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Wood-Workers', Manufacturers' and Millers' Gazette

TORONTO, CANADA, JANUARY, 1901

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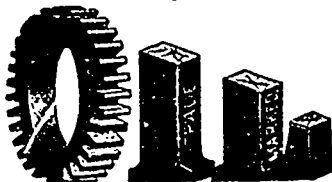
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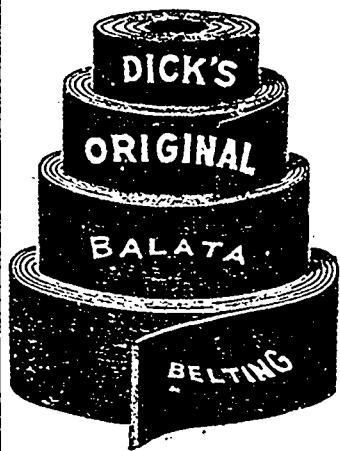
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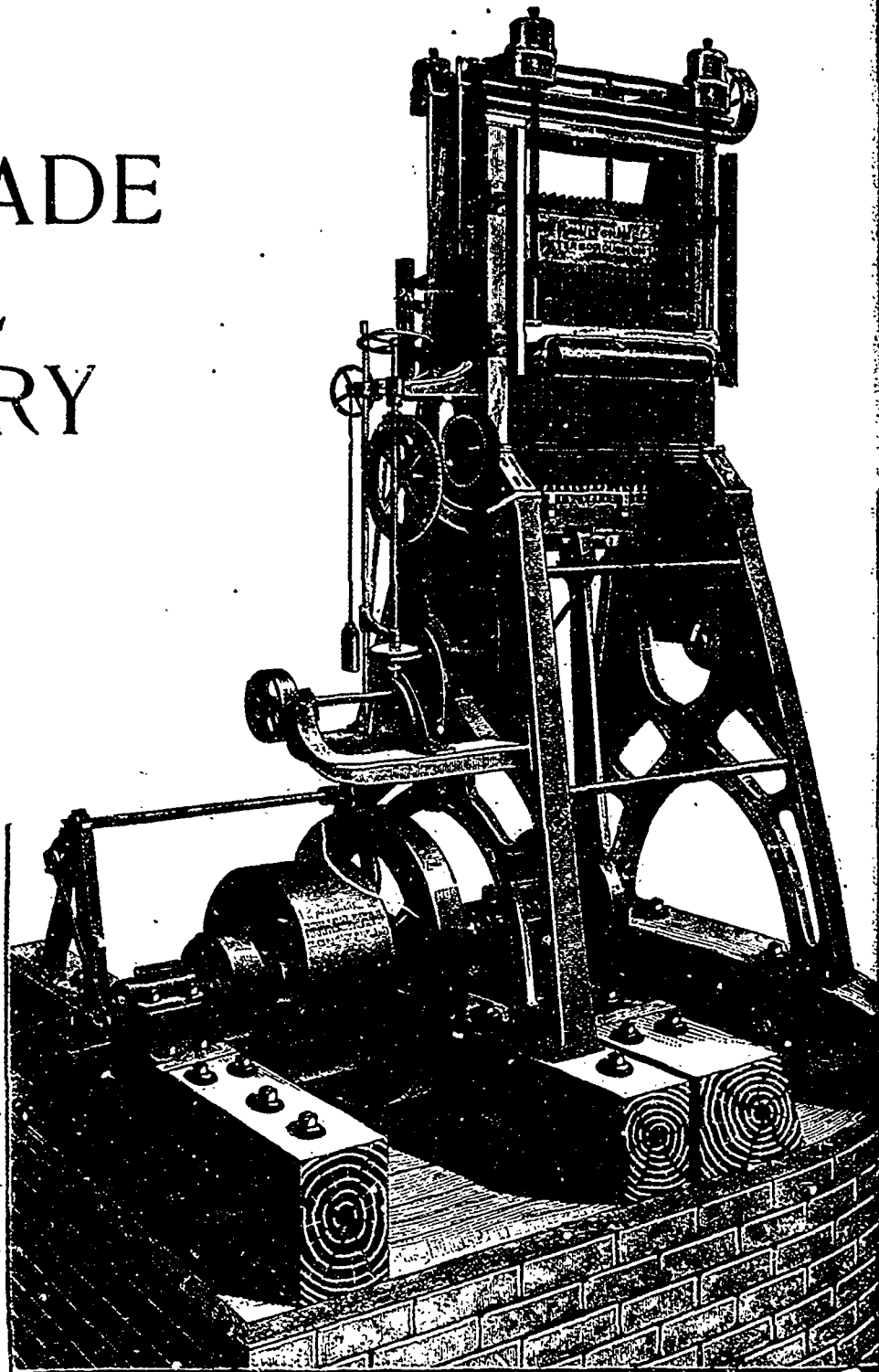
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under the

## Simonds' Process

in the Dominion of Canada.

There is no process its equal for tempering circular saws. Other makers recognize this fact, as some of them, in order to sell their goods, claim to have the same process. All such Claims are FALSE, as the patentee in the U. S. and ourselves are the only firms in the world who use it.

MILL STREAM, QUE., on I. C. R'y, December 17th, 1894.

R. H. SMITH CO., LTD., St. Catharines, Ont.

DEAR SIRS,—Driving a 20 in. 13 gauge saw into frozen hardwood, using a 9 in. 4-ply belt, if it can be done satisfactorily, is a very severe test. Your saws have stood that test better than any I have tried. I have been experimenting with different makes—both home and imported—during the last five years, and give yours the preference. Last order is just to hand and will report on them by and bye.

Yours very truly, JAMES MCKINLAY.

CAMPBELLTON, N.B., Nov. 17th, 1894.

R. H. SMITH CO., LTD., St. Catharines, Ont.

DEAR SIRS,—In regard to your Shingle Saws, you can say that I have been using Shingle Saws of your make (Simonds) for the past four years, and they have given good satisfaction. I am running nine machines and use a good many saws, but have never had a saw yet that did not work satisfactorily. Before using your saws I used saws of American make, which worked well, but after giving your saw a trial have continued to use yours, as they are cheaper, and in regard to working qualities are all that is needed.

Yours truly, KILGOUR SHIVES.

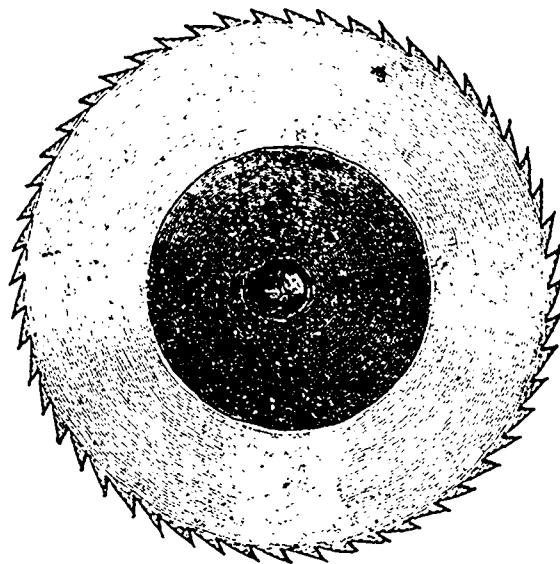
CLAVERING, ONT., May 3rd, 1897.

R. H. SMITH CO., LTD., St. Catharines, Ont.

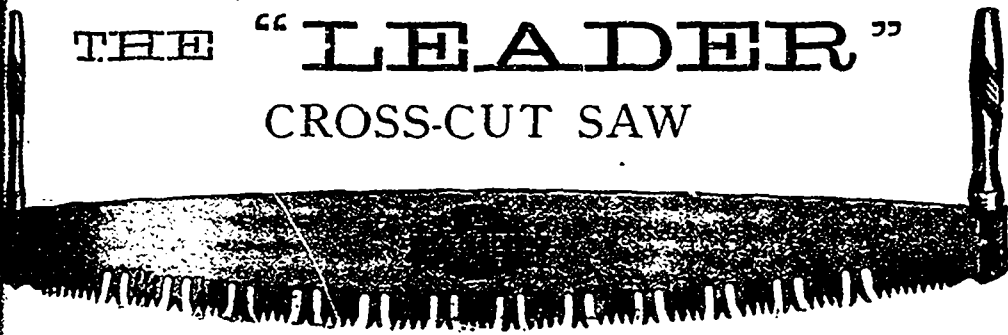
GENTS,—In reply to your letter asking me how I liked the 62" SIMONDS Saw, I must say to all my experience I never had a saw stand up to its work like the one purchased from you last month. Having used saws for the last 22 years, and tried different makes, I can fully say it is the best saw I have ever had in my mill, and would recommend the SIMONDS' Process Saws to all mill men in need of circular saws.

Yours truly, W. G. SIMMIE.

P.S.—I am sending you my old saw to be repaired; please hammer to same speed as new one.



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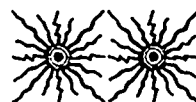
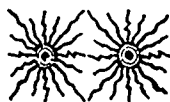


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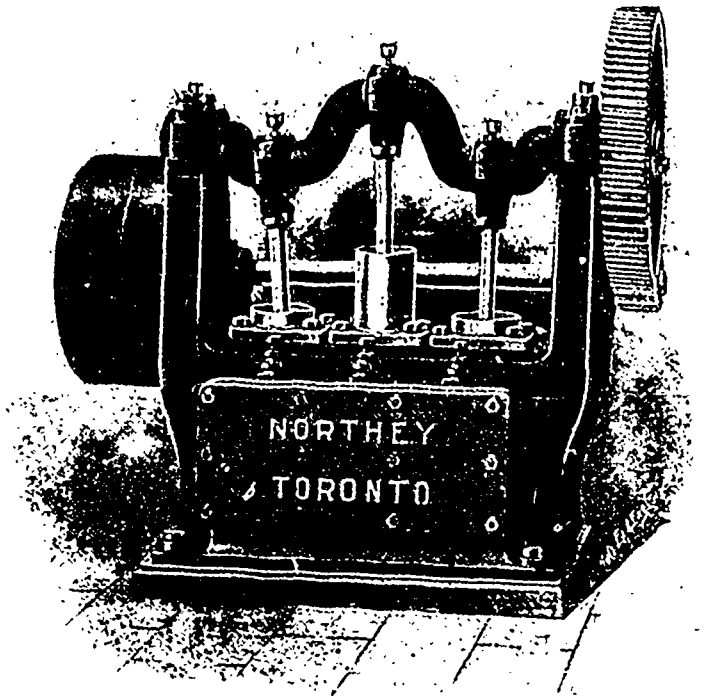
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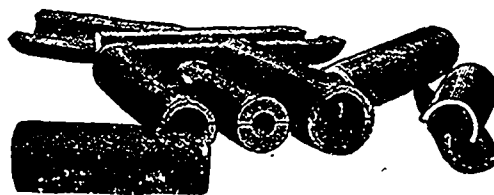
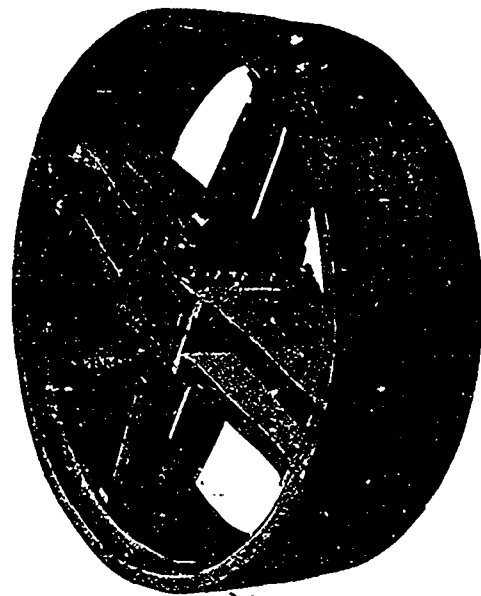
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# THE CANADA LUMBERMAN

VOLUME XXI.  
NUMBER 1.

