lumber. In relating his experiences to show the necessity of such rules, he pointed out one case fresh in mind. A certain manufacturer had some hardwood lumber for sale, and the dealer visited the mill for the purpose of inspecting the stock and making an offer for it. When some boards with heart in the centre were reached, he proceeded to class them as culls, in accordance with the inspection adopted in the Eastern States, which distinctly states that all lumber containing heart defects must be classified as culls. To this the manufacturer took exception, contending that certain local industries accepted such boards as common, measuring out the strip in the centre containing the heart and rejecting it entirely. While the dealer pointed out that this was not the proper inspection, he had no authorized rules to prove his position, and was therefore somewhat at a disadvantage. He states that when lumber is shipped for inspection upon delivery, he frequently finds that the mill man has not been accustomed to selling upon any proper system of rules, and in cases where disputes over inspection arise, there are no standard rules which can be referred to to facilitate a settlement. His opinion is that if hardwood manufacturers would properly grade their lumber, they would in the end receive greater returns and would be saved the annoyance of many disputes such as now arise. Even if certain buyers continued to buy upon their own inspection, and the rules were not generally adopted, they would at least be of advantage in the way of providing proper rules as an authority to which to refer. The trouble, he thinks, with all rules in existence to-day, is that they are not explicit enough.

\* \* \*

In the Maritime provinces of Canada, and also in the state of Maine, there has been growing up for some time a new industry; more correctly speaking, perhaps, not a new one, but an old one assuming larger proportions. It is that of spruce gum gathering. Years ago the country lad who went into the city was highly indignant when called after by the small boy, "Johnny from the country, with his pockets full of gum." Literally, this was true then, "Johnny" usually having a few chunks with which to treat his friends. Now, however, many persons are engaged in this pursuit. There is a large market for the product, notwithstanding that the prejudice against gum chewing far outweighs anything that might be said in its favor. The gum picker usually goes into the woods with the lumbermen in December, and makes his home at the lumber camp. Before doing so, he provides himself with a ladder and a knife with a long blade. This is all the outfit required, excepting that, perhaps, when the snow is deep, use is made of snowshoes. The spruces usually are without branches at the base, and instead of climbing the

trunks the ladder is used. Of course, the ladder could be made in the woods, but spare time is employed doing this before entering the forest. Once there, the picker finds plenty to do. He rises early from his bunk, and it is not very late in the afternoon when "the shadows of evening fall," and then his day's work is done; but the employment makes him quite tired and ready to retire early. Each day his work takes him farther from the camp, but, in truth, he need not be far away at any time, gum-bearing trees being all around. If the picker has had good success, he has made a fair day's pay. Spruce gum is sold at wholesale from 60 cents to \$1 a pound, according to quality; and as it is not uncommon to gather from three to five pounds during the day, it can be seen that the work nets him a tidy income, the cost of living at the camp being comparatively small. The lumbermen, too, find time Sundays to turn their hands to this work. It is the custom then to go in a party of a dozen or more to where the logs are "browed." Here it is possible, with the aid of a peevie, to get at the gum more readily. The wholesale druggists in New York, Boston, and some of the other large cities, are the largest purchasers. Some of these firms employ pickers, while others depend on agents to purchase their supply. In the cities mentioned, spruce gum retails for about 16 cents an ounce. When the crop is being harvested, the dealers have difficulty in keeping pace with the demand. The other day a New York firm sent an order for a ton. Their agent was unable to fill the order, but sent all he had on hand some 300 pounds assuring his customer that he would be able to fill the balance of the order in a short time.

\* \* \*

It is always interesting to compare the customs in Canada with those prevailing in other countries, but particularly in Great Britain, to which country, it might be said, we look for counsel and instruction. A gentleman from England closely associated with the lumber trade who has recently travelled through Canada and the United States, in a letter to the scribe, comments on his trip, and for the benefit of readers of this page, I will give his concluding remarks, from which some ideas may be gathered. He writes: "I found trade good everywhere in lumber, and have visited quite a number of box and case-making manufactories both in Canada and the United States. The courtesy and kindly interest shown to me on all sides will always conduce to very pleasant recollections and memories of my first visit to Canada and the States. I am taking back a few machines and labor-saving contrivances, which are more in evidence here than in England. Generally, however, owing to the greater advertising facilities of recent years, I have not found very many machines of whose merits I was not already acquainted, but I have been much struck with the intense energy evinced by all on this side of the water, greater in the States, and existing in a lesser degree in Canada also. Doubtless to this must be attributed much of the wonderful advances made here during the last twenty or thirty years. In the matter of lumber, I was struck with the fact that while in England we mostly deal with lumber in the form of planks, deals and battens, in Canada and the States it is almost all in the form of boards. Owing to your mills

sacrificing quality to quantity, these boards are generally too roughly sawn to suit the English market, and to this in part I attribute the difference that exists in this respect. The extra labor of handling boards over deals and battens is offset here by great attention to labor-saving devices, while the advantage in the quicker drying is very obvious. In view of the preference given here for sawing the lumber into boards at the mills, with a little more care in the accuracy in size and chances of saving therefrom, I should not be surprised if the exports of the future tended more toward boards and less of deals, battens, etc."

TO PREVENT SHRINKING OF FLOORS.

A WRITER on the above subject in the Mississippi Valley Lumberman says:

"The flooring mostly used for homes is oak and birch. Maple is used almost exclusively for stores and office buildings. As to which one of these woods is most liable to shrink when used on the floor I don't really know. Birch has the general reputation of freely contracting, and many think that maple being so hard and close grained will not shrink; but in my experience I have had some cases the equal reverse of this. I believe, however, that if extra care were exercised in keeping maple flooring from contact with the moisture in the air it would not shrink. The manufacture of maple flooring has been figured down to a science. I have a lot of No. 2 that has just come in. It is from 4 to 16 feet in length, and a few years ago it would have passed muster as No. 1 clear. The end matching permits the use of short lengths without serious detriment to the floor. This lot seems to have been kept in good condition and to be thoroughly dry. I have seen cars containing maple flooring that were open to the weather and pretty well soaked with rain. Some dealers store their stock in open sheds too, and I am only surprised that under such circumstances it proves as satisfactory as it does. Maple flooring is never put through a dry kiln after it leaves the factory and is often not laid for many months after it is manufactured. Oak and birch flooring on the contrary are usually not made until the order is secured. Many carpenters think it necessary to take such flooring smoking hot from the dry kiln and lay it down before it is fairly cool. This is a mistake. All lumber after being kiln dried should be allowed to stand some time before being used. After coming from the kiln all wood will naturally absorb a certain amount of moisture from the air. This will expand it somewhat, but if allowed to remain in a dry place some days it will again contract and become very durable in staying qualities. Most of the sash and door factories appreciate this fact and act accordingly.

ONE DOLLAR.

THE above sum represents the yearly subscription price of the CANADA LUMBERMAN, including both weekly and monthly editions, mailed to any address in Canada or the United States. Owing to postal charges, the subscription price to foreign subscribers is two dollars per year. Persons in foreign countries interested in Canadian timber products can invest that sum to no better advantage than by becoming a subscriber. Likewise every mill owner in Canada should read the columns of the CANADA LUMBERMAN. A sample copy will be furnished upon request.





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

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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.

**MANUFACTURING HARDWOOD LUMBER.**

In the production of lumber, manufacturers should aim to obtain from the log as much saleable stock as possible, and at the same time the greatest percentage of higher grades. Pine manufacturers, being engaged in the business on a comparatively extensive scale, generally manufacture their logs to the best advantage, and this may also be said of many hardwood manufacturers. But it is also true that some operators in hardwood give little attention to the question of manufacture, as is evidenced by the class of stock to be found in their yards. They frequently sacrifice, unknowingly, quality to quantity, and as a result are compelled to market their lumber at a much lower price than might be obtained if it were carefully manufactured.

The natural inference would be that the poorly manufactured stock would be found in the yards of persons who had but recently launched into the lumber business. This is not always the case, as persons of the last mentioned class give more attention to studying the market requirements than do some saw mill owners who have been in the business for years. These latter are averse to changing their established methods, and unless someone becomes sufficiently interested to go into the question very carefully with them, and point out how their annual profits can be increased, they continue to follow their own ideas.

A method of sawing hardwood lumber which some mill men adopt is to cut a slab and couple

of boards from two sides of the log, than give it a quarter turn and saw continuously from one side until the log is cut up. The result of this method is that several boards contain heart in the centre, and must therefore be classed as culls.

A method of sawing which we believe to be an improvement on the one above referred to, is to turn the log to the saw and work down until the hearts defects are reached, then give the log a half turn and work down from the other side in the same way. This leaves a portion of the log on two sides of the heart to be sawn into strips, the heart being removed entirely from the lumber, to be thrown away if worthless. An objection to this manner of sawing is the great amount of edging it necessitates, taxing the capacity of the machine where only one edger is in use. In the case of large logs this may be overcome by cutting boards off the four sides until it is possible to get a perfectly square board, and then proceeding in the manner as above described. With small logs, however, the use of this method might so reduce the width of the lumber as to make its adoption undesirable, in which case we would recommend that the edging be done by a circular.

The method above advocated has additional advantages besides that of producing a greater quantity of high grade lumber. For instance, with birch it is desirable to obtain as much red faced lumber as possible, in view of its greater value. With this method this result is effected, the bulk of red face in the log coming out almost as separate boards.

There are some who contend that not more than from ten to twelve per cent. of red face can be obtained from birch timber, yet the writer is cognizant of an instance where, by careful sawing, ten thousand feet, or more than 17 per cent. of first-class red face lumber, was gotten out of a total cut of less than sixty thousand feet. When it is remembered that the commercial value of red birch is about double that of ordinary white birch, the wisdom of giving attention to the science of manufacturing becomes clearly apparent.

**LEGALITY OF THE MANUFACTURING CLAUSE.**

The indications at the present time are that the courts will be asked to decide as to the legality of the Ontario legislation compelling the home manufacture of timber. Messrs. H. J. Scott, Q. C., and Christopher Robinson, Q. C., two eminent lawyers, have been engaged by the Michigan lumbermen to endeavor if possible to obtain a test case in the courts, and have applied to the Attorney-General for his consent to take such proceedings. This consent will in all probability be granted, and it is expected that the case will be heard in the Ontario courts in the fall, and will reach the Privy Council early in the winter.

This question as to the right of the Ontario government to impose restrictions governing the cutting of timber on crown lands has been the subject of more discussion than perhaps any question which has come up for some years, and it is indeed satisfactory to know that it promises to be finally disposed of in the near future. As to the result, Canadians generally have little fear, feeling confident that the course which has been taken will be upheld by the Privy Council.