TORONTO, CANADA, JANUARY, 1901

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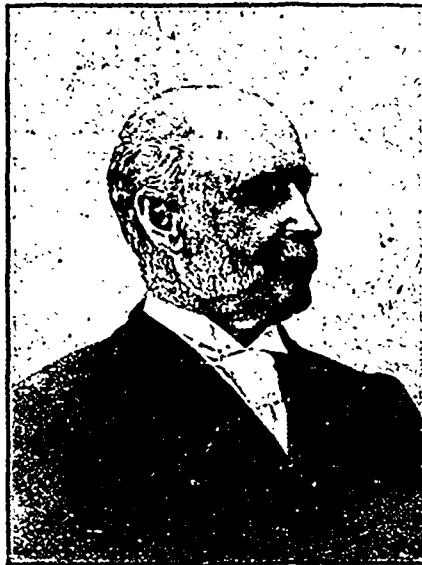
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REPRESENTATIVE LUMBERMEN IN THE DOMINION PARLIAMENT.

## MERITS OF DIFFERENT TYPES OF SAWS.

UNDER what conditions it is profitable to employ a certain type of saw—band, circular or gang—is a point on which opinion is greatly divided. We give below the views of a few practical lumbermen on the subject:

CHRSLEY, ONT., Dec. 11th.—We have been using a circular saw and find it very satisfactory. We have been thinking of replacing same with band saw mill, but have not done so yet. In looking into the band saw mill, there certainly seems to be a great saving in cutting.

KRUG BROS. & CO.

CHARLEMAGNE, QUE., Dec. 12th.—We have in our mill here one set of twin circulars, one stock gang 54", and two Prescott band mills; the band mills we have been running five seasons, twin circulars and gang thirteen. We cut principally spruce for export, and find the band mills by far the best machines to saw with, as we can cut our logs to better advantage and save nearly half in the saw kerf. If we were to rebuild our mill now, would put in all band mills and use band resaws for cutting up all our small logs.

A. MACLAURIN,

Manager Charlemagne & LacOuareau Lumber Co.

WOLFVILLE, N.S., Dec. 20, 1900.—Circulars have an advantage in small holdings when it would not pay to build stationary mills, otherwise they destroy too much good lumber in making sawdust. The gang is too well known for an opinion to add any acceptable information, yet we consider it away behind the band—first, the great saving in sawdust, next, the ease in which you can handle rough large logs and change cut without changing saw from plank board or timber, also rapidity of cut, smoothness of cut, and advantage can be taken of every log on its own merits. We have operated a band saw four years only, gang twenty-five years, rotary same.

THE S. P. BENJAMIN CO., LTD.

BRACEBRIDGE, ONT., Dec. 22, 1900.—My views about the respective merits of the different kinds of saws are: 1st, I am using a double band saw, and find it gives perfect satisfaction; it will cut from 10 to 15 M ft. in an hour more than a single band and will not make shaky lumber. If the saw is out of order or the carriage out of line, a double band will make thick and thin lumber, while a single band will snake. 2nd, in comparison with a gang saw, the gang will cut about 15 M feet per hour more than a double band, but on the other hand there is a loss of from ten to twelve dollars per M in grade. 3rd, in comparison with a circular, there is no loss in grade, but a circular loses one eighth in kerf. A double band saw requires two extra men to run it.

J. D. SHIER.

BRACEBRIDGE, Dec. 15, 1900.—As to the relative merits of the different lumber producing machines now in use, I cannot but give the palm to the band saw for economy, speed and grade. In band sawing, while you may get a greater uniformity in thickness, it must be apparent to any practical miller or lumberman that the best results are not reached by the gang, especially when we consider how close pine and other woods are taken to-day; even the rejects of former logging operations are not neglected. Many of these logs seem useless at first sight, but by careful sawing they produce some of our best lumber. In gang sawing you have no opportunity to sort the best lumber from the log. The circular, while in many cases taking more saw kerf than the gang and slabber, made it possible to get better results and a higher priced lumber, and sawing became an art. A sawyer's reputation depends as much on his ability to cut for value and grade as for a large output. Circular lumber is scarcely as ridged or snaky as gang sawn, as the latter is more easily led by the grain or turned aside by a knot. But long ago it became apparent that the circular was wasting too much valuable timber, nearly 1/3 sawn in kerf alone with the heavy gauge and swage. This has been partly remedied by reducing the saw kerf, but the sawing of large logs, through which the saw would not reach, results in great loss, as the log must be canted until it is almost octagon shaped, causing great loss in edging; nearly or quite 25 per cent. of the best timber is thus lost. The band saw, however, removes nearly all these difficulties. Few logs are so large that it will not

saw up to square edge or cants. The great saving in this alone would soon repay any millman to make the change. Again, the saw kerf is only a trifle more than half that of the circular in general use, which alone represents a fair profit to the millman, as slabs and edgings are cheaper fuel than lumber (sawdust). I believe the band is here to stay, and for economy, speed and good work is unsurpassed as yet.

J. M. BIRD.

WOODSTOCK, ONT., Dec. 12th.—In this northern country we think the gang has no place because of the mixed class of timber; it is more suitable for operating in timber such as southern pine or Pacific coast pine, where lumber as a rule is made into stock sizes and the quality is of uniform grade. The circular saw is most advantageous where the following conditions prevail—(1) Where the timber is small and the quality poor or of low value; (2) in isolated or mountainous districts where the mill would require to be frequently moved to new locations; (3) when the annual cut is less than, say, one million feet per annum.

The band mill is more suitable when the opposite conditions prevail, viz.: (1) Good quality of timber at high value; (2) a comparatively permanent location; (3) large annual cut.

From the foregoing data we conclude that the band mill is the most profitable mill where a moderate stock of high quality of logs is to be sawn or a large stock of a general quality, but for small operations the circular mill will always have the advantage in consequence of the small capital investment necessary to install and operate it.

O. G. ANDERSON.

RAT PORTAGE, ONT., Dec. 11.—Regarding the merits of band and circular saws for the manufacture of lumber, as far as my experience goes I can advance several good points for both. First, I will take up some advantages of the band saw. Where there is good timber to be sawn, by all means use a band saw. In logs running from eight to twelve to the thousand feet, there is a saving of ten per cent. over a circular saw; some claim a greater saving, but I think that in all classes of logs this is an average estimate of what is generally saved. Other advantages possessed by a band saw over a circular are that when properly handled the lumber is so much better manufactured that you can slab much lighter and consequently make into lumber what is generally wasted in slabs with a circular, and with larger logs the band will saw faster and waste much less timber. I have learned since I came into contact with band mills, to take good care of the saws and see that they are properly hammered and teeth kept in proper shape. To accomplish good results from a band saw good filers should be employed, and the way to find out a good filer is to watch that his saws do not crack, that they do not shove back on the wheel when cutting in the log, that all the lumber is sawed straight and even, and, providing the mill is a modern one with latest and most improved machinery, that it saws 50,000 feet in ten hours. Sawyers and filers should command good wages, and it is a mistake to experiment by changing too frequently. The above remarks refer only to single band mills, but as I intend changing one of our band mills here into a double cutter this winter, I will be in a position later on to state more definitely what a double cutting band can do. Now, as to a circular saw. In small and rough timber a circular will do good work and more of it than a band. By using 10 gauge saws the sawdust will not amount to much. In small logs, in double mills where there is a gang, where one side is used for slabbing and logs can be separated on dock, a circular will do good work because it will take the slab off small and rough logs faster than a band saw will do. All good logs are sent to the band saw. One objection to circulars in past years has been the waste in sawdust; saws were used from six to seven gauge. Now we find good work can be done by using nine to ten gauge, which is a great difference from the old style of circulars. By using two guide pins on a ten gauge circular you can saw faster in small timber than with a six gauge in the old way and do good work.

"OAK."

A new line of steamers will be established next spring between Liverpool and Manchester and a port on the Baie des Chaleurs. One of the chief purposes of the line will be to carry pulp.

## CORRESPONDENCE

## IMPORT DUTY WANTED.

BRACEBRIDGE, Dec. 18th, 1900.

Editor CAN. DA LUMBERMAN:

DEAR SIR,—Allow me through your valuable paper to call the attention of the Ontario lumbermen to the species of pine lumber export into Canada, and more particularly into Ontario. While our neighbors to the south of us will allow no lumber except basswood to go into their country from Canada unless we pay a duty of \$2.00 per M, and \$1.00 per M on basswood, they have free access to our market, sending in without duty many woods which compete directly with our native Canadian lumber. These are oak, southern pine, whitewood, balsam, white pine, etc., ash, hemlock, and a number of other woods, all of which compete very strongly against the lumbermen of this province. Take for instance hemlock. Owing to cheap water transportation this lumber can be laid down in Buffalo or any other lake or river port cheaper than we can supply it. Hemlock is being freighted to lake and river points and sent inland throughout western and southern Ontario by American firms cheaper than we can supply our own people. Take, as an instance, a vessel carries a load to Sarnia or Windsor, they unload on cars which carry the lumber inland at from 60 cents to \$1.00 per thousand, delivering the lumber to the buyer at about \$12.00 per M or less, which is about \$1.00 per M less than we can possibly deliver the same class of lumber to western or southern Ontario, and about \$3.50 per M less than we can lay it down in Buffalo or similar points. It is even reported that the harbor improvements at Port Colborne are being supplied from American sources to the detriment and loss of Canadian producers. This is no small matter, and means a greater loss to Ontario lumbermen than may appear at first sight. Let us meet our neighbors fairly, and if they still bar the door by an import duty they should pay a like duty for the privilege which they enjoy in our markets. Trusting that you will place this matter more forcibly than I have done before our lumbermen, I am,

Yours truly,

J. M. BIRD.

## BRITISH COLUMBIA SHINGLES.

VANCOUVER, Dec. 21, 1900.

Editor CANADA LUMBERMAN:

SIR,—Some London, Ont., architects have recently been informing Col. Tracey, city engineer of this city, that British Columbia shingles are over dried, and that a consequence the demand for them is decreasing in Ontario. I wish to most emphatically contradict these statements. British Columbia shingles are not over dried, and the demand for them in Ontario, instead of decreasing, has been constantly increasing since they were first introduced into Ontario. I have spoken to all the manufacturers on the coast who ship to Ontario, and have been informed that they have no complaints whatever about their shingles being damaged by over drying. In a personal experience of over twelve years in shipping B. C. shingles to Manitoba and Ontario, I cannot call to mind but one or two trivial complaints about this alleged damage to our shingles. I may also state that I have recently returned from an extensive tour of Ontario in the interests of our business, and called on all the prominent retail lumber merchants, without hearing a single complaint on this question.

Our shingles have now been in use in Ontario for eight to ten years, and in Manitoba and the Northwest about fifteen years, and there are hundreds of buildings throughout these sections of the country which have been covered all these years with British Columbia shingles, and the shingles are lying perfectly flat on the roofs and are as sound and durable now as the day they were put on, and will continue to properly protect the buildings on which they are placed for the next twenty-five years.

While the statements to which I have called your attention are untrue, we as manufacturers have a good right to contend with, such as the free importation into our markets of United States shingles, the slargening of our prices, and the division of a trade which is far and away too small for our own mills.

The production of the shingle mills in British Columbia at the present time is about three times in excess of the demand, and as a consequence competition is very keen and prices exceedingly low.

As an instance of the large over-production of shingles in British Columbia, one of the largest companies in the Province has closed down its mill, and has gone out of the business of manufacturing shingles; and unless we get protection against U. S. shingles other mills will have to follow their example, or move to the American side where we can have better markets free.

H. H. SMITH.



**QUEBEC MILL PROPERTIES.**

THE illustrations on this page represent the saw mills of Messrs. Whitehead & Turner, of Quebec, who are about to retire from the lumber business, and are offering for sale their valuable limits, mills, etc. This is one of the most valuable lumbering properties in the province of Quebec. The situation is unique, having the Lake St. John railway running through the limits and the port of Quebec as a point of shipment, while the Great Northern railway and the Quebec bridge give additional facilities for the delivery of the mill product. The limits consist of about 280 miles, containing a large quantity of

tage of the two systems, outside of the question of cost, are in every way in favor of the electric, it having the superiority in (1) simplicity and freedom from noise and dirt in the transmitting device (the wires), (2) its great flexibility, (3) facility for future extensions, with but very little change and modifications in the already existing plant, (4) the ability to furnish light as well as power, with a maximum of convenience at a minimum of cost.