To the Michigan lumbermen who are now refused the right to export logs we extend our sympathy. At the same time, it is the United States Congress that is responsible for their present position. This is very clearly set forth by the Toronto Globe in the following words:

"Until the passage of the Dingley bill the Dominion Parliament refrained from putting an export duty on logs, while Canadian lumber was admitted, sometimes free, sometimes at a rate of \$1 per thousand. The Dingley act made a new arrangement. It placed a duty of \$2 a thousand on lumber, and it provided that if Canada, or, to be strictly accurate, any country imposed an export duty on logs, an amount equivalent to that duty should be added to the import duty on lumber. That was a highly ingenious plan for taking all the advantages of the situation and giving none. But it is not a matter of surprise that the Ontario lumbermen chafed under it and were glad to find an equally ingenious method of meeting it. This was the provision requiring the manufacture of all logs cut on Ontario limits into lumber before export. It answered the same purpose as an export duty, and it did not involve the same consequence. It was, in our opinion, as a measure of defence and of meeting the unfair provision of the Dingley law, a perfectly justifiable measure, and the Ontario lumbermen were always willing to make a fair arrangement, namely, reciprocity in logs and lumber."

We believe the government of the United States have acted unwisely and against the interests of the country. With the forests rapidly becoming depleted, it is only a matter of a short time until the wood-consuming industries will be largely dependent upon Canada for a supply of timber. In the meantime, influenced by public sentiment and unfair legislation at Washington, the Dominion government may have passed a law preventing the export of logs from Canada under any conditions. This matter was last week brought up in the House by Mr. Bennett, who spoke strongly in favor of such action.

**EDITORIAL NOTES.**

In last issue reference was made to the dispute over the lease of Deadman's Island as a site for a saw mill. Within the past month the officials in the Militia Department at Ottawa have discovered the missing document, which shows that the title of the island belongs to the Dominion government. Meanwhile, however, Mr. Ludgate, tired of the fight, is reported to have gone to Puget Sound to establish a saw mill.

It may be stated without fear of contradiction that no wood has as yet been discovered possessing the excellent qualities of spruce for producing mechanical pulp. It has qualities not found in other woods, particularly its long and tough fibre. Nevertheless, it is possible that science will yet make such discoveries as will permit of other woods being utilized for the manufacture of a good grade of pulp. At the present time many persons are turning their attention to hemlock, and experiments have been made with it by two or three Canadian mills, but with what success has not been learned.

THAT gigantic, but none the less desirable project, the Ottawa and Georgian Bay canal, may yet be carried to completion. When in England recently, Mr. Stewart, the promoter, claims to have formed a company to undertake

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the work, and it is said that the company have since deposited with a Canadian bank the sum of \$200,000, in accordance with the provisions of the statute incorporating the company. Further development will be awaited with much interest, as the construction of the canal will certainly prove of much benefit to Canada, and be a boon to the lumber industry of the northern country.

It is indeed gratifying to learn that both the Imperial and Dominion governments have decided to grant Messrs. Pickford & Black substantial subsidies for a fast steamship service between Maritime province ports and the West India islands. These islands are gradually becoming of more importance from a commercial standpoint, and conditions being favorable to an interchange of products with Canada, a considerable increase in the volume of trade may be looked for. The appointment of a Jamaican commercial agent at Ottawa is also a step in the right direction.

**THE PATCHING OF CRACKS IN BAND SAWS.**  
By J. S. JACKSON.

It is probable that there is no band filer who has not had considerable trouble in the fitting of band saws by reason of the cracks, which occur variously both on the back and toothed edges, and occasionally also in the central portions of the saw. It is unnecessary here to take up the question of the causes for the formation of these cracks, as they are many and varied, and a treatment of the subject would make in itself a long article. It is obvious that with any band filer having troubles of this kind the most important thing for him to do is to look to the prevention rather than to a remedy for the cracking. But having cracked saws, the question arises, "how can the cracks best be remedied?"

Where a few or a considerable number of short cracks form on the back edge of the saw, or perhaps also on the front edge, extending in but a short distance, one of the most common remedies is to shear the back edge, if that edge is affected, or to shear and retooth the front edge if that side is affected. There are instances where this process will prove the only successful remedy, and where it is necessary to remove only a very narrow strip it will not materially impair the saw by lessening its width. But there are occasions when these cracks extend in for a distance of an inch or an inch and a half, or perhaps further, and in such a case the remedy of shearing would work a serious loss to the saw, and the filer therefore resorts to cutting the saw in two and brazing it. But cutting and brazing band saws, if the process can be avoided, is highly objectionable, by reason of the fact that it involves a considerable amount of labor and skill to effect a successful braze, and it leads to the shearing of the saw and usually to an impairment of the life of the saw.

It would seem, therefore, that any method calculated to reduce the necessity for cutting and brazing must recommend itself strongly to both mill men and saw filers. Such a process consists of putting a patch on the saw over a crack, in such a manner as to largely restore the integral character of the saw and at the same time in no way diminish its life or strength, as is likely to result from a complete cutting and brazing. A band saw patch is simply a short braze. The patching of band saws has been practiced by

numerous filers for a number of years, but heretofore they have performed the process entirely by hand, having no machines or tools with which to render the process easy, simple and exact, hence the hand method has not been largely adopted and never will be.

The difficulty of patching a crack by hand will be readily apparent when one considers that two bevels must be filed in the saw plate, tapering to the crack on opposite sides, and also from the central portions toward the end of the crack, and a piece of steel filed accurately to fit this portion of the plate thus filed away, before the ordinary process of brazing is resorted to. In view of the fact that in a large number of band mill filing rooms there have hung in the racks, unused, band saws that have been condemned as worthless by reason of the cracks in them, it is perhaps a wonder that some makers of saw fitting machinery have not long before this developed a machine which would render the preparation of a cracked saw, and of suitable patches for same, a simple, easy and successful process. I am glad to learn that one of the concerns making filing room machinery has recently placed on the market a machine which will very quickly prepare a cracked saw ready for patching. By their method the surface of the saw along the edges of the crack is milled to the proper bevels, and strips of saw steel, of proper gauge, according to the requirement, are furnished in length as desired, so that the operator has nothing whatever to do except to prepare the crack and then apply the patch, brazing it on in the same manner as the ordinary braze is effected.

In brazing on a patch, the heated irons are applied only on the surface of the patch, and no other portions of the blade are affected. It is a much easier and quicker process to prepare the saw for a patch an inch long, more or less, than to prepare two laps the width of the saw. It is easier to straighten up a patch than a braze, as you have only from an eighth to a sixteenth as much surface, as if the patch is properly brazed on the saw becomes practically as good as new. I would advise any mill man or filer who is interested in this process to look into the machine referred to above, which is made by Baldwin, Tut-hill & Bolton, Grand Rapids, Michigan, and which is illustrated in their catalogue for 1899. —The Wood-Worker.

The mill of the Riordan Pulp Company, at Hawkesbury, Ont., will commence operations at an early date. The daily output is to be forty tons up to the first of next January, after which it is to be eighty tons. There is a mistaken impression that the product of this mill is to be ordinary sulphite pulp, such as is used in news. It is, however, to be a superior book pulp. It appears that the Riordans discovered, when marketing in the United States the surplus of the Merriton mills, that the grades affording the most profit were the higher ones. They found competition too keen in the ordinary qualities, and therefore kept exclusively to the finer kinds. The twenty tons per day that they could spare from the Merriton mills have been disposed of in the United States for more than the last twelve months, and it was a class of pulp that could be used for book paper. This quantity from the old mill will continue to be marketed across the line, as well as the whole output of the new mill. At Hawkesbury, production will be cheaper than at Merriton. For the Merriton mill wood had formerly to be brought all the way from the north shore of the Georgian Bay, and cost about \$6 per cord laid down. At Hawkesbury, contiguous to the company's own limits on the Rouge, wood will cost not more than \$2.50 per cord delivered.

**TRADE OPENINGS.**

The following were among the enquiries relating to trade matters received at the High Commissioner's Office in London, Eng., during the week ending June 17th, 1899:

An enquiry from Budgett Bros., 70 Bishopsgate St. Within, E. C., for a good manufacturer of dining tables made from birch, spruce, and basswood, in quantities and shipped in the white.

An enquiry from C. L. Miller, 117 Bothwell St., Glasgow, for shippers of hickory suitable for golf sticks, in lengths of 44" by 7/8" square. The goods are required immediately for wholesale trade.

**THE SONG OF THE SAW.**

The song is the shriek of the strong that are slain—  
The monarchs that people the woodlands of Maine:  
'Tis the cry of a merciless war,  
And it echoes by river, by lake and by stream,  
Wherever saws scream or the bright axes gleam—  
'Tis keyed to the sibilant rush of the stream,  
And the song is the song of the saw.

Come stand in the gloom of this clamorous room,  
Where giants groan past us a-drip from the boom,  
Borne here from the calm of the forest and hill,  
Aghast at the thunderous roar of the mill,  
At rumble of pulley and grumble of shaft,  
And the tumult and din of the sawyer's rude craft.

Stand here in the ebb of the riotous blast,  
As the saw's mighty carriage goes thundering past,  
One man at the lever and one at the dog,  
The slaughter is bloodless and senseless the log,  
Yet the anguish of death and the torment of hell  
Are quivering there in the long, awful yell  
That shrills above tumult of gearing and wheel  
As the carriage roars down and the timber meets steel.

Scream! And a board is laid bear for a home.  
Shriek! And a timber for mansion and dome,  
For the walls of a palace, or toil's homely use,  
Is reft from the flanks of the prostrate King Spruce,  
And thus in the clamor of pulley and wheel,  
In the plaint of the wood and the slash of the steel,  
Is wrought the undoing of Maine's sturdy lords,  
The martyrs that nature yields up to our swords.

The song is the knell of these strong that are slain,  
The monarchs that people the woodlands of Maine,  
And the fury that whirls by mechanical law,  
With biting teeth and insatiable maw,  
Is the saw;  
And this is the song of the saw.

—Holman F. Day, in Lewiston Journal

Referring to the old subject of the value of hardwood lumber cut in winter compared with that cut in summer, the American Lumberman says that, while some practical lumbermen do not believe it makes much difference in what part of the year it is manufactured, the general theory that when the tree is full of sap, fermentation and incipient decay are more likely to set in than at other times, finds acceptance and is reasonable. It also thinks that winter sawn lumber comes out whiter and of a more uniform color, while lumber sawn during the hot months, with alternating periods of heat and dampness, is likely to stain in a way likely to diminish its value for some purposes.