**NEW SAW SHARPENER.**

Mr. Alex. McCool, foreman in the Pembroke Lumber Company's mills at Pembroke, Ont.,

gumming and sharpening any circular, rip or crosscut saw that can be done with an emery wheel. It requires no expert to operate the machine, it being so simple that any ordinary boy can handle it to perfection.

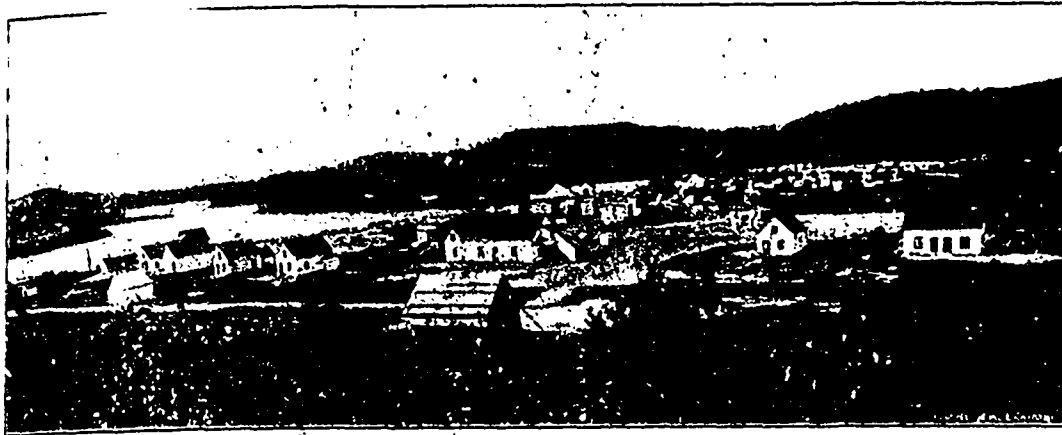
**CANADIAN COOPERAGE ASSOCIATION.**

A meeting of cooperage stock manufacturers was held at Chatham, Ont., early in December last, to consider the question of organization. The following manufacturers were present: D. R. Menzies, of the Niebergall Stave & Lumber Co., Staples; W. M. Drader, Chatham; W. H. Mathews, Trenton; A. A. Scott, McGregor; J. B. Coates, Ridgetown; M. DeCew, Fenelon Falls; Geo. Hunt, Ruscomb; J. W. Smith, of Smith Bros., Stewart; J. L. Reaume, Essex; and W. C. West and James Innes, of the Sutherland, Innes Co., Limited, Chatham.

Letters of regret were read from a number of manufacturers advising that the short notice prevented them from attending the meeting.

It was decided to form a Canadian branch of the Slack Barrel Manufacturers' Association. Mr. James Innes was elected president, A. A. Scott vice-president and J. B. Coates secretary-treasurer.

The purpose of the association is of a social and business character, to move to redress grievances under which the manufacturers are laboring, such as the exorbitant rates charged by the railroad companies, the poor service given by the railroads, the prevention of exportation of raw material to foreign countries, and general business connected with the manufacturers. The association is one that does not aim to control prices, the Slack Cooperage Association having it as part of their platform that the



LAKE EDWARD SAW MILL OF WHITEHEAD & TURNER.

spruce, bouleau and birch. The mill at Lake Edward is equipped with circular saws, while that at Pearl Lake contains steam feed circular and gang. The property is being operated, and, we understand, will be disposed of at a moderate price. An advertisement offering the property for sale will be found in the weekly edition.

**QUESTIONS AND ANSWERS.**

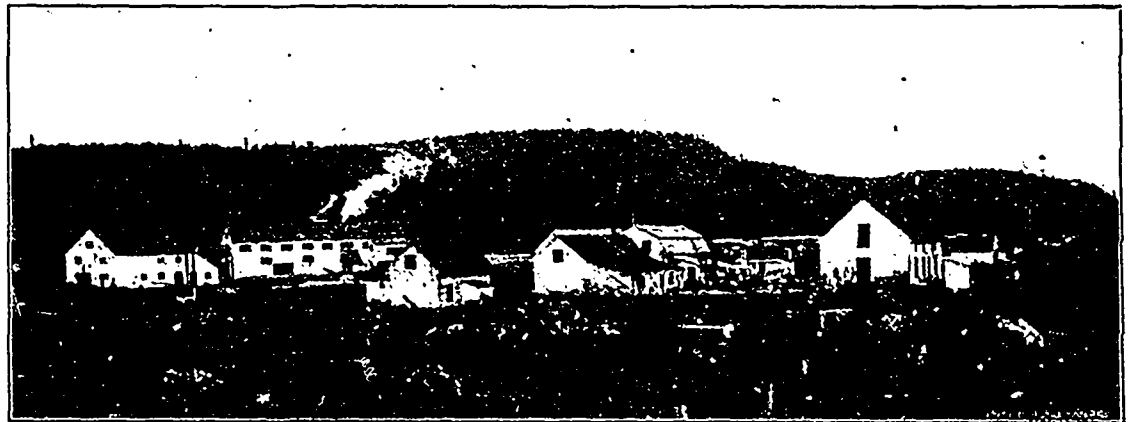
"R. W. R.," Wales, writes:—Kindly state whether letters posted in Great Britain will reach the principal towns of Canada by addressing them via Halifax, N.S., earlier than if addressed via Quebec and Montreal.

ANS.—No. Letters from Great Britain to Canada are transmitted most speedily if addressed via New York.

"Mill Owner" writes: Where water power is not obtainable, and where coal can be bought for \$1.80 a ton, could electricity be generated and electrically applied by motors to the extent of 500 h.p. as cheaply as by belting and shafts, where said power would be used within a radius of 100 feet of engine shaft.

ANS.—Broadly speaking, the original or capital outlay to cover the cost of the dynamo to convert the mechanical power of the engines into electrical power, the necessary wire to carry that power to the various motors, and the motors to convert it back to its original mechanical shape, will cost considerably more than the belting and shafting necessary for the same work, though in the absence of the detail of the proposed layout, it is impossible to give even approximate figures. The relative cost of operating the two systems will also depend entirely on the details of the particular installation in question, though it is likely to be somewhat in favor of the electric plant, the more so as the average load drops below the full load or rated output of the whole installation. The relative advan-

and who has had a long experience in the care of saws and saw mill machinery generally, has invented a saw sharpener. The machine is suitable for gumming or sharpening all kinds of circular saws by hand, and is especially adapted for trimmers or cut off saws. The saw is hung on a cone of which the centre is directly under the emery wheel. The gate swings at an angle of



PEARL LAKE SAW MILL OF WHITEHEAD & TURNER.

60 degrees and is held in place by a thumb nut so as to make the bevel on the tooth perfect.

The machine is so constructed that it can be changed instantly from rip to crosscut grinding, and can be adjusted in a moment to take a saw of any size from 8 to 68 inches in diameter. The reversible cone will fit any size of saw mandrill hole from one to four inches in diameter. The machine is built entirely of iron and steel, is abundantly strong, rigid and handy. It is claimed that one man can do more and better work in one hour with this machine than could be done in five hours with a hand file.

Expert filers who have seen the machine working say it is the most perfect and simple saw sharpener they have ever seen. It is capable of

prices are not to be dealt with at meetings of the association.

**REMOVING BOILER SCALE.**

The following plan of removing scale from boilers is recommended as being fairly rapid and nearly always satisfactory: After drawing the fires wait till the firebridge is sufficiently cooled down, then blow down the boiler till it is empty. Some recommend a high pressure for this purpose, others a low pressure. When empty, allow the boiler to cool without opening any manhole doors or valves. When cool, the scale should shell off in large flakes. From boilers provided with low-water and high-pressure safety valves, the air cannot, of course, be excluded, as these valves open when the water falls, but even where these valves are fitted the method works fairly satisfactorily.



THE  
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ADVERTISING RATES FURNISHED ON APPLICATION

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

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

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

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

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

A WORD IN SEASON.

WITH this number, issued upon the advent of a new century, this journal enters upon its twenty-second year of publication. It will not, we hope, be regarded as boastful to state that during its life the CANADA LUMBERMAN has endeavored, faithfully and consistently, to advance the interests of the important and growing industry which it represents. This statement is made almost without fear of challenge, as the steadily increasing patronage from subscribers and advertisers and frequent letters of commendation bear ample testimony to the fact.

Prompted, as in all business enterprises, by pecuniary motives, the aim of the publishers has been to impart useful and valuable information, and thus to produce a paper which would be carefully read by its subscribers. That this object has been accomplished is proven by the above mentioned evidence.

Representing exclusively the lumbering and wood-working industries of the Dominion, THE LUMBERMAN has become recognized as the only direct medium through which to reach these classes. In its advertising pages will be found the announcements of manufacturers of nearly every line of lumbering, planing mill, wood-working and pulp making machinery. It has also become a strong factor in the development of the export lumber trade of Canada, personal visits to Europe having been made by a representative for this purpose. It is the desire of the publishers to promote this branch of trade

to the greatest possible extent, and to bring together Canadian manufacturers and foreign importers.

During the first year of the new century it is hoped to further improve the journal by giving a greater volume of information affecting the commercial as well as the practical side of lumbering. To this end we invite the assistance of our readers, and solicit each one to contribute something through our columns to the general fund of information. It is also asked that our readers keep us informed regarding proposed improvements to their saw mills, planing mills and other departments of their business.

To the trade generally we extend the Season's Greetings.

BUSINESS METHODS OF LUMBERMEN.

IF there is one thing which is conducive to the expansion of trade, it is the practice of honest business methods. The exchange of commodities is very largely based on mutual confidence, without which business could not be advantageously carried on. In no branch is this more a necessity than in the lumber trade. The ethics of Canadian lumbermen are, generally speaking, unimpeachable, and their word is regarded as a binding contract. Unfortunately, however, the exception to the rule is always to be found.

No one will deny a person the right of being the architect of his own fortune, but when his course of action affects others injuriously, the law of self-protection demands that it be restricted within proper limits.

In at least two directions unscrupulous persons in the lumber trade have been able to accomplish their ends. One of these is by refusing to recognize contracts arranged verbally when it has been found a pecuniary advantage to do otherwise. A dealer, for instance, agrees to purchase certain lumber from a manufacturer, to be shipped at a given date. In the meantime the market has improved, and the manufacturer finds that he is in a position to sell the same lumber at a higher price, and consequently refuses to honor the contract. The buyer, in the absence of a written agreement, is unable to secure judgment against him, although he may have suffered a loss as the result of the non-fulfillment of the contract. It is not intended to imply that the manufacturer is the only transgressor in this direction, as the breach of faith might likewise apply to a dealer who would refuse to recognize a similar agreement in the event of the market having declined, placing him in a position to purchase the required lumber at a lower price. Instances of this kind have been known to occur, and it seems that the only remedy is to have written contracts in every case.

Another manner in which dishonesty is sometimes practiced is in what might be termed the stealing of customers. An instance of this is cited in a letter just received by the CANADA LUMBERMAN from a dealer in a western Ontario town. This dealer sold to a large consumer of lumber in his town a car load of short leaf yellow pine, which he purchased from a Michigan firm. He hoped to secure a considerable trade, but the Michigan firm set to work immediately to discover his customer, and while making the pretense of a social visit to the dealer, learned of

the party who was using the lumber. The result was that quotations were given to the customer at the same figure as had been paid by the dealer, who was instrumental in introducing the lumber in the market. That this was an injustice to the dealer is apparent to all fair-minded people. Occasionally, also, millmen will take underhand methods of finding out the destination of lumber bought by dealers and shipped direct to customers from the mill.

It is evident that even the few who adopt dishonest tactics are not confined to any one branch of the lumber trade. But while there are some persons who, in business matters, seem to have no regard for moral obligations, it is equally true that Canadian lumbermen generally conduct their business affairs in a thoroughly honorable manner.

SHIP-BUILDING IN CANADA.

THE lumber shippers of this country suffered severely during the past year on account of the great scarcity of vessel tonnage. This scarcity was felt by all branches of the export trade, but particularly by lumbermen, as it is the policy of some vessel owners to accept lumber only when other freight is not available. This dearth of vessels was common both to the eastern and western seaboard. One of the reasons for this condition was that a large number of vessels were employed for the transport of troops to South Africa. Another reason, which applies to the Atlantic coast, was the scarcity of tramp steamers, which avoided Canadian ports on account of the largely increased rates of insurance for trading to British North America. These rates have been exorbitant and out of all proportion to the increased risk. How these conditions have affected the shipping trade of Canada is shown by a comparison with the previous year. In 1899 801 vessels entered the port of Montreal, whereas last year the number was 726, a decrease of 75 vessels. From this it must not be inferred that the export trade of Canada is declining, as the trade and navigation returns show the reverse condition. The conclusion is that the discrimination against Canadian ports has caused merchants to ship via United States ports.

British Columbia shippers of lumber found it almost impossible during the year to secure tonnage. The situation there is somewhat peculiar. Nearly all the vessels trading on the Pacific coast are owned or controlled by United States parties, who, in many instances, are interested in United States saw mills. The result has been that British Columbia ports have been boycotted, and that charters have been effected only when the circumstances were especially favorable to the shipowner. A discrimination of 60 cents per thousand feet on lumber loaded at British Columbia ports has ruled during the year.

The facts above outlined have brought prominently to the front the question of reviving the ship-building industry of Canada, which was an unimportant industry thirty or forty years ago. In those days wooden vessels were constructed, while the requirements of the present time call for steel crafts. It has been pointed out by a prominent ship-builder that there is more similarity between the construction of steel and wooden ships than is generally believed, and

at the Maritime Provinces possess excellent facilities for the construction of the former. It is encouraging to learn that the movement has so far advanced that propositions have been made to the Governments for the establishments of a steel ship-building plant at St. John, and that the Dominion Iron & Steel Company, of Sydney, Nova Scotia, are considering a step in the same direction. Some British Columbia lumbermen have also made representations to the Provincial and Dominion Governments urging that the business of shipbuilding be encouraged by the granting of subsidies for the construction of sea-going vessels. The proposition has met with favor on all sides, and it is announced that both Governments will introduce legislation to this end during next session. Encouraged by the outlook, steps have already been taken for the formation of a company. It is proposed to build a number of wooden schooners of up-to-date model, each to be capable of carrying at least one million feet of lumber. Such a movement would undoubtedly be followed by other shipbuilding, and provided assistance is given by the Federal and Provincial Governments, it will prove a financial success, not to speak of the great boon it would prove to the lumber trade.

#### THE PULP AND PAPER INDUSTRY.

Looking back over the year 1900, we find that there was a considerable development of the pulp and paper industry in Canada. The output of Canadian mills now completed is greater than twelve months ago, while mills under construction will very soon further augment the supply. Prices for pulp ruled firm throughout the year. As a result of the existence of somewhat exceptional conditions in Scandinavia, the attention of foreign investors was attracted to the excellent possibilities that exist in Canada for the manufacture of pulp. Available properties were surveyed, and the erection of mills will no doubt follow in due course.

The manufacture of paper received a stimulus early in the year by the destruction by fire of the immense paper mills of the E. B. Eddy Company at Hull. The remaining mills were taxed to their utmost capacity to supply the demand, while large importations were made from the United States and Great Britain. The preference of 33 1/3 per cent. in duty in favor of Great Britain has given the British paper makers a marked advantage in competing for the Canadian trade.

During the year it is believed that Canada imported paper of all kinds to the value of over \$1,000,000, printing paper, or in other words, newspaper, representing no small portion of this import. While the volume of paper imports was no doubt increased by the fire above referred to, reference to trade statistics shows that Canada has always been an importer of paper. With such an abundant supply of raw material, it should not be necessary to import supplies of paper from other countries; on the other hand, there is no reason why we should not develop a large export trade in pulp and paper. Some progress in this direction is being made, a new mill is being built to manufacture book paper principally. Heretofore our attention has been given chiefly to the manufacture of newspaper, but now that the better grades are to be pro-

duced, a decrease in our imports may be looked for.

The United States, although importing both pulp wood and pulp from Canada, is a large exporter of paper. It is estimated that during last year the exports of paper reached \$6,000,000. In the month of November about \$200,000 worth of paper was shipped to Australia, while other shipments were made to Japan, South Africa, Germany, Spain, Great Britain, and other countries. This trade will eventually, we hope, be supplied by Canadian manufacturers, although a few years may elapse before the necessary facilities are provided to furnish the supply.

#### EDITORIAL NOTES.

A LATE enquiry received at the office of the CANADA LUMBERMAN is for box shooks for the German market. Eventually the lumber of Canada will find its way into every importing country in the world.

A SUBSCRIBER asks readers of THE LUMBERMAN to express their opinions as to the relative advantages for a planing mill, of overhead shafting and shafting under the mill, with belts running up through the floor, the same as in a saw mill. Information is also asked regarding plans for lumber storage sheds for a retail and wholesale yard with capacity of from three hundred to five hundred thousand feet. Suggestions from our readers on the above subjects will be welcomed.

A CARGO of British Columbia Douglas fir recently received at Cardiff, England, has attracted much attention. It is the first cargo of this class of timber imported into the Bristol Channel. The timber runs from 90 to 100 feet in length, and is 24 inches square. It is practically free from sap, knots or shakes, and is well suited for railway building and other work where strong material is required. It was inspected by inspectors for some of the leading railway companies in the country, and we understand that the importers have received large orders. The risk involved in making a shipment of timber from British Columbia to Europe will be understood when it is stated that the freight alone on this cargo was \$35,000, and that the voyage from Vancouver to Bristol occupied between five and six months.

A CAUSE of some annoyance to shippers of lumber is the refusal of steamship companies in some instances to give a clean bill of lading. The steamship company practically refuses to assume any responsibility for the delivery of the proper quantity of goods or in respect to damage thereto. A shipper may deliver on the ship and pay freight on a certain quantity of lumber, and when it reaches its destination find that the quantity is lacking or that the goods have been damaged on account of being roughly handled and improperly taken care of. The steamship company refuses to recognize any claim in this behalf, contending that they are not concerned as to the number of pieces furnished, and that to their knowledge the goods have not been damaged. The shipper is unable, under these conditions, to obtain any redress, although there can be no doubt as to his right to be recompen-

sed for the loss. Some steamship lines have adopted the policy of granting clean bills of lading, which is doubtless the proper course, and one which we hope will be followed in the near future by all companies.

In a letter to be found in another column, Mr. J. M. Bird, of Bracebridge, again directs attention to the injustice of permitting United States timber to be imported into Canada free of duty, while Canadians are not accorded the freedom of the United States markets. The views of Mr. Bird are, we believe, those of every lumberman in Canada who is not an out-and-out free trader. And even this class, whether in favor of an import duty or otherwise, will admit that the situation is most unfair. It is of no concern what conditions permit of the timber being marketed here; the question is one of equal rights. The import of United States timber is apparently on the increase. An immense quantity of Southern pine is being employed in the construction of the interprovincial bridge at Quebec. So with the Toronto harbor improvements, and, we understand, with the Port Colborne improvements about to be commenced. Given the free interchange of forest products between the two countries, there would be no ground for complaint, but it is manifestly unfair to throw open the Canadian market to United States lumbermen when, as stated above, a tariff is imposed by the United States upon the Canadian product. The Dominion Government has evidently no intention of placing a duty on United States lumber. The only hope seems to be for the lumbermen of Canada to band together, and by a strong and proper representation of the situation, arouse the Government to a sense of its duty. In certain sections of the Dominion the lumbermen are not directly affected by importations from the United States, but they should cast aside all selfishness and as a body endeavor to secure that protection for the industry to which it is entitled.

#### THE LATE JAMES ROBERTSON.

In the death of Mr. James Robertson, president of the James Robertson Company, Limited, which occurred in Montreal a fortnight ago, Canada loses one of her most prominent business men. For upwards of a year he had been in failing health, and was compelled to give up an active interest in the management of his extensive business. Deceased was born at Campsie, in Shropshire, Scotland, in 1831, and at the age of 12 years was apprenticed to the hardware trade. When 26 years old he became a partner with Alexander, Ferguson & Lonnie, of Glasgow, and established a Canadian branch for them in Montreal on the 25th of June, 1857. After having been in charge for about five years he bought out his principals and began business on his own account as a manufacturer of lead pipes and dealer in heavy metals and plumber's supplies generally. The business quickly expanded and included, among other things, the manufacture of circular and gang saws and other mill supplies, until to-day it is the largest business of the kind in Canada. The head office remains in Montreal, while branches exist in Toronto, Winnipeg, St. John, N.B., and Baltimore, Maryland.

SOME HINTS FOR MILL MEN.

MILL men are often called upon to get out stuff of various kind for which no provision has been made for working out with the machines at their command. With a band-saw, and the attachments illustrated herewith, a great variety of ornamental blocks may be produced, some of which are shown in the illustrations presented at Fig. 3. The attachment shown at Fig. 1, which is made of wood, and which

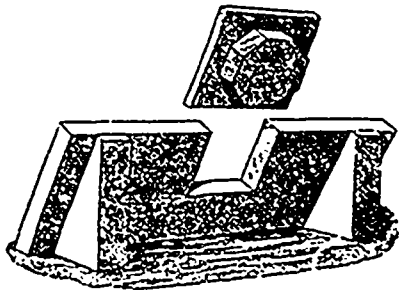


FIG. 1.—ATTACHMENT TO BAND SAWS, FOR SAWING ORNAMENTS.

any mechanic can make, has been used in some shops many years, and in some localities the ornaments produced by it have become quite popular for a variety of purposes. The attachment as shown at Fig. 1 may be made to cut at any angle, but if made to cut at 60 degrees it will be found as useful as any perhaps. By its use hundreds of designs can be produced, the variety being limited only by the taste and skill of the operator. The few examples shown at Fig. 3 give some idea of the character of the work that can be produced, and in case an ornament or a different number of sides from 4 to 8 is desirable, the gain shown and the block may be made to suit. The manner of operating is shown at Fig. 2, when the saw is forming the cross ornament. It is necessary the block should have as many sides as the desired ornament, and that the gain be made to fit the block. It is evident from the foregoing that many designs of center ornaments, rosettes, head-blocks, etc., that have been hitherto cut or carved by hand, may be readily and expeditiously sawn on either a scroll-saw or a band-saw. The size of the device is not material. It should, however, be proportioned to the size of the work to be done. For example, for a 3-inch rosette it would be well to make Fig. 1 about one foot long and four inches high. The gain in the inclined piece should be about 2 1/4 inches square and the block should fit neatly in the gain of the inclined

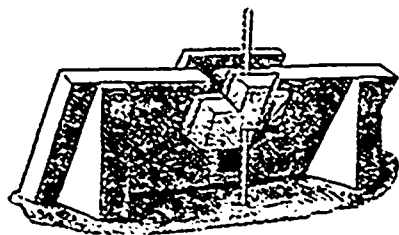


FIG. 2.—ATTACHMENT IN OPERATION.

piece. The gain and the block may be square or semi-circular. The following direction will indicate how the attachment is to be used: Cut the face figure of the ornament first, then fasten it to the block by means of wood screws as shown. Drop the block into the gain in the inclined piece, first laying off the edges as they are to be sawn. It will be noticed in the accompanying sketches of work that the edges are all simply gauged an equal distance from the

back. This, however, can be varied sometimes with good effect. The skillful operator will evolve many designs of ornament not even suggested in this brief description when he becomes accustomed to the method of working the attachment.

CUTTING CIRCULAR RAIL WITH ATTACHMENT.