Chemically hardened railway sleepers—the idea of a Munich architect named Hasselman—are proving quite satisfactory on the Bavarian state railroads. The process, lasting about six hours, consists in a double baking of the wood and treatment with oil of vitrol and sulphate of iron, followed by placing in a bath of chloride of lime and milk of lime at a temperature of 100° to 125° C. and a pressure of about 2½ atmospheres. The cost is about two cts. per tie. The first baking destroys the germs of fermentation and induces mechanical union of the preservatives with the fiber of the wood, and the second imparts remarkable hardness and so changes the character of the wood that it remains dry even in damp places.

The Brockville Times defines the Canadian position thus happily:—

We don't want to retaliate,  
But by jingo, if we do,  
We've got the spruce,  
We've got the pine,  
And we've got the nickel too.

### WHAT CONSTITUTES A DEAL AND A BATTEN.

A case of much interest to lumber exporters was decided in London, Eng., recently. The proceedings were instituted by Messrs. Hine Brothers, of Maryport, as owners of the steamship Greta Holme, to recover the sum of £40 15s. 5d. from Messrs (Ltd.), timber merchants, 79½ Gracechurch Street, E. C., for extra freight alleged to be due under a bill of lading dated October 30th, in respect of 65 standards of scantlings, strips and shorts wrongly shipped as deals on board the plaintiffs' steamship.

Mr. Batten, plaintiff's counsel, said that the defendants were shippers of a cargo of timber from Montreal by the plaintiff's vessel. The present proceedings were brought for damages for failing to load certain numbers of standards of deals as per contract which was admitted between the parties. The contract, which was made in Montreal, was in the form of a letter dated May 21st. The letter was a promise by the shipowners to let space for 400 stds. of deals, Montreal to the Surrey Commercial Docks, and the price was 40s. It also stipulated that the deck portion was not to exceed 20 per cent. of the under-deck cargo. An agreed statement of the facts had been filed, but there would be some additional evidence, probably. According to the agreed statement of facts, of the 400 stds. of deals the defendants had alleged that 65 stds. were not deals, but battens. They were little pieces measuring 2 in. thick and 6 in. wide. The first question was this: Under the contract giving leave to the shippers to ship deals, were they at liberty to ship anything which was not known in the trade as a deal? The second question was, If not, what were the damages they must pay to the shipowners. In that case the freight was agreed at £2, but persons who had shipped smaller pieces than were contemplated were made to pay 12s. 6d. per std. more. That action was brought to recover the difference in the freight on £2 and £2 12s. 6d. The reason was this: Small pieces of battens took up a great deal more room than the larger deals. Therefore one got a fewer amount of standards on which freight had to be paid in the same allotted space. There were witnesses who were conversant with the timber trade there in court to prove the reasonableness of their case. The bills of lading were signed by the master under protest and no doubt complaints were made. There were put on board 3,451 battens, measuring 21 stds., and which were 2 in. by 6 in., 4,584 measuring 23 stds., and which were 2 in. by 5 in.; 3,678 battens measuring 15 stds., 2 in. by 4 in.; 405 ends measuring one std. odd, 2 in. by 6 in.; 437 ends which were 2 in. by 5 in.; and 540 ends 2 in. by 4 in., about a standard each. The only questions between the parties were whether the plaintiffs were entitled to any, and if so, what amount of extra freight in respect of all or any of the pieces comprised in the 65 stds. beyond the freight already paid and the costs of the action. According to "Stevens on Stowage," a deal must be 7 in. broad. The law of Canada on the subject said: "The Quebec standard hundred of deals shall be 100 pes. 12 ft. long, 11 in. broad, and 2½ in. thick. And deals of all other dimensions shall be computed according to the said standard; deals of all qualities shall not be less than 8 ft. long, 7 in. broad and 2½ in. thick; deal ends shall not be less

than 6 ft. long, and shall be computed according to the Quebec standard." According to Webster's Dictionary, a deal could not be so described unless it was 7 in. broad. So they would have to start with the presumption in favour of the shipowners in that case.

Mr. Murray Kennedy, a member of the firm of Kennedy, McLean & Co., of Montreal, was called. He said they were shipbrokers, and he had had many years' experience as a shipbroker and in the timber trade in Great Britain, as well as at Montreal. The measurements given by the Surrey Commercial Dock Company applicable to that case had been before him. They were based, as was the plaintiff's case, on what was commercially known in the timber trade as "battens." They were not "deals." He was present in Montreal when the timber in question was shipped. At that time he protested to the shippers that they were shipping battens instead of deals. Other timber of the same dimensions was shipped on the Greta Holme on the same voyage. Messrs. Sharples, timber merchants, shipped a lot. The same complaint arose in reference to them, but Messrs. Sharples had paid the extra 12s. 6d. which the defendants were now resisting their liability for. The smaller wood took more space on the ship, and that accounted for the increased charge for freight. It would cost more to discharge, and took longer to handle. To use a phrase well known in the timber trade, it "blew the ship out." In cross-examination he said it was not true to say that the term "deals" was used in the trade to cover both deals and battens. His definition of a batten was that for shipping purposes it would be 2 in. to 3 in. thick, 10 ft. or so long, and 3 in. to 6 in. wide. Battens were not known to be 4 in. by 9 in. wide. Such a thing was certainly not known in the Canadian trade. A piece of wood 3 in. thick and 4 in. wide was a batten, and so it would be if it were 5 in. wide. They were not generally shipped 4 in. thick and 5 in. wide, but if they were he would call it a scantling. In the whole course of his experience of the timber trade he had never known of an action being brought to recover extra freight for carrying pieces of timber because they were 2 in. by 4 in., and not deals. Where the measurement was 2 in. by 5 in. or 6 in.—where they were battens—then an extra claim had been made.

Mr. Kennedy was cross-examined and other evidence taken, but decision was given as before stated, for the defendants.

The Timber Trades Journal gives the following definition of a deal: "A deal, roughly speaking, is understood to mean a piece of sawn wood over 6 to 8 feet long (8 feet are sometimes called deal ends), 9 and under 11 inches wide and 3 inches thick. Two-and-a-half inches thick by 9 inches wide would be called a deal, but 2 inches by 9 inches some would insist upon calling a board. Should 3 x 8 inches be termed a batten or a deal? and if a deal, how should 2½ x 8 inches be designated? These are not questions of vital importance, and that there should be any difference of opinion arises from the fact that of late years wood has been manufactured abroad into intermediate sizes other than the old-fashioned dimensions of 3 x 11, 3 x 9, 3 x 8, etc., and there is now a sort of border-land of dimensions which the most experienced may well hesitate to classify. But the true definition of a deal, according to the Petersburg standard, which

forms the basis of all contracts made in the country, is 1½ x 11 inches wide and 12 feet long, or its equivalent in any dimensions. The distinction between deals and battens is regulated more by custom than anything else, and is quite apart from the cubical contents of the wood, the dividing line being drawn at 7 inches wide; all sawn wood above that width is reckoned as deals. The generally accepted definition of a batten is 2½ inches and 2 inches thick, and 2½ width above 4 inches and not exceeding 7 inches, 3 x 3 and 3 x 2½ are usually termed scantlings, as well as 2 x 4, but the term batten would apply to them all. Taking into account the great diversity of sizes that now figure amongst the foreign imports, as well as from our American colonies, it will be safest to let the dividing line between deals and battens be drawn at 7 inches in width—if under 3 inches in thickness. This practically brings the 3 x 7 within the deal sizes, but it is the simplest way out of the difficulty."

### PROFIT IN GROWING TIMBER.

General Andrews, the Fire Warden and Deputy Forest Commissioner of the State of Minnesota, read at the last annual meeting of the Minnesota Forestry Association a paper prepared for him by Dr. C. A. Schenck, the Superintendent of Mr. Vanderbilt's forests at Biltmore, on the "Utilization of Waste Lands for Forest Purposes." There are now in Minnesota five million acres of public lands, two million acres of which are practically unavailable for agriculture, but are readily available for forestry. Supposing this land to be now bare, and to be planted by hand, cared for and guarded for eighty years, its value at the end of that period would be, under ordinary circumstances, nearly double the total cost, including taxes and compound interest at two per cent. If the land should already be partly wooded, so that it could seed itself, the original outlay would be much less, and its prices of lumber should be higher in eighty years than they are now, which is altogether probable, the profit would be proportionately greater; while Dr. Schenck allows nothing for profits from the sale of brush-wood, the lease of hunting and fishing privileges, and other incidental sources of income, which might, in the aggregate, form a considerable sum. Besides the direct profits, there would naturally be indirect gains through the conservation of streams and springs, all of which should count, and which would go far to make up for the charge for interest. Meanwhile, employment and comfortable homes would be provided for a large number of persons in and about the forests, and the cost of fire-wood and lumber would be lessened for all the inhabitants of the State, and the Commonwealth would possess, when its forests came to permanent productiveness, one of the best and safest investments known.

### "WANTED AND FOR SALE"

Persons having for sale or wishing to purchase a particular lot of lumber, a mill property, timber limits, second hand machinery, etc., in fact, anything pertaining to lumbering operations, will find a buyer or seller, as the case may be, by placing an advertisement in the "Wanted and For Sale Department" of the CANADA LUMBERMAN Weekly Edition. Testimonials to the value of this department by those who have given it a trial state that the results of advertisements were frequently better than anticipated. The cost is comparatively small. Mill owners might, with profit to themselves, make use of this method of advertising their stock to a still greater extent.

## THE NEWS.

John McCrae expects to dispose of his sawmill in Gosfield, Ont.

Mr. Wm. Mitchell has just completed a new saw mill at St. Catharines, Ont.

P. Gennelle & Co., of Nakusp, B.C., are opening a lumber mill at Rossland.

Mr. John Kalbfleisch, of Tavistock, Ont., is shipping quantities of batter boxes.

Mr. A. D. Callin has sold his Lumber business at Russell, Ont., to Mr. James McKay.

Chew Bros., of Midland, Ont., are having an electric plant installed in their mill.

Mr. Cowan, of Brandon, has purchased from Mr. Keith a sawmill at Prince Albert, N. W. T.

Mr. McLean, of Bryson, Que., is about to commence the construction of a sawmill at Fort Coulogne.

The Firstbrook Box Company, Limited, of Toronto, has been incorporated as successors to Firstbrook Bros. The capital stock is \$300,000.

The Keewatin Lumber Co., of Keewatin, Ont., have found it necessary to put on a night shift, and have therefore equipped their mill and yard with electric light.

The Signal Towing & Rafting Co., of Warton, Ont., has been incorporated, with a capital of \$3,000. Messrs. J. Watt and A. A. Mackenzie are interested.