To make a hand-rail for a circular stairway has always been considered quite an achievement for the ordinary joiner to perform, though the expert finds no trouble in laying out and completing the work. The device shown at Fig. 4 was invented so that the process of forming such a rail might be simplified. This device as here presented was patented in the United States many years ago, but it seems never to have come into general use for some reason or another. The plank from which the rail is to be made is set up to the pitch of the stair, and the marker O which slides up and down the standard K makes the lines where the plank is to be cut for the rail. The pencil or scribe is fastened in a socket at A, the socket being moveable on the arm so as to be available at any point within the limit of the arm. The principle is an old one, in fact, as old as the works of Langley, Paine or Moxon. Another device for laying out a rail is shown at Fig. 5, which may be attached to a band-

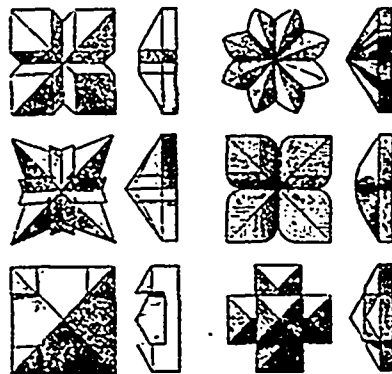


FIG. 3.—SPECIMENS OF WORK PRODUCED BY ATTACHMENT.

saw or to scroll saw. This machine is much simpler than the previous one. It may all be made of wood by any skillful mechanic. A shows the base of the machine B, an inclined board which may be hinged to the base plank. A, C, is a standard with a cap through which a rod G is fixed. The standard C carries a moveable arm D, which has a slider carrying a pencil attached. This pencil-holder slides along the arm D, in order to suit the diameter wanted. When a pattern for the rail is to be made the hinged board B is raised to the pitch of the stairs, and the pencil point is moved until the proper diameter is reached, when a line like the one dotted is drawn. The inside line is also drawn when the paper or board on which the lines are drawn, are removed and the curver transferred to the plank to be cut. The plank is then cut by the band-saw or the scroll saw, while the plank is set up on a rake which is the pitch of the stairs. By this method the proper curve and the correct bevels are obtained; two very important items in hand-rail construction.

SOME KINKS IN CIRCULAR SAW WORK.

The form of outline of the slot or groove made by a circular saw not only depends on the size and the position it occupies on the saw arbor, but on the direction the material being worked is also moving. If we take a block of wood and

move it across the bench lengthwise, the saw will simply cut a slot the width equal to the set, and the depth depending on the height of the table above the saw arbor. If we drive a block at right angles, or square across the saw table, a groove will be formed, having a cross section in the shape of a segment of a circle; any other direction will give a similar part of an ellipse. In Fig. 6 is shown a variety of work cut out

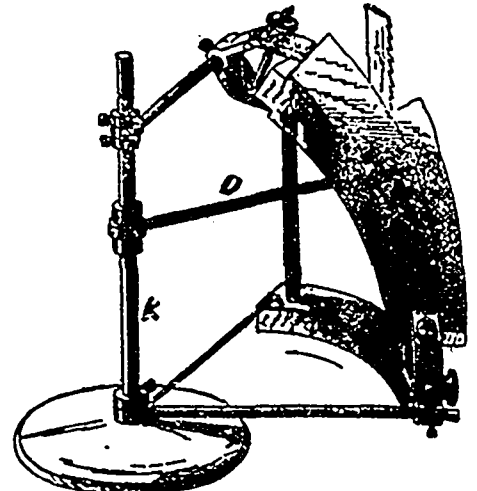


FIG. 4.—BAND SAW ATTACHMENT FOR SAWING CIRCULAR RAILS.

on this principle. No. 1 is a block cut out for lagging a pulley, or similar work; the other figures show various patterns, all of which may be cut out with a circular saw. When it is required to cut a circular groove of a given size at a saw bench, the table can be raised and the saw gauge set to the proper angle by means of the diagram shown in Fig. 7. If it is required to groove out the block A to the line CAD, on the saw bench, using a twelve inch saw, first draw the circle E M D, twelve inches in diameter, the same as the saw, then lay off on the radius E K, E F, equal to A B, and draw a line at right angles for the surface of the table. With F for the center draw the circle T H V, equal in diameter to C D. Now the line passing through M, and touching the circle at T, will make the required angle with the line M I. From the point M, lay off at right angles to S M, M L, equal to D N; set the saw gauge at this point, with the angle already found, and the saw bench is ready for the work. The teeth of the saw, for this

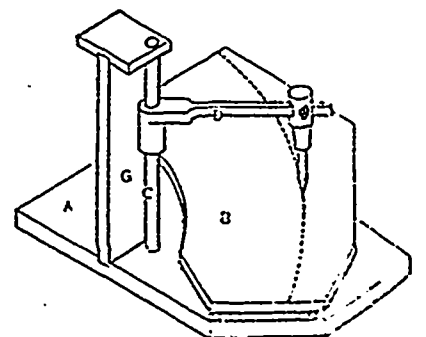


FIG. 5.—A SIMPLE DEVICE FOR MARKING OFF A RAIL.

purpose, should be very coarse, and filed so as to cut the whole length of their sides as well as their points. If three or more of the teeth could be made shorter than the rest, and at the same time given more set, it would improve working qualities greatly. When the saw is fastened to the arbor by means of two wedge shaped collars, the same will "wobble" or "stagger", and will cut a groove, having parallel sides, but the bottom will be contact in sections

as shown in the first diagram in Fig. 8. This can be made to give a flat bottom to the groove by jointing the saw while in motion, as shown in the second figure. By setting the saw off from the center, one corner of the groove will be made deeper than the other, but the sides will remain

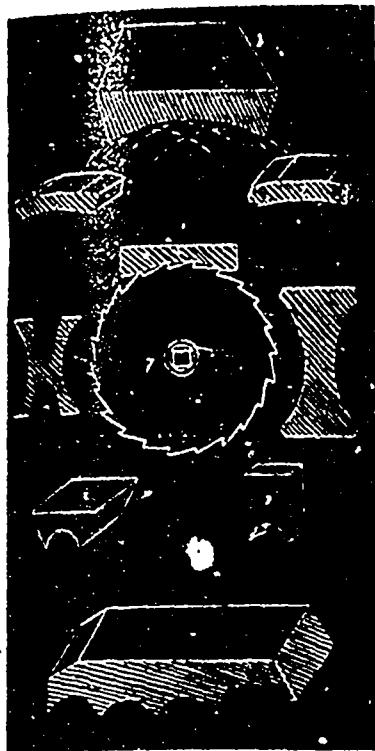


FIG. 6.—SAWING COVES.

parallel. A dovetailed shaped groove may be made by tilting the stuff first on one side, and afterwards on the other; specimens of the dovetailed groove are shown in the lower sketches. Door stiles and door rails may be plowed for the panels by "wobbling" the saw as shown, and the panels get a better "grip" when fitting in a sawn groove. The size of the groove may readily be obtained by the proper adjustment of the bevelled washers; they can be turned on the arbor to give the saw the proper angle, and when the right position is once found, the washers and the saw can be marked, and the same adjustment can be made with little trouble when the same

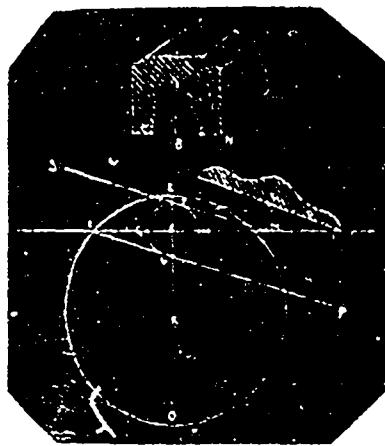


FIG. 7.—ARRANGING SAW GAUGE.

size of a groove is wanted. The bevel washers may be made of hardwood—maple being about as good as any—and one pair of washers may be used for several sizes of grooves. The washers, if made of wood, should fit loosely in the arbor and should be true on both face, and each should be the exact counterpart of the other. In fact, it is better, when making the washers, to make the two out of one piece of stuff, boring

the hole first, and then sawing them across the hole to the proper bevel. The iron collar and outside washer must be retained on the mandrel. The first bevel washer fits against the collar, then the saw is run on, then the round wooden washer, with its thick end opposite to the thin end of the first washer, then the rim washer, which must be followed by the tightening nut. The saw will then stand at an angle with the mandrel, and this is the object attained.

RAISING BLACK WALNUT FORESTS.

By THOS. CONIANT.

In May, 1895, I planted about 5,000 black walnut trees on my lands about Oshawa, Ont. The trees are not all in one planting, but in four plantings on as many different farms.

I bought the young black walnut trees at Rochester, N. Y. My choice would have been to buy them at home, but I could not because no one had that quantity to sell. In the nursery these trees had been propagated. These I preferred because the black walnut, like the oak, is sure to have a long tap root, and hence it is usually the most difficult to transplant successfully. At first they were transplanted as grown in clusters from the seed in the nursery. During this transplanting the tap root, although then

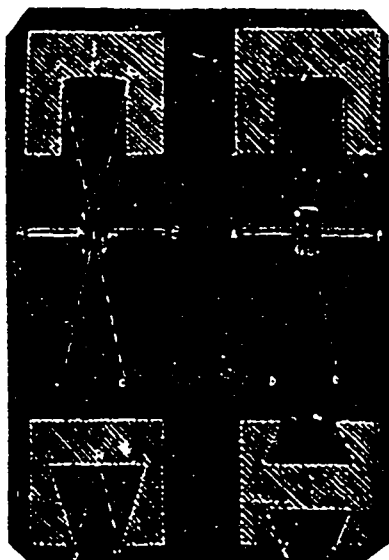


FIG. 8.—SAWING GROOVES AND DOVETAILS.

incipient, had been cut and the tree for itself threw out latent roots which gave it a better chance to live on being transplanted. Hence, by all means I prefer black walnuts for planting which have been previously transplanted.

Only 10 feet apart in rows each way I have set these trees, and if I were planting again I would set them closer. To cause the trees to grow high and produce trunks and not branches is the object, and thick planting will accomplish that most desirable end.

The year 1895 was an ordinary one in the way of rains, and to help them I caused them to be hoed during the hot and dry weeks of midsummer. No matter how dry the weather may be, it is a recognized fact that to stir the surface of the land, ever so lightly, produces moisture. In this manner I produced moisture for the young trees then about four feet high, and not by mulching or costly and tedious watering. At a glance one can see that to water 5,000 trees several times in a summer, would be a herculean task, and I did not attempt it. Not over five per cent. of these trees did I lose, nor have I lost

since. From this low average of loss we may conclude that the process of hoeing around the trees served all purposes of mulching or watering, and at only a tithe of the cost.

After six years' growth I must say, in exact truthfulness, that there are about twenty-five per cent. which have not grown at all, only lived. Another twenty-five per cent. have increased in size about double from their originals, and the remaining forty-five per cent. are large trees, fully fifteen feet high and three inches in diameter.

Besides the pleasure which it constantly affords me to see these forests developing, I can already see my pay on a cash basis. Before the trees were set out the lands were worth \$100 per acre, and now to-day, after five years' growth of the trees, I would have no difficulty in disposing of these lands at \$500 per acre.

In this manufacturing town of Oshawa, any fair quantity of black walnut is worth \$180 per thousand feet. And even at that price they can't get it, but use the veneer of walnut got from the mountains of Tennessee, which costs at the rate of \$400 per thousand feet.

Not for myself did I plant these trees. As for that, I may remark that we do not live for self in other matters outside of tree planting; but to-day, these black walnut forests are valuable assets, and in thirty or forty, or possibly fifty years from now they will yield a fortune. No alloy or anything in celluloid ever has taken the place of black walnut, and its value cannot depreciate.

Walnuts I do not reckon upon for profit. Probably there will be a little profit from that source, but independent of that the financial venture is sound, and besides I feel that I am doing good to our glorious and beloved country and my fellow citizens.