A new sawdust slide has been erected at J. R. Booth's mill at Ottawa. The affair is 200 feet long, two feet wide and provided with the latest steel machinery to carry the sawdust.

The shingle mill at Maxwell, Ont., owned by Mr. J. H. King, was struck by lightning on May 30th and badly damaged. Two horses in the mill at the time were killed.

Mr. H. L. Elliott has formed a partnership with Wm. Armstrong, to engage in the retail lumber business at Portage La Prairie, Man. The firm will be known as Wm. Armstrong & Co.

A six hundred pound shaft attached to the driving wheel of one of the large engines in Gilmour & Hughson's saw mill at St. Catharines, Que., flew to pieces recently. Luckily, no person was injured.

It is claimed that the mills of the Columbia River Lumber Company at Golden, Beaver and Kault, in British Columbia, have a larger output this season than any other lumbering concern in British Columbia.

It is reported that a new company has made arrangements to build the Lindsay, Bobcaygeon and Pontypool Railway. This line, already subsidized by the Dominion Government, will open up a rich lumber country.

The Imperial and Canadian Governments have agreed to pay Messrs. Pickford & Black \$60,000 a year for a fortnightly steamship service between St. John, Halifax and the Azores beginning next year.

The residents of the municipality of St. Josephs, in Algoma District, are negotiating with Mr. Peter Chesterfield for the erection of a steam power saw mill and a sash and door factory, the whole to cost not less than \$10,000.

Incorporation has been granted to the Windsor Bent Lumber Company, of Windsor, Ont., to manufacture bent boards, shingles, spokes, lumber, etc. James Samson, E. S. Bennett and J. E. O'Connor are provisional directors.

As a result of the recent fire at Dawson City, the White Pine Railway and Canadian Development Company's route will carry half a million feet of lumber and a quarter of a million shingles from Victoria to the Klondike capital.

Messrs. L. Maine, Neilson & Co., 135 St. Peter street, Quebec, announce that they are acting as selling and purchasing agents for timber and pulp wood lands in the Dominion. They will also explore timber limits and report as to their value.

Messrs. Knight Bros., of Burks Falls, Ont., are reported to have purchased the old saw mill and water power site on the east side of the dam from Mr. J. T. Harvie and the Dominion Bank. It is understood to be their intention to erect a sawmill on the property.

The mill of A. & F. White, at Pembroke, Ont., commenced operations recently, after having been thoroughly overhauled. The principal improvements include new carriers, rolls, trunnions and edgers, and two new boilers. The capacity is now about 40,000 feet per day.

Mr. J. J. Whaley, late of the Whaley Lumber Co., Huntsville, Ont., has formed a partnership with Messrs. Passmore & Co., of Guelph, to carry on a wholesale lumber busi-

ness. Attention will be given to both local and export trade, and it is hoped to cultivate an extensive business with Great Britain.

One of the features of the coming Industrial Fair in Winnipeg will be a special exhibit of minerals, fruit, etc., from British Columbia. For this purpose special buildings will be erected, the lumber for which will be donated by the British Columbia lumbermen. The C.P.R. have offered to carry the lumber and exhibits free of charge.

—Mr. H. G. Ross and W. S. Hurst announce that they have opened an office at 515 Hastings street, Vancouver, B. C., for the adjustment of losses by fire, to be known as the Adjustment Agency of British Columbia. Mr. Hurst has been a building contractor, valuator and appraiser for thirty-four years, while Mr. M. Ross is a practical book-keeper and accountant, and is well known by many lumbermen of the western province.

—The Calhoun Lumber Co., of Calhoun, N.B., has been formed, with a capital stock of \$40,000, to acquire mill properties, mill sites, water powers, etc., and to conduct general lumbering operations. The charter members are: Josiah Wood and Herbert M. Wood, of Sackville, N.B.; Thomas B. Calhoun, of Calhoun, N.B.; John C. Calhoun, Albert, N.B.; and Mariner G. Teed, Dorchester, N.B.

—Mr. J. R. Booth has again shown his interest in his employees by arranging with the Canadian Railway Accident Insurance Company to introduce the employee collective system of accident insurance, which gives the men the advantage of paying the dues fortnightly without cost of collection. This policy has been adopted by the employees of the Eddy Company at Hull and McLachlan Bros. at Arnprior, and is said to have been found very satisfactory.

—The value of certain timber cut on lots 32 and 33, in the township of Oneam, Ottawa county, has been the subject of litigation in the Superior Court at Hull, Que. Mr. A. Proulx, owner of the timber, placed the value at \$800, whereas the defendant, Mr. Chas. Logue, contended that the timber was entirely worthless, and would not have been cut by him only that he happened to be carrying on lumbering operations in the immediate vicinity of the lots in question. It was claimed that money was lost in taking the timber out, owing to the long haul.

—A question of no little interest to lumber manufacturers and shippers was raised in the case of Berube vs. the Hull Lumber Co., heard in the Hull Superior Court. It was as to whether raised projections on the sides of lumber rollers would be serviceable in lessening the possibility of accidents to men working on the rollers. Mr. McDougall, Q. C., for the company, endeavored to prove that the projections mentioned would be impractical and altogether useless. Mr. Major, counsel for plaintiff, undertook to uphold his contentions by having a lumber slide and a stock of lumber in the court room.

## CASUALTIES.

—John Allen, of Salem, became entangled in a belt in McClure's mill near Truro, N. S., and was drawn into the machinery and instantly killed.

—Word has been received of the drowning at the Cascades, on the Schyan river, of Fauchere Laitroulet, who was working on J. R. Booth's drive. He was a native of Westmeath, Ont.

—While M. W. H. Fowlds, proprietor of a sawmill at Hastings, Ont., was putting a board through the edging saw, a knot flew out, striking him in the right eye and injuring the ball.

## PERSONAL.

Hon. J. H. Ward and family, of Montreal, will again occupy their seaside residence at St. Patrick this season.

Mr. Isaac Cockburn, of Winnipeg, has been appointed secretary of the Western Retail Lumbermen's Association, as successor to Mr. John Dick.

Mr. Alexander Ferguson, of the firm of Kernahan, Webster & Ferguson, lumber merchants, London, Ont., died on May 31st, at the age of forty-one years. Deceased was an able business man.

Mr. Amos Laurence, one of the lumber kings of Cumberland county, Nova Scotia, died at his home at Southampton last month. He was head of the firm of Amos Laurence & Sons, and was engaged for many years in lumbering operations.

Among the saloon passengers by Elder Dempster & Co's magnificent S.S. Mount Royal, which sailed for London on June 6th, was Mr. William A. Goodday, younger son of Mr. H. G. Goodday, of Quebec. He has entered the office of the well known London brokers, Messrs. Foy, Morgan & Co.

## TRADE NOTES.

The Stuart & A. R. Williams Machinery Company, of Winnipeg, Man., has been incorporated, with a capital of \$490,000, to manufacture mill machinery, boilers and engines.

The Robb Engineering Company, of Amherst, N. S., have just sold, through their British Columbia representative, to the Brunette Saw Mill Company, a boiler for their steamer Vulcan.

Messrs. Long & Thompson, of Orillia, Ont., who manufacture an improved shingle machine, have just increased their plant by a 50 inch gap lathe, manufactured by John Bertram & Sons, of Dundas, Ont., and weighing 10 tons.

The business of Mr. Madison Williams, Port Perry, Ont., has been transferred into a joint stock company, to be known as the Madison Williams Turbine Company. The manufacture of turbine water wheels, saw mill and other machinery will be continued.

## SHUTTING OFF STEAM.

"Shall we stop our advertising for a while now?"

This is a question that some business men are apt to ask themselves, particularly in the summer, or during what they regard as their "dull season."

Suppose your engineer asked you:

"Shall I stop putting coal on my fires, sir?"

What would you reply?

"Why no—unless you want the engines to stop."

The advertiser who thinks of discontinuing may argue: "We have been advertising so long and so steadily that our name and specialities are well known, and we intend to advertise again when business is better in our line than it appears to be now; in the meantime our business won't stop."

No; neither will the engine stop the minute the men suspend shovelling in the coal. The point is, however, that when the engine is to be started again, ten times as much will have been lost in power as has been saved in fuel or feed.

Using up reserve force never pays.

It is a loss, however it may be looked at. The buying public is prone to forget. It is, moreover, much more difficult and much more expensive to regain a lost customer than to prevent his straying away.—Money Maker Magazine, Chicago.

## CANADA'S COMMERCIAL AGENTS.

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

J. S. Larke, Sydney, N.S.W., agent for Australasia.

G. Eustace Burke, Kingston, Jamaica, agent for Jamaica.

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

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

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

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

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

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

J. G. Colmer, 17 Victoria street, London, S.W., England.

Thomas Moffat, 16 Church street, Cape Town, South Africa.

G. H. Mitchell, 15 Water street, Liverpool, England.

H. M. Murray, 40 St. Enoch Square, Glasgow, Scotland.

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

The international exhibition at St. John will open on September 11th and continue until September 20th. \$13,000 will be offered in prizes and the amusement features will be especially attractive.

The Beecher family is one whose branches are very many and whose lines of work are as varied as the individuals. It is a grandniece of Henry Ward Beecher, Mrs. Charlotte Perkins Stetson, who is at present very much to the fore in relation to the economic emancipation of women. In the July number of The Cosmopolitan Mrs. Stetson will wage a pen warfare with Prof. Harry Thurston Peck over an article in the June number of The Cosmopolitan, "The Woman of To-day and To-morrow."

### WHAT IS WASTE IN LUMBER MANUFACTURING.

THIS is a pertinent question, in view of the oft-repeated assertion that our lumbermen are the most wasteful set of men in any industry. For years the cry has gone forth that the lumberman is wasting much of the forest product. The ordinary mind has come to accept this assertion as gospel truth, and most people actually believe that the average lumber manufacturer is outrageously wasteful and extravagant in his method of turning the greatest and noblest of natural products into a commercial article.

There is scarcely an instance of anyone disputing this commonly-received opinion, and it may be considered bold to do so at this late date. Nevertheless, the so-called fact is to a great extent no fact at all, but simply a mis-statement, or a misunderstanding of economic conditions.

Literally and strictly speaking, waste is that which is needlessly thrown away; that which might be saved by proper management.

A thing thrown away that could not have been saved except at an expense equalling its value after it had been saved is not really wasted when thrown away.

It is claimed that from 20 to 40 per cent. of the gross forest product goes into refuse in the process of manufacture, but to say that this 20 to 40 per cent. is wasted is a stretching of terms. In utilizing any natural product only so much of it will be turned into merchandise as can be sold above cost of manufacture. No business can or will continue long on a bare cost basis.

With this understanding, the only question that arises is, does the lumber manufacturer throw away anything which he can market? Or the question may go farther: Does he throw away anything that he could market at bare cost?

Much material, handled at a good deal of cost for labor, becomes mere refuse, and is thrown away. Every lumber manufacturer aims to sell every bit of product for which he can get back the bare cost of the labor he has been obliged to put into it in order to separate it from that part of the product from which his profit comes. The cost of labor expended on any portion thrown away must be added to the price of the merchantable part before there can be any profit in that. Hence, every bit of the product that can be sold for the cost of the labor put into it, adds that much to the average value of the profitable part of the product; and carrying this reasoning still farther, it follows that this latter part can be sold cheaper in proportion to the smallness of the amount thrown away as unsalable except at a loss.

#### NO AVAILABLE MARKET.

There is very little of the forest product that is not usable or salable. The only question is whether it can be used or sold so as to cover cost or make a profit in the handling. The lumberman's slabs and edgings are all salable, and all be eagerly bought if in the market; and every lumberman would be glad to sell them, instead of consigning them to his "hell"; but when a cord of white or yellow pine or maple slabs and edgings that actually costs, say \$3 a cord, to cut into lengths and load on cars at the mill, and \$3 a cord for freight, besides switching charges and cost of unloading, sells at \$6 a cord, carload lots, in some town like Chicago, St. Louis, or Milwaukee, it is nonsense to call the mill-man waste-

ful for running these slabs and edgings into the "hell," instead of shipping them to market.

If piling up and holding the sawmill refuse until such a time as a profitable market could be found were possible, then the question of waste might arise, but this is very seldom possible, for all mill refuse is exceedingly perishable and soon loses whatever value it might have had in the first place. It deteriorates much faster than market conditions ever improve.

But slabs and edgings are a small part of the refuse of lumbering. A large part never leaves the forest. Another large part is in broken bits, bark and the dust made by the saws. This latter substance is now much utilized in making steam where soft woods are manufactured, but with the hardwoods that is almost out of the question and the furnace fires are fed with the heavier refuse, such as slabs and edgings. To that extent in hardwood mills the slabs and edgings, and in pine mills the sawdust are of real value, and they to that extent ought to be deducted from the total of the refuse.

If lumbering could always be carried on close to towns, the question of what is waste and what is not would be greatly simplified; there would be almost no refuse, as nearly the entire forest product could be turned to merchantable account, at cost, anyhow; and to that extent the average cost of the more valuable product of the lumber would be lessened.

But in the nature of things that is impossible. The necessities of civilization, especially of the rushing, pushing, somewhat hurly burly civilization of the United States, has demanded the manufacture of lumber under conditions that absolutely forbid utilizing more than 60 to 80 per cent. of the forest product. To say that the other 20 to 40 per cent. has been wasted, is to dispute the necessity for those conditions, which is quite another thing.

#### WASTE WAS INEVITABLE.

Had the timber in the great forest states of the northwest been cut and utilized only under conditions that would have permitted the merchandising of practically all the forest product, where would the great empire of the central west be to-day, and what would be the condition of the great prairie states now teeming with millions of population, busy industries and happy homes. That there has been some waste in the destruction of the forest is beyond dispute. Occasionally this may be laid at the door of the lumbermen, who, in their haste to get rich, utilized only that part of the forest product which would yield large profits. But those instances have been rare, and were happily confined to a very few years as far as the great pine states have been concerned. Under present conditions there is really little actual waste. That is, little or none of the gross forest product is thrown away which can be sold even at cost, and as civilization with its wants and its small industries is crowding closer and closer around the sawmill, every year shows a great decrease in the amount of actual refuse or worthless product.

In the old eastern states there is little refuse, little of the forest bulk but that yields at least cost, and the percentage that pays a profit has grown very large there compared with the newer northwest. The time is not far distant when in all states where any lumbering will continue, there will be practically no forest material thrown

away except the bare twigs and leaves, and perhaps they too may, in the near future, be utilized to the extent at least of the cost of gathering them, either for fertilizers or for use in some chemical processes whereby valuable substances may be extracted at a profit.

There is undoubtedly at present a larger proportion of the southern forest going into refuse than elsewhere east of the Rocky mountains, and this results from conditions stated heretofore, such as want of market for anything but the regular products of lumbering, and the absence of a crowding population and small industries to utilize the refuse.

But even in the south there is an improvement in some respects, industries are making in that direction, and certain processes for the conversion of refuse into merchantable products are being introduced which bid fair to change the conditions greatly. What is waste under one condition is not under another. For instance, with corn high and coal cheap and within easy reach, it would be wasteful for the western farmer to burn his corn; but that question was reversed when the conditions were.

There is much the same condition in mining coal as in the manufacture of lumber. Around the great mines of Pennsylvania and Ohio there are doubtless millions of tons of coal dust that are practically refuse and worthless at present because not marketable under present conditions, even at cost. Still, the production of such refuse is a necessary concomitant of that business, and no one claims it is a waste to run that dust into ravines and out-of-the-way places, to lie there unused. Why not apply the same reasoning to the sawdust heaps and slab piles, or the refuse burners of the lumberman, and stop the everlasting hue and cry of the lumberman's extravagance and criminal waste?

The real waster of the forests of this country has been the settler, the farmer who has chopped down and burned upon the ground many times the amount of timber that all the lumbermen of the country have ever run into their refuse heaps. The settler or farmer has been a much more wanton destroyer of the forests than the most reckless lumberman ever known. O. S. Whitmore, in *The Tradesman*.

## CORRESPONDENCE

Letters are invited from our readers on matters of practical and interesting to the lumber trades. To secure insertion all communications must be accompanied with name and address of writer, not necessarily for publication. The publisher will not hold himself responsible for opinions of correspondents.

### ENQUIRY FOR BROOM HANDLES AND SKEWERS.

LONDON, ENG., June 15th, 1899.

Editor CANADA LUMBERMAN:

DEAR SIR, A London firm of importers asks me for names of Canadian producers of basswood handles, wood blocks of red pine for flooring and paving, and manufacturers of skewer (wooden). I have given several names, but should be pleased to hear from any firms who would like to be placed in communication with the house making the enquiry.

Another recent enquiry which might interest your readers is from a house in the Midlands claiming a large connection in the chair trade, who wish to hear from Canadian producers of chair parts cut out from birch and sawn to shapes ready for cutting up. The firm in question considers that there is an opening for just development in this line. Canada already does trade in chair parts, but there are probably houses which might like to take the matter up.

Any communication or information addressed to me will be placed before my correspondents.

Yours faithfully,

H. WATSON,  
Curator Canadian Section, Imperial Institute.

PROTECTION OF LIMITS FROM FIRE.

A meeting of the timber limit holders, district No. 1, of the province of Quebec, called by Mr. J. McCuaig, superintendent of fire rangers, was held in Ottawa recently. Mr. Robert Henderson was appointed chairman, and Ald. R. J. Davidson secretary. There were present Messrs F. P. Bronson, representing the Bronson-Weston Lumber Company, Ottawa; Robt. Hurdman, representing the Sheppard-Morse Lumber Company, of Burlington, Vt.; Hon. Peter White, representing the Pembroke Lumber Company; David Gillies, M.P.P., representing Gillies Bros. Lumber Company, of Braeside; W. H. Rowley, representing the E. B. Eddy Co., Hull; Armon Burwash, representing McLachlin Bros., Arnprior; Ald. R. J. Davidson, representing Davidson & Thackray, Ottawa, and John Charlton, M.P., representing Charlton Bros.

It was moved by Messrs. Gillies and Hurdman that a committee, consisting of H. K. Egan, R. Hurdman and D. Gillies, be appointed to obtain the signatures of the license holders of the Ottawa Valley in district No. 1, to a petition to be presented to the commissioner of crown lands and the Quebec Government, asking that the regular number of fire rangers be increased to at least 50 to protect Ottawa limits as far as possible from fire. - Carried.

It was also moved by Messrs. White and Egan, that, in view of the fact that the Province of Quebec is equally interested with the license holders in the prevention of forest fires, the Government be requested to adopt the system prevailing in Ontario in the appointment of fire rangers. - Carried.

A SAWDUST MACHINE.

A new machine designed to convert sawdust into commercial products was recently brought to the attention of a number of Ottawa lumbermen by the inventor, Mr. H. Spurrier, of Montreal. The inventor says that his machine has passed the experimental stage, and has been successfully worked. He says it is about the most economical method yet discovered. The machine is like a large cylinder, and is usually covered in with bricks. Running through the centre of the cylinder is a large hollow shaft with a worm shaped like the flanges of a bolt. The screw-shaped shaft is covered with metal, but around this is another screw-like contrivance enclosed in metal. The sawdust is introduced into the spaces between the flanges on the inner shaft and in turning the dust is carried along the shaft to the other end and there escapes to the outer shaft, and after passing along to the end escapes by an outlet into a receptacle where the dust—which is charcoal after the above process—is deposited. The dust in going through the cylinder passes over heated surfaces, and as the screws keep turning the dust is kept moving and the heat is well distributed through the mass.

The gas separated from the sawdust by the heat passes through a pipe into a condenser and issues from this as acetic acid and wood tar. These two products can be further refined and other valuable products secured. Mr. Alfred Benn, commercial agent of Montreal, is associated with Mr. Spurrier. They expect to organize a company, with headquarters either in Montreal or Ottawa, to use the machines in manufacturing commercial products from sawdust.

SUCCESSFUL CULLERS.

The annual examination of cullers for the district of Ottawa was held at Hull, Que., on Saturday, June 17th, the examining officers being Messrs. Gilson, Derome and Pozie, of Quebec. Mr. F. A. Gendron, crown timber agent, acted as superintendent. A roll-way of logs was prepared on the shore of the Ottawa river, and the candidates were called upon to measure and cull them.

The list of successful candidates is as follows: J. H. Cameron, Buckingham; Alph. Martel, Three Rivers; Louis French, Hammond, Ont.; J. R. Rene, St. Gabriel de Brandon; Olivard Robitaille, Gatineau Point; F. G. Woonsdorf, Pembroke; Herbert Carr, Point Alexander, Ont.; Nap. Charest, Gatineau Point; E. J. Belisle, St. Andre Avellin; Telesphore St. Jean, Gatineau Point; R. C. Perrier, Buckingham; Jeremie Alix, Chute Aux Iroquois; S. Richardson, L'Original; Peter Le Roy, Grenville; Henry Row, Buckingham; Chas. Major, Montebello; J. P. Sarisan, Buckingham; A. T. Buchan, L'Original; Hugh Martin, Buckingham; S. Pouliot, Rockland; S. Surtees, Rockland; M. Galibeau, Hull; John Miller, Ottawa; W. B. Bertram, Billings Bridge; Ovice Latullup, N. Desmarais, Alf. Sauve, N. A. Sauve, John McGreen, Buckingham, Hull; A. R. McLachlan, G. A. Berminer, Arnprior; J. L. Close, John Yuill, H. Cailler, Arnprior; M. Beland, Gatineau Point.