In another article at some future time I will speak of my labors in planting many acres of the walnuts themselves. A record of my experience in that particular, and also of red cedar planting, will be sufficiently lengthy for a separate article.

Mr. Hiram Robinson has in his garden at Hawkesbury three walnut trees grown from seed planted by himself six years ago. These are the only ones which came up from a considerable number of walnuts which were planted, but they are now vigorous trees of about four inches in diameter, and have attained a height of probably twelve feet. The garden is somewhat sheltered, but the trees have not required any other care, not even a special covering for the roots, which are the chief point of danger for this tree in a climate as cold as that of Hawkesbury.—Rod and Gun.

A SUGGESTED BELT DRESSING.

A recently issued patent for belt dressing contains the following specifications:

Pure tallow .....	20 parts.
Lard .....	40 "
Common salt .....	10 "
Sugar .....	10 "
Rosin .....	20 "
Water .....	40 "

all by weight. The tallow and lard are melted together and the salt and sugar are dissolved in the water, which is then added to the tallow and lard at the same time as the rosin. The whole is boiled for one and one-half hours, by which time the water is all boiled out and the composition becomes froth and foam. A sediment amounting to about 3 per cent. of the solid constituents of the formula settles and is carefully removed. The claim of the patent is for the composition indicated, in the proportions specified.—American Lumberman



### RELATIVE ADVANTAGES OF ELECTRIC AND SHAFTING DRIVING FOR SHOP USE.\*

A comparison of the relative advantage of electric and shafting driving for shop use may be made under the following general headings:

1. Relative economy in cost of power itself.
2. Relative convenience of operation and installation.
3. Relative effect upon shop output and cost of labor.

Referring in detail to the scope of these considerations:

1. **Economy.**—This has been taken to comprehend only the relative cost of operating the two systems, including expense for fuel, attendance, repairs, interest on investment and depreciation. It is the reason most generally advanced for the installation of electric power, but can only be the controlling one where the cost of power is a large proportion of the shop running expenses.

In order to compare the relative efficiencies of engine and electric transmission, it will be necessary to subdivide the character of shop plants somewhat. To do this completely would lead to endless complication, but for present purposes the typical plants are:

1. Shop plant in which each building has its own power plant.
2. Shop plant in which all the buildings are furnished with power from a central source.

The matter of connection from the prime mover to the tools may be assumed, for an extreme comparison, in either of two ways, viz., (a) shafting method; (b) individual tool driving method.

Taking the first condition the average efficiency from engine to tools for steam engine transmission is shown to be 50 per cent.; for electric transmission, under condition "a," the shafting losses will be reduced by splitting up long lines and by avoiding cross-belted, so that they will not exceed 20 per cent., or an efficiency of 80 per cent., and in the electrical elements, as before shown, the efficiency from engine to shafting is 65 per cent.; therefore, the final transmission efficiency will be  $80 \times 65 = 52$  per cent., as against 50 per cent. in the purely mechanical method; or, practically, a stand-off. Under condition "b," much less shafting will be employed, and the electrical portion may also show a better all day efficiency, under certain conditions, by the shutting down of idle machines—say, a shafting efficiency of 90 per cent. and an electrical efficiency of 66 per cent., or a resultant of 60 per cent. showing a gain for the electrical method.

Taking the second condition and assuming an unfavorable condition for shafting transmission, as in case of a shop having each building with its own boiler plant and one or more engines, and compare this with a central power plant for electrical transmission to all buildings, the possible fuel saving in the latter arrangement will result first, from some small saving in power required for each individual building, as before shown, and second, from some very considerable saving due to the better efficiency of a large engine and boiler plant over that of several small ones. In extreme cases, where large condensing engines

displace non-condensing ones, and in large stations having a uniform load, the fuel saving may readily approximate  $33\frac{1}{3}$  per cent.

The item of attendance will next be considered. If it is made up of three classes of labor—engineers and firemen; care of shafting and belting; electrical repairs. In an electric system the cost can be reduced by consolidating the engine and boiler plants and by the elimination of large and heavy belts, large shaft bearings and the consequent danger from over-heating, reducing labor probably one-half; but a new item of expense in care of electric machinery will be introduced, which will about offset the other items, leaving the whole attendance bill practically unaffected by the introduction of electric shop power in plants of any considerable size.

As to repairs of shafting and belting, it is difficult to obtain accurate data, the record of these items being seldom kept separately in shop accounts. The records of one large establishment have, however, been examined by your committee and the saving found in these items, under the electric driving system, is found to be more than sufficient to pay for all repairs to motors and lines. Thus the conclusion seems justified that the repair item will not be materially different under either system of driving.

The remaining items of power cost are depreciation and interest of investment. It is difficult to institute a fair basis of comparison between the first cost of an electric and steam transmission plant, for the reason that the results sought to be accomplished by the former provide additional shop facilities, and are therefore not rightly chargeable in a substitution sense. Considering, however, the case of simple substitution in a single shop, where the power plant and arrangement and number of tools is retained as before, electric driving is certain to involve a largely increased first outlay—approximately double that for shafting method. But in a modern shop plant other considerations are the guiding ones in a selection of the power system, such as the possibility of labor-saving devices, cranes, etc., and the greater cost of the electric system becomes a rightful charge against the advantages so obtained.

Dropping, therefore, any attempt to draw a strict comparison between first costs, it may be said that in estimating the total cost of power machinery it is usual to include an allowance for interest and for a sinking fund, with which to replace the plant when its utility is no longer on an equality with best practice. These items are generally figured together at 10 per cent. on first cost, a sum amounting roughly to one-fourth of the total running expenses of the power system.

#### CONVENIENCE AND SHOP OUTFIT.

These considerations are so closely interdependent that they can best be referred to together.

The ordinary shop plant with steam power transmission, both in the arrangement of building and of machines, is the slave to the limitations of this system; it must be laid out so that the shafting and engine connection is as direct and simple as possible; the machines must be compactly arranged in parallel lines, and the ceilings and columns designed with special reference to shafting supports. In other words, the tools must be installed with first reference to the ap-

plication of power, and not, as should be the case, with reference to handling the work advantage. Handling operations are of necessity largely by manual methods, and the buildings, even, must be located with first reference to getting the power to them with the least awkwardness and expense.

While generalizing in this manner, your committee has not lost sight of the fact that belting and transferring machinery may be operated by other means than electricity, but it is equally true that devices of this nature are of little practical application, and the broad fact remains that electricity is to be credited with ushering in a new era of labor-saving shop devices.

Electrical transmission places no restriction on the location of the machines, and each may be planned with a view to handling its product with least waste of labor and with the greatest convenience of access to the tool. These may even be transported from place to place. The absence of overhead line shafting insures better lighting of the shop and conduces to cleanliness. These factors promote cheerfulness and an improvement in both quantity and quality of output.

The clear head room permits the universal application of various forms of travelling cranes for serving the tools and for conveying operations, furnishing the most efficient means yet developed for increasing shop economy, and a means of communication between buildings. Electric cranes and transfer tables have advantages over appliances of the same nature driven by steam and air.

#### SPECIAL APPLIANCES.

In these, electricity shares a large field with compressed air. It must be admitted that such devices have up to the present time received most attention at the hands of the railway mechanic; a fact in large part due to the lack of practical knowledge of the electrical specialties and to the greater cheapness of air tools. With, however, the general introduction of electric shop power plants and the better acquaintance of practical men with the agency, an extensive application of electric labor-saving devices is certain to result.

**Flexibility.**—The extension of a shop building or the tool equipment under the shafting system is generally a matter of much difficulty, and an attempt to add to such a plant often results in inconvenient crowding of the tools or to overloading or complication of the shafting system, a fact which fully accounts for the extremely poor efficiency sometimes quoted for shafting transmission. In an electric system, on the other hand, great flexibility in extension is secured, as new buildings may be placed in any convenient position, and additions made to the driving system without affecting the intermediate links.

**Speed Control.**—The ease of speed control between wide limits of certain types of electric motors is a valuable feature and will result in more frequently securing a greater adaptability of the tool to the work than is possible where a change in speed involves stopping the tool and shifting belts and gearing.

**Increase in Output.**—This constitutes, in the opinion of your committee, the chief claim of electric transmission to the attention of shop managers, and follows from the previously mentioned facts, as, by the use of electric handling devices, the tool is quickly served with its work and the product placed in the most favorable position for operating upon and its time cut down, and, by independent driving, the capacity is increased by reason of the perfect control of speed possible.

\*From a report by a committee to the Master Mechanics Convention, held at Saratoga, N. Y., July, 1900.

1901



handle the old country trade is to invest heavily in special mill equipment for the purpose, and the question is, will it pay, or will the quantity of available hardwood timber in this country warrant the outlay. I tell you," he concluded, "the British specifications are severe."

\* \* \*

A couple of weeks ago I met in Toronto Mr. J. M. Bird, who manufactures lumber in Bracebridge, Ont. Referring to conditions in the Georgian Bay district, Mr. Bird said that he could not recollect such a flood in the fall of the year as that which occurred in November last. The streams were raised many feet, the North river rising fully eight feet. Millions of feet of logs that were hung up were carried into safe waters, and some of these logs have ere this been manufactured into lumber. He estimates that fully 200,000,000 feet of logs were stranded before this freshet occurred. In Mr. Bird's opinion hemlock lumber will bring high prices during this year, as logs in lengths of 26 to 30 feet are selling at \$6 per M, 16 to 18 feet lengths at \$5.25, and short lengths at \$4.50. The output this winter, he says, will be unusually small, owing to the scarcity of timber and the difficulty in securing men to peel the bark. Last summer it was found almost impossible to get men to go into the woods to peel bark and put up with the unpleasantness of mosquitos and other inconveniences. As showing the strength of the hemlock log market, Mr. Bird cited a case in which the son of a farmer had sold their logs for a certain figure, but when the buyer met the father he was advised that the purchase must be made through him, and that the price was \$1 per thousand higher than had been quoted by his son.

WIRE HOOPS FOR COOPERAGE.

Owing to the great scarcity of elm, of which most of the hoops for slack barrels have been made, Canadian manufacturers of cooperage stock will be interested in the experiments with wire hoops which have been conducted by the American Steel & Wire Company. We learn from the Barrel and Box that late experiments with wire bilge hoops and neck hoops on all kinds of slack cooperage demonstrated the fact that wire hoop of proper gauge and the right grade of wire was much stronger than elm, and if properly driven would be superior in every way. The trouble was that the driving, being done by hand, was uneven and not sufficiently tight.

As a result of still more recent experiments, the company above mentioned is said to have succeeded in producing a steel wire hoop of proper grade, and also a machine for driving the hoops upon the barrels. With this machine it is claimed that one man, without any help, can put two wire bilge hoops in a single day of ten hours on 2,400 barrels, every hoop being driven on perfectly tight and even around the entire circumference of the barrel.

In order to test the hoops a severe trial was ordered in the way of using the wire hoops on a cargo of 8,000 salt barrels. The cargo arrived

at its destination in the best condition, the barrels on the bottom tiers holding their shape perfectly. The percentage of barrels caved in on account of the great weight on the lower tiers was less than in the case of barrels hooped with wood.

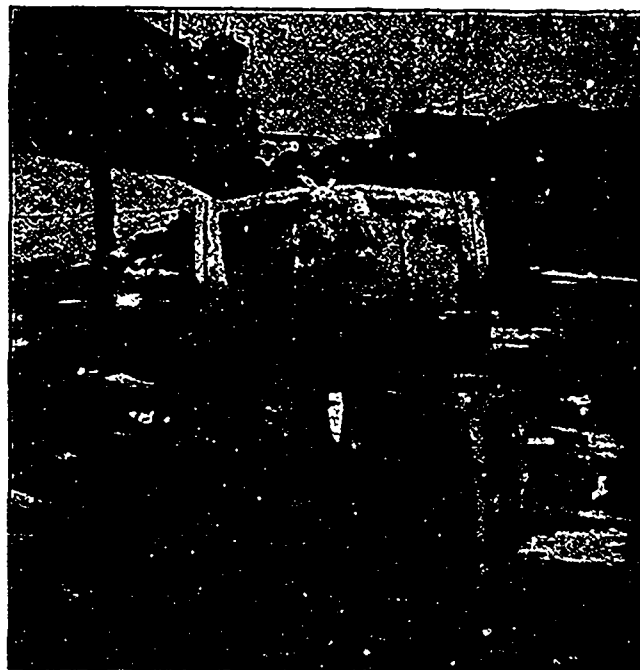
An illustration of the cargo as it was being unloaded is shown herewith.