ONE HUNDRED YEARS IN BUSINESS.

The firm of Messrs. Irvin & Sellers, sawmillers and timber importers, Liverpool, Eng., enjoy the unique distinction of having celebrated its one hundredth year of unbroken existence in business. The business was first established by Mr. John Irvin, who in the closing year of the last century commenced the manufacture of shuttles in the small town of Preston. In those early days of shuttle making box-wood was almost entirely used, and to those accustomed to the shuttle of the present day and its manufacture by modern machinery, but little of the arduous labor then involved in its construction by hand labor can be appreciated. Hand labor soon gave place to steam power, and the business gradually extended, the manufacture of bobbins being entered upon. In January, 1851, the founder of the firm died and was succeeded by his youngest son David, who is now the senior partner of the firm. Although at the ripe age of eighty-three years, he is still in the enjoyment of vigorous physical and mental powers. At the present time the firm is composed of Mr. David Irvin and his grandson, Mr. W. B. Irvin, who have built up an extensive business as sawmillers and timber manufacturers, having their mills at Preston, head office at Bootle, Liverpool, and branches at London, Glasgow, Birmingham and New York. At the present time they are giving considerable attention to the Canadian trade, and will be pleased to receive correspondence from manufacturers in this country.

Work on the development of the water power at Shawinigan Falls, Que., has been commenced. A syndicate, promoted by Messrs. Greenshields, has guaranteed to spend a large sum of money on calcium carbide works, and a United States concern, it is said, propose to erect large paper and pulp mills.

PRACTICAL NOTES.

In the latest patent barrel the stave is wedge shape, tapering from end to end rather than from the middle to the ends, and in making the barrel the wide and narrow ends are placed alternately. By this arrangement the barrel is given the essential swell at the center. For handling commodities of finer composition it is proposed to make a barrel consisting of two layers of these staves, one within the other, the staves of the outer layer being reversed with relation to those of the inner section.

The most objectionable of all methods of emptying and cooling a boiler is to blow it out under pressure, and afterwards run cold water in, in order to cool the shell still more rapidly. This arrangement really consists of emptying the boiler as described in the preceding and then cooling the plates by running cold water in. This plan should never be adopted; it is always likely to seriously injure the boiler. The sudden strains which are set up by the cold water running on to the hot plates may set up concealed fractures through the line of rivet holes forming the seams, which cannot be detected in the ordinary way, and which may lead to explosion and loss of life when the boiler is again worked.

CARE OF FILES.—If files have been used for working on wrought iron and are clogged with iron filings, says an American exchange, the file should be immersed for a short time in a dilute solution of sulphate of copper. The solution will completely remove the objectionable filings without affecting the file itself. Zinc filing can be dissolved with dilute sulphuric acid. Files which have been used in filing copper, or in filing the spelter from around frame joints, may be cleaned and sharpened by dipping in dilute nitric acid. It must be understood that before the files are immersed in the acid as much of the coarser filings as possible be removed with a file cleaning brush, and that the files be cleaned so that there shall be no grease of any kind present to hinder the action of the acid. Grease can be best removed from files by treating them in a dilute caustic alkali.

BELTING.—When a belt becomes badly oil soaked, and the pulleys have oil on them, it is well to sprinkle fuller's earth or prepared chalk on the belt. This will absorb the oil. Scrape off the residue with a piece of flat wood, slightly sharpened. A solution of salt on pulleys roughens the leather and helps to overcome some of the slip. Anything that acts as an unguent should be kept from a belt. If oil comes in contact with gum belts it softens them. If water gets between the canvas and the seams, and then freezes, it separates the layers. Even a frosty pulley in contact with a gum belt tears the seams from the canvas. Boiled linseed oil lightly applied on the pulley side of a gum belt will help to overcome slipping, caused by dust, etc. Gum belts are now used with success in damp or wet places in preference to leather ones. These belts cannot be successfully used at half cross or on cone pulleys.

JOINTING BELTS.—Endless belts while not in general use on lathes or similar machinery, are of great advantage and deserve to be used more than they are. A slight drawback is the lack of means of taking up the slack, such as is obtained with dynamos and motors, instead of requiring the joint to be opened and reglued, which is something of a nuisance. A means of avoiding this, says American Machinery, is to glue the joint with a piece of paper the full size of scarf intervening. While the pull of the belt lengthwise is easily resisted by the paper, it can readily be split by opening the corner of the joint sufficient to get a grip with the finger and thumb, a moderate pull from which will open the joint, when the belt can be shortened, resurfaced, and glued up with paper in between. Another way to open such joints is to place a moderately small sized wire in the middle of the joint and allow sufficient length to project out, so that the two ends can be folded over the outside of the belt and twisted. When the joint is to be opened the ends of the wires can be pulled steadily by pliers, and half of the joint is soon opened, then the other half can be opened by pulling by hand or by a second wire inserted in the joint. Of the two methods of opening the joint, as proposed by our contemporary, the first method, by paper in the joint, appears to us preferable, but care would have to be taken to use a paper that would split readily. A wire on outside of the belt would be inconvenient, and liable to tear the hands of the workman, in the case of a lathe belt for instance, that has to be shifted so much by hand.

Mr. Madison Williams, Port Perry, Ont., reports recent bookings of orders as follows: 30 1/2 inch Vulcan for Toronto Lime Co., Limehouse; 40 inch Lefel for C. Spencer, Ursa, Ont.; 13 1/2 and 23 inch Lefel for Austen Bros., Halifax, N. S.; 52 inch Special Lefel for F. Sanford, Fenelon Falls, Ont., and two 61 inch Vulcans for the monastery of The Good Shepherd, Parc Laval, Que., making five turbines of this size for the same institution within 8 months; also several saw mills and orders for heavy gearing, pulleys, etc., for the Eastern provinces. Mr. Williams has recently remodelled his machine shop, adding greatly to the facilities for handling the different parts of the very heavy wheels under way.

**WOOD PULP DEPARTMENT**

PULP MILL OF THE ST. JOHN SULPHITE FIBRE COMPANY.

The new mill of the St. John Sulphite Fibre Company, at Mispic, St. John N. B., has just been completed, under the supervision of Mr. M. F. Mooney. The mill has a capacity of 30 tons per day, but provision has been made for increasing the capacity. Additional machinery can be placed in all the principal buildings and the output greatly augmented without changes in the buildings themselves.

The mill was planned by Mr. Mooney, who was for a time the manager of one of the pulp mills at Chatham. It was built by B. Mooney & Sons, of which firm M. F. Mooney is a member. Having made the necessary arrangements for the site, Mr. Mooney sent the plans to Scotland, where the scheme found favor in the eyes of a number of capitalists.

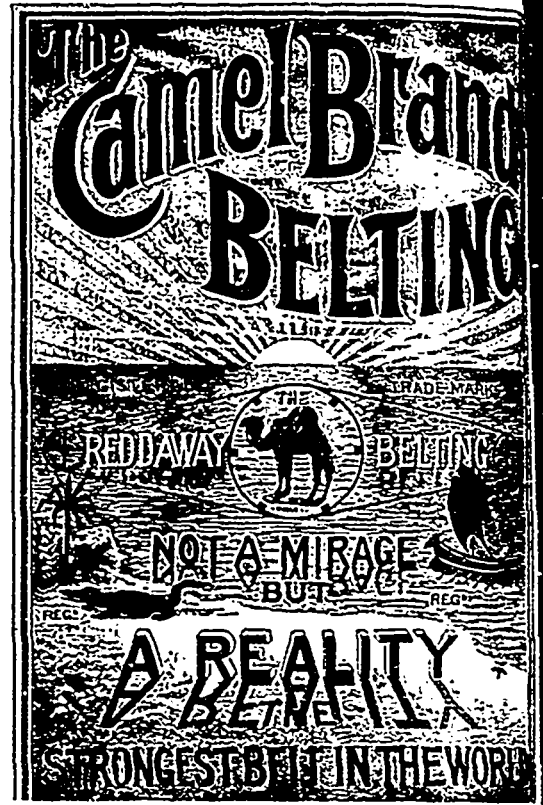
The mill is situate on the bank of the Mispic stream, about 15 miles from Loch Lomond, and a distance of some 10 miles from St. John. The buildings, which are of brick, are substantially put together and cover an immense area. Nearest the stream is a building with a frontage of 430 feet and extending back 68 feet. It contains the wood room, machine room and boilers. Back of the wood room and above it is the acid system, which extends back about 120 feet. This structure is 150 feet in length. Above this department is the sulphur room, which is one story high and 120x40 feet. The digester building occupies a still higher level, and is 130x36 feet. The main portion of this structure is 100 feet high. The blow tank building and filtering plant are between the digester building and the paper making department. It is one story above the machine room and one floor below the digester department, which places the blow tanks sufficiently below the digestors to

cause the pulp to flow by gravity into them from the digestors.

The logs will be taken up into the wood room by means of a patent haul up, and cut by two steam jump saws into lengths of 2 feet 6 inches. These pieces will be carried by a conveyor to the barkers' machines, fitted with knives which will remove the bark. From the barkers the cut up logs will be moved along on a conveyor to the chippers, machines which will cut them up into chips. Immediately under the chippers and on the floor beneath are chip breakers which will break these chips up into the desired sizes, five-eighths of an inch long and from one-sixteenth to one-eighth of an inch thick. These small pieces of wood will next pass through the shaker, which will separate the sawdust and slivers from the chips and deposit the latter on a conveyor which will carry them up to the chip loft in the digester building. This loft is spacious enough to hold 160 cords of chips, which will be sufficient to keep the mill going when increased to its fullest output for 24 hours. The chips will be placed in the digestors, two immense iron tanks, each capable of turning out ten tons of pulp at each cook. The digestors will be filled with chips and 20,000 gallons of sulphurous acid put in. Then the digestors will be made steam tight, and steam will be admitted at the bottom and the temperature brought up to the desired point and kept at that till the wood is cooked into pulp, which will occupy from 10 to 14 hours. The pulp will flow from the digestors to the blow tanks, which are 20 feet beneath the bottom of the digestors. These tanks are hard pine vats, 28 feet long and 18 feet in diameter. The pulp will be washed in them and acid and resinous matters removed. Then it will go to the pulp opener, where the fibre will be opened up, and next to the riffler or sand trap to be further cleaned, and after to the stuff chest in the machine room. From this chest the pulp will pass on to the first screens and from them to the paper machine, which will run it out and dry it in sheets similar to paper. At the end of the last mentioned machine there is a reel which will wind the pulp up into rolls. The slitting

and cutting machines having done their part, it will go into the baling press, where it will be made ready for shipment.

That there is ample water power to run the mill is apparent. The stream has been dammed at a spot where the greatest power possible to be obtained can be had. The dam, which is built of solid masonry, is 54 feet high and 240 feet long at the top. Its length at the bottom of the gorge is 80 feet. It is 120 feet wide at the base, and tapers off to eight feet at the top. The stone work is faced with timber on the water side. The flume, which is made of iron, is five feet in diameter. It leads from the dam on the surface of the ground down to the water wheels in the mill, and is 830 feet long. There are four water wheels in all, one for each department,



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which will develop 600 horse power. In addition to this the company have a 250 horse power compound steam engine as an auxiliary in case the steam gets blocked up at any time. In the boiler room they have 500 horse power of steam boilers for use in the cooking and drying of the pulp. A pipe runs through the flume, by means of which the water required for the boilers is taken into the mill.

A most complete electric lighting plant has been put in. There are 350 incandescent lamps distributed throughout the establishment, and the yards will be lighted by 10 arc lamps. The mill is fitted with steam heating apparatus, and there is an excellent system of automatic water sprinklers for use in case of fire. Two pumps have been installed, each of which will throw 1,000 gallons of water per minute. The water for the sprinkling apparatus is stored in tanks in the tower of the digester building, which have a capacity of 20,000 gallons.

The Dufferin Falls Pulp and Paper Company, which begins operations this season, will be one of the largest pulp producing concerns in Canada. This company, composed of Messrs. W. and F. P. Currie, James T. Shearer, S. Foley, Hon. J. A. Ouimet, W. T. Fee, and others, of Montreal, has secured an area of 1,410 square miles along the Du Laeve river for the sum of \$1,300,000, including mills at Buckingham, and last year, during Mr. Foley's trip abroad, he is said to have made arrangements for a yearly delivery of 50,000 tons of sulphite pulp.

**A RUMORED PULP COMBINE.**

On the authority of "Paper," of New York, it is stated that steps are being taken by Mr. J. Laurence Whitcomb, a London promoter, to form a combine of ten Canadian pulp mills, having a production of about 400 tons per day. The proposition is to increase the capacity within a year to 600 tons per day. The journal above referred to says:

"A company is to be organized to purchase the properties of the various concerns to be included in the combination, and this company will, in all probability, be known as the Canadian Pulp Company. It is to be capitalized at \$10,000,000, and will operate under a special charter granted by the Canadian Parliament. The capital stock is to be divided into \$5,000,000 preferred, bearing 7 per cent. cumulative dividends, and \$5,000,000 common stock, which, it is thought, will pay all the way from 5 to 10 per cent.

"The new company will send the majority of its pulp abroad to be manufactured into paper, but it is quite likely that contracts will be made with a number of United States paper mills outside of the news trust to supply them with pulp, providing the United States and Canadian Joint High Commission make it possible to import the pulp at a profit. In such a case the company would be, to a certain extent, a competitor of the International Paper Company.

"The capital stock has been all subscribed for in London and Berlin, and the company expect to be in operation within a few months.

"The following is a list of the mills which Mr. Whitcomb would like to include in his combination:

Name.	Capacity Per Day Tons.	Proposed Increase Tons.
Chicoutimi Pulp Co., Chicoutimi, Que...	30	50
Canada Paper Co. (2 mills)		
1. St. Raymond mill	10	
2. St. Antonin mill	20 1/2	
Hamelin & Ayres, Lachute, Que.	30	
Sault Ste. Marie Pulp & Paper Co., Sault Ste. Marie, Ont	250	
Sturgeon Falls Pulp Co., Sturgeon Falls, Ont	20	100
Sissiboo Falls Pulp Co., Weymouth Bridge, N.S.	12	30
Acadia Pulp & Paper Mills Co. (2 mills) Milton, N.S.	65	
New Germany, N.S.		
Nova Scotia Wood Pulp & Paper Co., Mill Village, N.S.	10	
Totals	429 1/2	180
Grand total		609 1/2

The inquiries of the Laurentide Pulp Company for iron pyrites in Ontario, carrying a high percentage of sulphur, have elicited the fact that A. W. Carscallan, M. P., has a mine at Marmora, Hastings County, that is nearly pure sulphur, and that H. Corby, M. P., has one at Malone, in the same county, that will considerably exceed 40 per cent.

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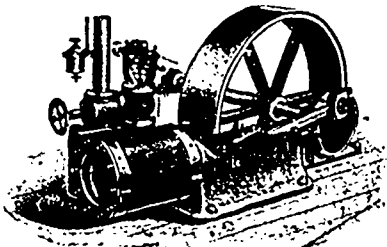
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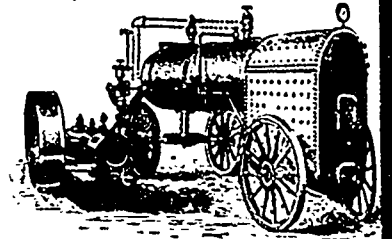
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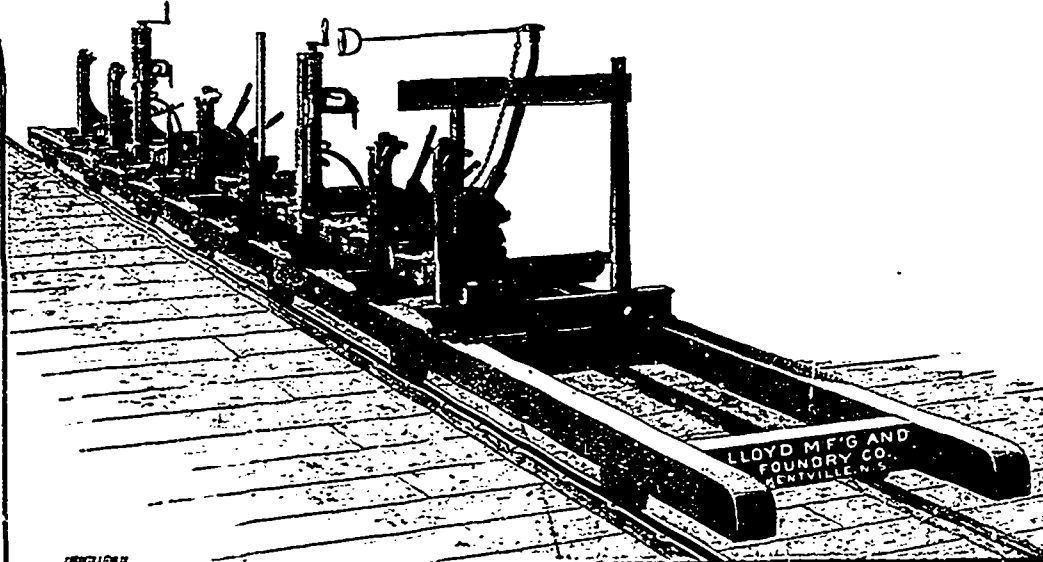


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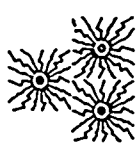
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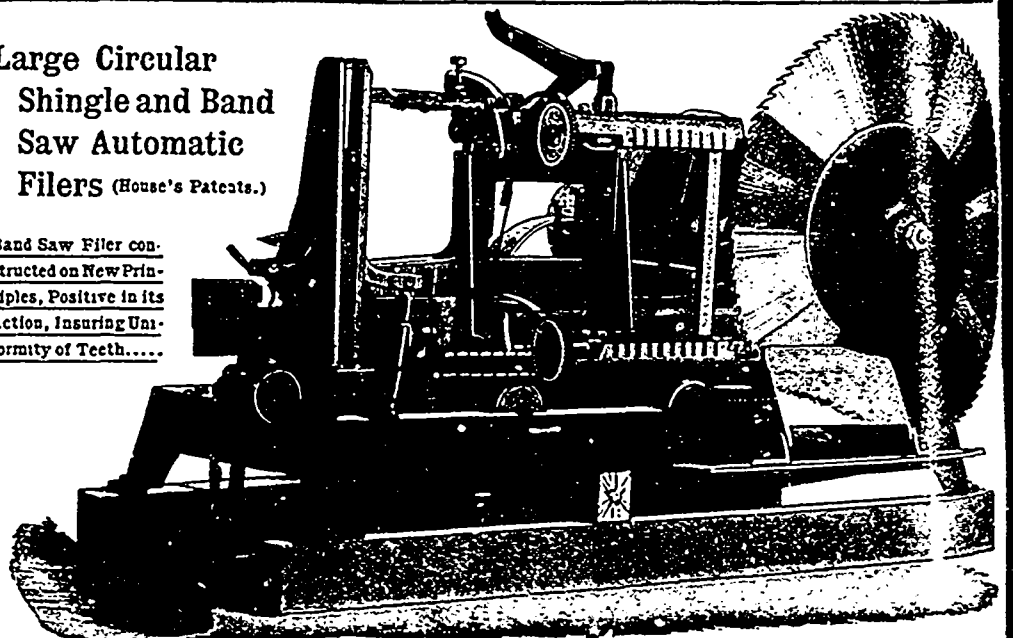
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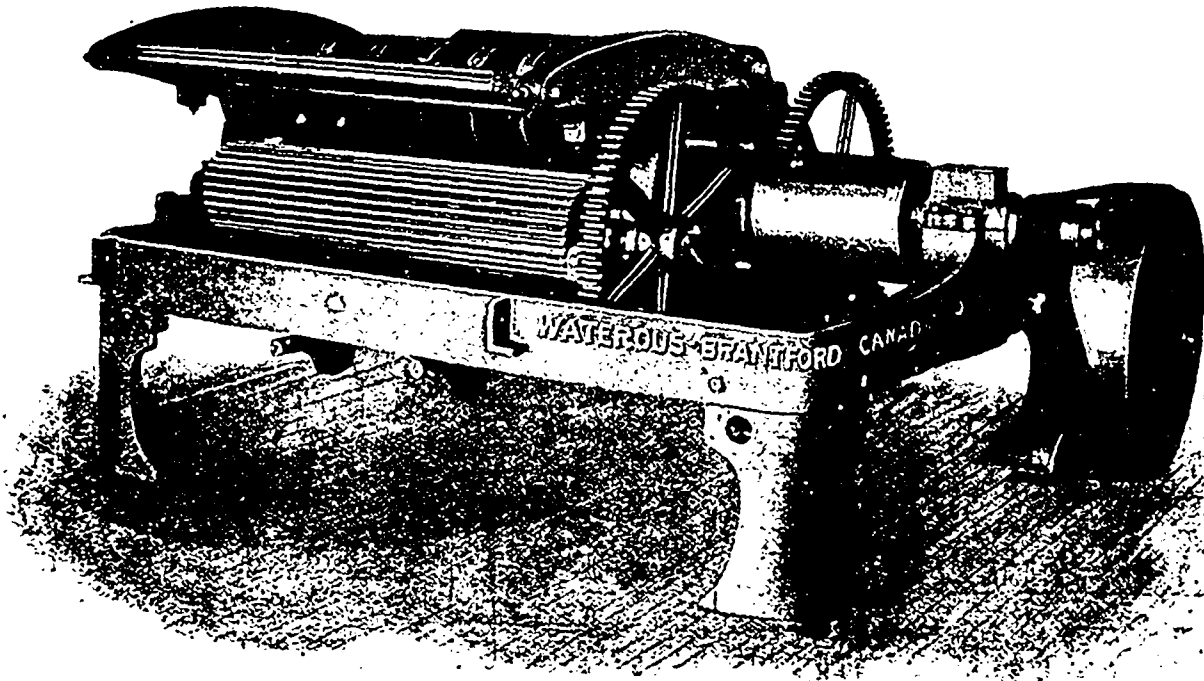
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is made in three grades—Light, Heavy and Extra Heavy. Press and Feed Rolls are of large diameter. Feed rolls fluted, bearings adjustable, front press rolls made in sections, both front and back hung in stiff open frames LIFTING WITH FEED NOT AGAINST IT—a new and important feature—ADJUSTABLE BOTH WAYS FOR ALIGNMENT WITH MANDREL. Rolls sufficiently large to be used for return of stock over edger, and still view of saws is not obstructed—all have bridgetree quickly removable to take off saws—Saws are moved by guides and guides are removable to take off Saws.