The cost of the wire hoops is said to be considerably less than that of wooden hoops. It is the intention of the American Steel & Wire Co. to supply the machine free of charge to the trade using wire hoops.

TRADE NOTES.

Mr. R. H. Cronkhite, of Bay City, Mich., recently visited Georgian Bay lumbering points in the interests of the M. Garland Company, manufacturers of saw mill machinery, of Bay City.

The Canadian Oak Belting Co., of Montreal, have removed their belt factory to Brockville, Ont., having purchased the tannery there formerly owned by MacLaren & McCrady. This tannery is equipped with modern appliances for tanning a superior quality of oak tanned leather, especially suitable for the manufacture of leather belting. The tannery and belt factory will be under the direct management of Mr. J. D. McArthur, who has had



UNLOADING A CARGO OF BARRELS HAVING WIRE HOOPS.

twenty-eight years experience in the business. They will continue their office at 771 Craig St., Montreal.

J. W. Braden & Co., 67 Adelaide street east, Toronto, have furnished the following parties with Talismanic belt clinch: Grand Trunk Railway system, Montreal Street Railway Co., Christie, Brown & Co., Toronto, James Stewart Mfg. Co., Woodstock, Thompson Paper Mills, Napanee; Parmenter & Bullock, Gananoque; Ottawa Car Co.; London Machinery Co., and others.

The firm of W. Doherty & Company, organ manufacturers, Clinton, Ont., is among the largest consumers of lumber in Canada. Their new premises cover an area of 20 acres of land and represent an investment of upwards of \$250,000. Their supply of timber is obtained chiefly from their own limits, and their manufacturing department embraces saw mills, dry kilns and prospective veneer mills. The saw mill is steam power and equipped with modern machinery. The dry kiln has a capacity of 100,000 feet of lumber and is one of the largest and most efficient in Canada. It is constructed on the department fan and coil blast system, and heated by both exhaust and live steam. The company also deal in lumber.

The subscription price of the CANADA LUMBERMAN (including weekly edition) is but one dollar per year to subscribers in Canada and the United States.

scarcely realized the great sacrifice that... by the selling of lumber at the low... which ruled during the recent years of de... I am told that about the year 1896... manufacturers hauled lumber in sleighs... into the Canadian Soo and sold it at \$4 per... feet. This same class of lumber now... \$12 per thousand. Even the refuse of the... has now become valuable. The Sault Ste. Pulp & Paper Company, for instance, are... be buying the refuse of pine, spruce, balsam... and paying \$2.50 per cord deliv... at the Soo. Until recently this material... regarded as worthless.

\* \* \*

a resident of Blind River, Ont., I learned... of the work under way which prom... make that point one of the most im... lumber producing centres in Canada. In... Eddy Bros. & Co. of Bay City, Mich.,... nced the erection of a saw mill there, and... the present time \$100,000 has been spent... construction work. The machinery of their... an mill is being used, it being transported... d River by vessel. Some 400,000 brick... been used in the construction of the mill... accompanying buildings, and 600,000 feet of... was brought over from Michigan for the... se. There will be boiler capacity of 1,000... power, installed in a stone power house. Capacity of the mill when completed will be... 000 feet per week. Upwards of 150 men... now employed in connection with the build... of the mill, a large boarding house, and a... er of smaller houses. These figures will... an idea as to what such an establishment... mean to the village of Blind River. I un... and also that the Michigan Land & Lumber... any, who purchased the mill of the Blind... Lumber Co., intend to double its capacity,... ng the output up to 120,000 feet per day.

\* \* \*

natural conclusion would be that the high... freight rates which ruled during last sea... would have caused a reduction in the quan... of trans-Atlantic lumber shipments. In the... gate this is true, as statistics prove; but... seems to have been exceptional instances... ch the result was different. Talking with... reporter of hardwoods recently, I could... discern that he was not altogether satis... with the final summing up of his first year's... ss. The question "How about your Brit... de?" gave him an opportunity to explain. British trade is alright, but circumstances... gainst us. Freight rates are enormously... and we must compete with other coun... more advantageously situated. Just be... freights were high we shipped a good deal... ck this year, thinking there would be very... on the market, but we found that others... playing the same game, the result, of... being an overstock. We also find diffi... in getting stock manufactured to British... nations. In my opinion, the only way to



## NOTES FROM THE EASTERN PROVINCES.

[Correspondence of THE CANADA LUMBERMAN.]

The building boom in Sydney, C. B., is causing quite a run of lumber in that direction, but at present it is almost impossible to secure what is wanted at the proper time. At this season the importations by water have stopped, and now none can be obtained by that method from the north shores or Gaspé, nor from the Atlantic coasts of Nova Scotia, owing to the enormous pressure recently placed upon the Intercolonial Railway by reason of the supplies to be carried, not only to the towns and vicinities, but especially to the Dominion Iron and Steel Company, who have to import enormous quantities of building equipment. It is almost impossible to secure anything by rail on time. Stocks in Sydney do not seem to be very large nor at all adequate to the demand, and the consequence is delay and annoyance to the builders while waiting for the receipt of the lumber. Cars are delayed on the road for all lengths of time. One recently received from Windsor, destined to Chappell Bros., came through in the phenomenal record time of six days—the quickest delivery experienced by that firm in their imports here. The freight on this carload was \$60.35, it being a large box car of kiln dried stock. The average shipment from Windsor requires about 15 days, it is said, and one carload took 26 days in transit. The delay, however, must be considered excusable under the circumstances, and the I. C. R. is now placing sidings and improving facilities as fast as possible to meet the requirements of trade.

Another large lumber dealer in Sydney states that cars of lumber destined to him from Amherst recently took between seven and eight weeks in transit. One car from Dalhousie, which left there on October 19th, arrived on December 9th. Considering this delay, the charges for transportation seem excessive. Some of the dealers have stated that the rates are exorbitant. It should, perhaps, be considered that builders in Sydney are making a better thing out of their operations than under old or ordinary circumstances, and in view of the I. C. R. being so over-rushed with traffic, they should be allowed some latitude. The rates, are, however, undoubtedly high. In November they were raised two cents per cwt. between Sydney and Amherst, and now are 10½ cents per cwt. on lumber.

Lumber is brought by rail principally from Colchester, Cumberland and Hants counties in Nova Scotia, and a large amount comes down from Sackville. Up to a few weeks ago, the north shore of New Brunswick supplied its lumber by schooners, and a large amount was brought from Gaspé by water.

It is to be regretted that Cape Breton, which has so many natural resources of all kinds, seems to be so meagrely supplied with merchantable lumber. What is on the island seems to be stubby and stunted, and the country is too rough to allow of its being procured with profit. There are some mills, but the largest dealers say that they have never had any satisfaction in handling Cape Breton lumber. It will not saw up advantageously for trade purposes. At the same time there is reason to believe that the forests have not been properly exploited, and that some trade will yet result. Inquiries made of all the dealers in Sydney result in the information that hardly any C. B. lumber is being used here.

It would seem that the growth is much better adapted to pulp manufacture, being of such short and stubby growth, and it is to be hoped that the pulp mills now projected in the neighboring counties will be built.

A glance at the map shows the possibilities open to lumber shippers in Newfoundland, and it is strange that so little lumber comes from there, only a few cargoes having been received so far. Newfoundland is much nearer than the shores of New Brunswick, and especially the Gaspé coast, and a local trade should be easily worked up. Mr. Reynolds Harrington recently procured a few schooner loads from there and expects to turn his attention in that direction more in the coming season. Other dealers state that prospects are good for lumber trade there. Messrs. Schurman, Lefurgey, Clarke & Co. intend to import from there.

Retail prices in Sydney are high. Hemlock, which last year was worth about \$8, is now selling at \$11 and \$12.50. Scantling ranges from \$13 to \$15. There is not much demand for spruce in boards. Pine can hardly be obtained at all, and is high, varying from \$20 to \$25. What spruce is sold brings about \$12 for rough, and air

dried flooring, edged, brings \$15, matched \$16. Hardwoods are very scarce and can hardly be obtained, though sold in small lots. Birch and maple retails at \$20. Cedar shingles, which come down from Gaspé, Dalhousie and Campbellton by boat, have maintained the same prices all summer—Extras, \$2.60; Clears, \$2.40; 2nd Clears, \$2.00; Clear White, (3 star) \$1.80; Extra No. 1, \$1.40. Spruce shingles sell at about \$1.50 and \$1.60. Last year they were about \$1.25. Laths are worth about \$2; No. 2 pine clapboards, \$12; No. 1 pine clapboards, \$18; Extra No. 1, \$24-25.

Messrs. Schurman, Lefurgey, Clarke & Co., Limited, the well known contractors and builders of Summerside, P. E. I.; who have now an important branch in Sydney, are large importers of lumber. They buy largely of the Jardines in Richibucto, N. B. They have been buying pine doors from the Rathbuns of Deseronto, and find they get them cheaper and of better quality than from any manufacturer down this way, the freight amounting only to about 10 cents per door. Reynolds Harrington is perhaps the largest dealer in this line, and does not manufacture in any way. He has a number of vessels of his own in the trade. Besides buying in New Brunswick and Gaspé he gets a large amount from Sheet Harbor, Sherbrooke, Bridgewater and Liverpool, though the bulk of his trade is to the northward, and he brings lumber in by rail from northern Nova Scotia. The rates by boat from the north shore and from the south shore of Nova Scotia vary between \$1.50 and \$2.00. Rhodes, Curry & Co. retail lumber also.

Chappell Bros., who are large contractors and builders here, import lumber largely. They are now forming a limited stock company under the name of Chappell Bros. & Co., the arrangements of which will be completed in a few days. They will go largely into the manufacturing of building material and will begin early in January the erection of a three-story factory about 60 x 100 feet. This is to be equipped largely with machinery from their old factory in Windsor, N.S., but they will put in a new resaw, planers and moulding machinery and an up-to-date sand papering machine. They are undecided whether to buy in Canada or the United States. They will also put in a new engine of about 80 h. p.

John J. Grant has a lumber yard and shops in New Glasgow, N. S., and deals largely in lumber, buying mainly in the county. He imports white fir from New foundland. He does a large amount of contracting and has just completed a contract for building the stations along the new Midland railroad from Truro to Windsor.

The firm of Donald Grant & Sons, also in New Glasgow, have a good reputation as contractors and builders, and run a sash, door and blind factory in which they also turn out house finishing of all descriptions and office and church fittings.

Barry Bros. have a saw mill about a mile outside of Pictou, N.S., both steam and water power, which contains a rotary and shingle machine and a full line of sash and door machinery. As they have to rail all logs they work under some disadvantage and use their mill only for order work. They do a general business in lumber and building material of all kinds.

The Oxford Foundry and Machine Co., of Oxford, N. S., have been doing a good business recently, and apart from their manufacture of railroad switches, marine and electric light engines, etc., have been turning out a large amount of mill machinery. They have a \$15,000 plant and stock, opened up but a few years ago, after a disastrous fire which left them almost nothing. Alfred Dickie is using a mill built by this firm, in his mill at Ship Harbor. They recently shipped an edger to Sumner & Co., of Moncton, which is to be used at Red Pine. They also sent one to Monroe & McKenzer at River John, N.S. Among recent contracts might be mentioned: A portable mill for Logan & Sutherland, Ship Harbor; an engine for the American Furniture Co., Oxford; and an engine of 60 h. p. for the same company. The firm has been employing about 30 hands and has been working night and day since early summer. This factory has an equipment of large machinery, including a three-ton hand-crane, which is most convenient.