**The Light Champion Edger** has strong box frame cast in one piece, supported with four legs. Mandrel, 2 7-16 steel, supported on two long bearings.

No. 1 Champion has two Saws, one movable; range between Saws from 1 3/4 to 22 inches.

No. 2 Champion has three Saws, two movable; range between stationary and first movable Saw, 1 3/4 to 18 3/4 inches, and between movable Saws 4 inches.

Both are provided with front tables, with 4 1/2" rolls and guide, movable with lever up to 4 inches inside of stationary Saw.

**The Heavy Champion Edger** shown in illustration has heavy box frame supported on six legs. 2 7/8 steel mandrel supported in three bearings of ample proportion, reducing the pressure to the square inch of wearing surface to a minimum, permitting the greatest speed.

The Pulley is carried between two heavy bearings cast in one solid box-shaped frame.

Front and Back Press Rolls arranged as in the Light Edger, are carried in box-shaped uprights connected and braced together to prevent springing and twisting of frame.

No. 3 Heavy Champion has 3 Saws, 2 movable; range between stationary and movable Saws 1 3/4 to 24 3/4", and third Saw 4" from second.

No. 4 Champion range is 1 3/4" to 28 3/4", and third Saw 4" from second.

No. 5 Champion range is 1 3/4" to 36 3/4", and third Saw 4" from second.

A fourth Saw can be added to these Heavy Edgers, reducing the extreme opening 4".

**The Extra Heavy Champion Edger** has a box frame in appearance much the same as the Heavy Edger.

No. 6 Champion has 3 7-16 mandrel, with 5 saws—2 stationary, 3 movable—divided press rolls, for two men to edge at once; two movable guides on front table. Greatest width between first and second Saws, 34 inches.

No. 7 Champion has 3 7/8 steel mandrel, with 6 Saws, and otherwise same as No. 6.

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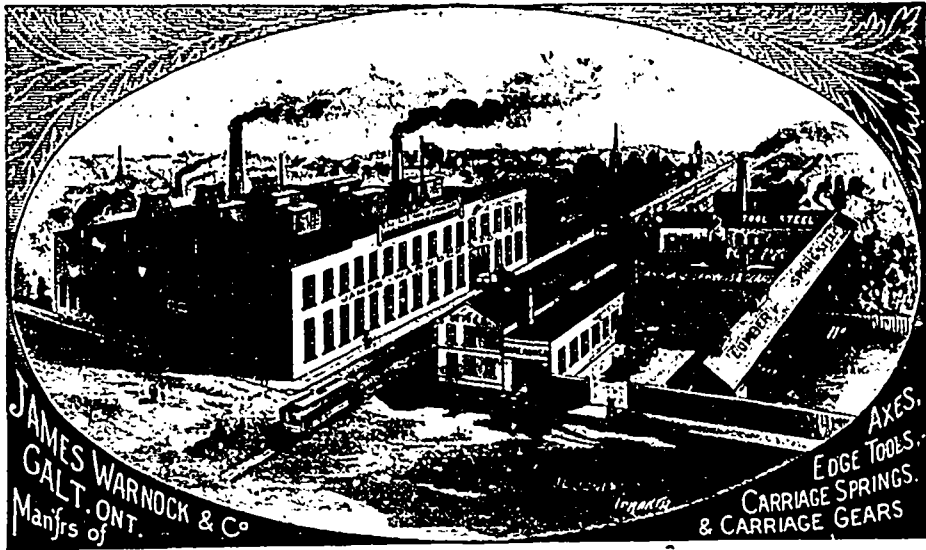
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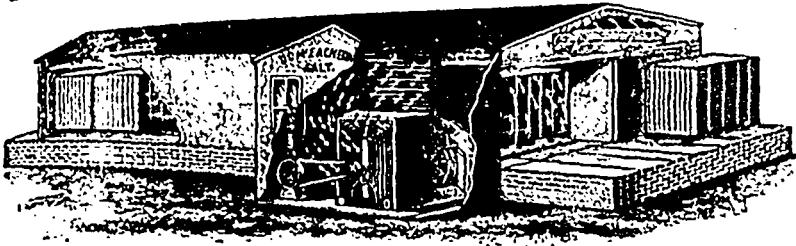
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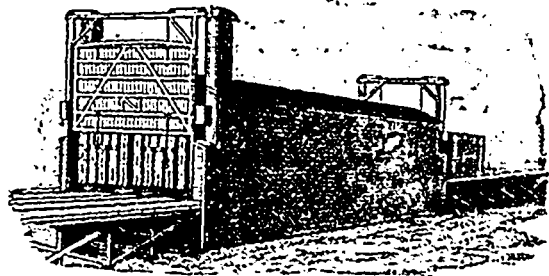
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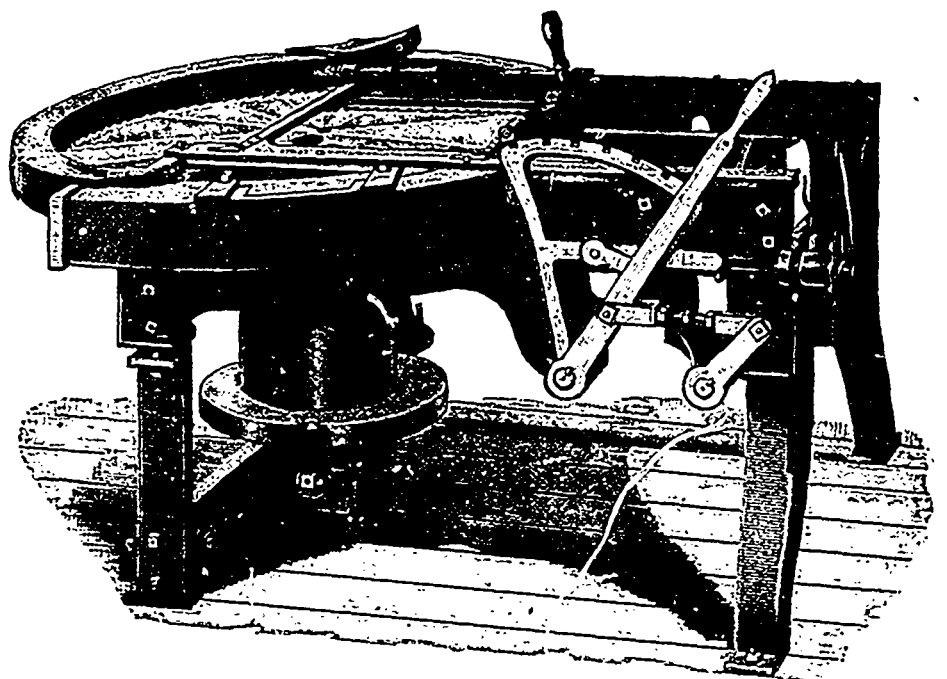
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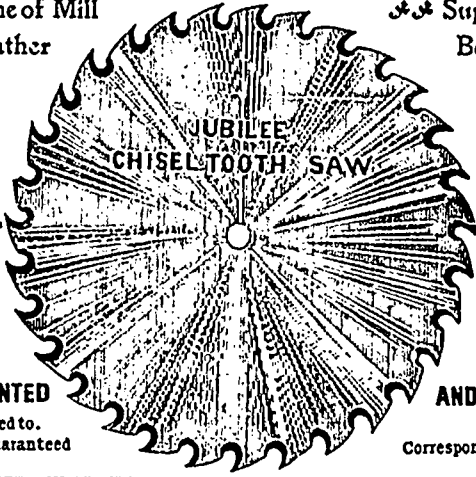
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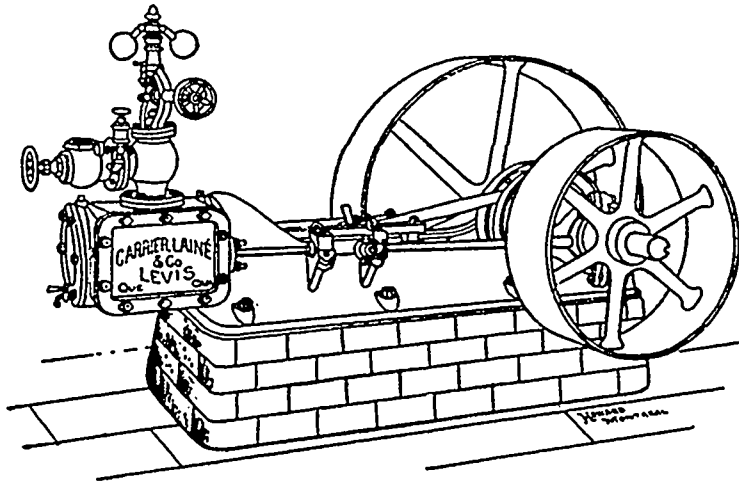
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