Wm. A. Robertson, now in Sydney, C. B., intends to build and equip a wood working factory in Bridgewater, N.S., where he will turn out all lines of builders' supplies and material, making a specialty of doors and sashes. He intends to put in, among others, a new moulding machine, buzz planer, turning lathe, band saw and saw

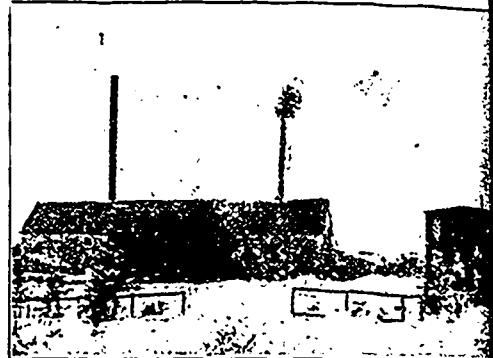
table, and an engine for power purposes. He would pleased to hear from manufacturers of these goods.

The firm of L. M. Poole & Co. in Charlottetown, P. E. I., handle a large portion of the lumber imported to P. E. Island. They buy largely in New Brunswick and generally keep about \$18,000 worth of stock on hand. At present they say their stocks are low, and that they must buy largely in the spring. They suffered a loss of \$90,000 when the Mary Elder was wrecked in the night of November. M. P. Hogan imports a large amount of lumber from Nova Scotia, New Brunswick and Gaspé, and gets his whitewood, cyprus oak, etc., in the States. His business is largely as a manufacturer of doors, sashes and building materials. He is thinking of retiring from business in the spring and is completing arrangements to dispose of the business, plant and stock. He has been in business for 26 years.

A. P. I.

## A LARRIGAN FACTORY.

Our Maritime Province correspondent sends the CANADA LUMBERMAN the accompanying illustration of the factory of Mr. J. S. Henderson, of Parrsboro, N.S., who manufactures larrigans, shoe packs, moccasins, etc., and whose business reference was made in last issue. In some years Mr. Henderson has had a small tannery at Parrsboro, but he only recently went into manufacturing on a large scale. Last summer he enlarged the tannery putting in ten new vats. Two years ago he built a factory and equipped it with modern appliances, but the growth of his business has been such that further additions are necessary and will be made this year.



FACTORY OF J. S. HENDERSON, PARRSBORO, N.S.

Henderson employs about seventy-five hands. He has obtained an excellent reputation and are regarded as second to none in the market.

## REBATE ON EXPORTED TIMBER.

THE British Columbia government gave notice August 23rd last that the rebate on all timber exports beyond the limits of the province was discontinued July 1st, 1900. This regulation was afterwards amended so as to provide that the rebate be allowed to and be continued from December 31st, 1900, on all timber shipped to foreign ports without the Dominion. The lumbermen of British Columbia contend that they would be benefited by this change, as much of the lumber and shingles shipped to the eastern provinces, and consequently not be allowed the rebate. They hold also that the objections surrounding the manufacture of timber in British Columbia are such that the rebate should be allowed heretofore. The representative lumbermen of the province held a conference with the members of the government on December 11th and presented their views. The delegation included: John Hendry and C. M. Beach, of Hastings mills; William Sully, of F. H. Heaps & Co. shingle mill; L. A. Lewis, Brunette mill; J. W. Hackett of Robertson & Hackett; J. M. Poitris, North Pacific Lumber Co.; A. Haslam, Nanaimo; Joseph Sargent, Victoria; E. J. Palmer, Chemainus; J. G. Wainwright, Woodville; T. Kirkpatrick, Vancouver; J. A. Macdonald, Hastings Shingle Co.; T. F. Patterson, Canada Pacific Lumber Co.; H. H. Spicer, of Spicer's shingle mill; and W. T. Stein, secretary of the British Columbia Lumber & Shingle Manufacturer's Association. The result of the conference has not been learned.

—Henry Lloyd has built a new saw mill at Walker, N. S.

THE NEWS

W. W. Carter is rebuilding his stave mill at Fessert, Ont.

William Attig, saw miller, Newton, Ont., has sold to M. L. Jantze.

J. B. Poisson & Company will deal in pulpwood, with headquarters at Gentilly, Que.

Tanner Bros., of Wanbaushene, Ont., are making extensive repairs to their saw mill.

William Halliday, of Wingham, Ont., has purchased a mill at Dobbinton, Bruce county.

The erection of a new planing mill at Midland, Ont., been commenced by John Munro.

Vallee & Jobin have registered a partnership in the milling business at St. Thecle, Que.

J. Guandhouse is opening a lumber yard at Rathwell, Ont., and will handle United States lumber.

The Georgia Logging Company, Limited, of Vancouver, B.C., has been incorporated, with a capital of \$10,000.

R. P. Legate & Company, of Ceylon, Ont., desires to engage a head sawyer and a competent man for planing.

It is reported that N. Wilkes is organizing a company to manufacture wooden specialties at Brantford, Ontario.

The saw mill at Shebashekong owned by Dillon & Jackson has been purchased by McKinnon & Company, Perry Sound, Ont.

The Truro Foundry & Machine Company, of Truro, N.S., have built a portable saw mill for McKenzie & Grant, of Riverside, N.S.

The Bryan Manufacturing Company and D. G. Cooper of Collingwood, Ont., are about to make extensions to their saw and planing mills.

The C. Beck Mfg. Company purpose enlarging their factory in Toronto and installing the most modern machinery and labor-saving devices.

The Rider & Kitchener Company, Limited, of Lindsay, Ont., has been incorporated, with capital of \$100,000, to deal in lumber, veneer, excelsior, etc.

It is reported that John E. Moore and William Rivers of St. John, N. B., contemplate rebuilding the Barnum mill at Pleasant Point, near that city.

It is understood that some Quebec parties are forming a company to build a saw mill between St. Julie and Percet, Que., on the line of the G.T.R.

A. Gareau, of Pembroke, Ont., is offering for sale valuable timber limits on Trout Lake, Que., containing 3,000 acres, timbered with pine, spruce and hardwoods.

Frederick McIntyre lost an arm in Chisholm Bros. mills at Belleville, Ont., and has entered action for \$5,000 damages, alleging negligence on the part of defendants.

As a result of the Canadian exhibit of railway ties at the Paris Exposition, a considerable trade in that line between this country and the continent is likely to spring.

During the past year the William Cane Manufacturing Company shipped from Penetanguishene, Ont., to their mills at Newmarket, upwards of 700 carloads of saw logs.

S. C. Wiggins is building a saw mill at Meductic, N.B., which will be equipped with shingle and lath machines also. He expects to have it completed early in the new year.

Laurie Bros., of Perry Sound, Ont., are building a large shingle mill on the shore of Owl Lake, on the line of the Canadian Atlantic railway, about twelve miles from Perry Sound.

W. R. Thompson, of Teeswater, Ont., has purchased 500 acres of timber land in Bruce county, and purposes setting up a mill for the manufacture of maple rollers for the British market.

William Stuckey, of Grand Valley, Ont., has selected a site at Day Mills, Algoma, on which he will erect a large sash and door factory, planing mill and shingle mill, and will manufacture all kinds of building material.

The ratepayers of Penetanguishene, Ont., will vote on a by-law on January 7th to grant a bonus of \$25,000

to the Firstbrook Box Company, of Toronto, for the construction of a box and box shoo factory in that town.

-A report from Victoria, B.C., states that the Chemainus Lumber & Manufacturing Company have purchased the Discovery mill from the Bank of British Columbia, and that it is the intention to overhaul the plant and operate the mill.

-A meeting for the advancement of the interests of forestry will be held in the Canadian Institute, Richmond street, Toronto, on Saturday evening, January 12, under the auspices of the Institute and the Canadian Forestry Association.

-The firm of Blue, Fisher & Deschamps, of Rosland, B. C., is now engaged in the erection of a saw mill on Rock Creek. The mill will be 150 x 40 feet, besides dry kilns, planing mill, etc., and will have a capacity of 25,000 feet per day.

-A new lumber concern is the Theo. A. Burrows Lumber Company, Limited, of Dauphin, Man. It is composed of T. A. Burrows, M.P.P., J. E. Hedderley, and William J. Osborne, of Dauphin, H. E. Crawford, of Winnipeg, and I. Cockburn, of Winnipeg.

-The Canadian Pacific Lumber Company, of Port Moody, B.C., have for some years been conducting a lumber yard in Vancouver, with Mr. McLennan as manager. This property has been purchased within the past month by E. H. Heaps & Company.

-At the annual meeting of the Fredericton Boom Company, held at Fredericton recently, changes in the directorate included the election of G. B. Dunn to replace the late E. G. Dunn, and A. H. F. Randolph to succeed the late Charles F. Woodman.

-The Chambre de Commerce, Montreal, has received a letter from Nicholls & Notman, of Durban, South Africa, calling attention to the fact that it would be advantageous to export Canadian lumber to South Africa, and that there is a good market there for it.

-The Rat Portage Lumber Company have completed their new office building in Winnipeg, and J. M. Christolm has been installed as manager. It is the intention to commence the erection of sheds at once, which, it is said, will be the largest in the province.

-The Northern Pacific Railway has made a rate of forty cents per 100 pounds on fir lumber from the state of Washington to Manitoba. A few shipments have been made to that province of late years, and it is expected that the reduction in rates will further stimulate trade.

-Some thirty carloads of timber to be used in the construction of the bridge over the St. Lawrence river at Quebec have recently been received from Savannah. The claim is made by the contractor that the southern timber can be obtained at a lower cost than for a suitable grade of Canadian lumber.

-The Anderson Furniture Company, who recently acquired 20,000 acres of good timber land in the Muskoka district, have removed their sawmill from Woodstock to a convenient site in that district. They are this winter taking out a considerable quantity of logs to be manufactured into lumber for furniture purposes.

-Reference is thus made in a British timber journal to a shipment of lumber from New Brunswick to Grimshy: "A noticeable feature of the imports is a cargo of red pine from Miramichi, discharging for Bennetts & Co., a commodity which does not often find its way to this port. We understand two or three cargoes of these red pines have been diverted from London, owing to the block there, and have been sent to various ports around the coast."

-Extensive logging operations are in progress in the vicinity of Elgin, Albert county, N. B. Manning Caldicott will cut over 1,000,000 feet, with his new mill at Church Hill. Other operators are Thaddeus Graves at Gibson Brook, Steeves & Company at Mapieton, and S. R. White & Company on Pollet river. Jacob Steeves, jr., and Benjamin Colpitts, each with a crew of thirty men, have gone to Nova Scotia to log there, the former in Halifax county and the latter in Colchester.

-The last of the exploration parties sent out by the Ontario Government into New Ontario has returned. Their investigation seem to show that the northern portion of the province is much richer in arable, mineral and timber lands than was at first supposed, and it has been estimated that there is spruce sufficient to supply the world for many years to come. Taking only one section of

the country, that north of the height of land, explored by a single party, it reveals the existence of nearly 3,000,000 acres of land suitable for agriculture and well timbered with spruce.

James I. Harris has just completed a modern circular saw mill at Day Mills, Algoma, to be operated by water power. The machinery was supplied by the Waterous Engine Company, of Brantford, and includes a four block Sterns rope feed carriage, double edger, trimmer, cut-off saw, live rolls, and other equipment necessary for an up-to-date mill. Its dimensions are 100 x 34 feet. The water wheel is a 50 inch Canadian turbine manufactured and installed by C. Barber, of Meaford, Ont. With six men this mill will turn out 25,000 feet of hemlock lumber in ten hours.

-The Victoria Lumber & Manufacturing Company, of Victoria, B. C., are about to commence extensive improvements to their large saw mill at Chemainus. The manager, E. G. Palmer, states that it is proposed to erect three dry kilns with a capacity of 20,000 feet each, to install planing mill machinery and a shingle mill plant, and to build three large storage warehouses. The old stables stores, hotel, and other buildings will be removed so as to increase the wharf accommodation, and a slip will be constructed for the transfer barn. A railway spur will also be built into Horseshoe Bay connecting the mill with the E. & N. railway system. A rough estimate of the cost of the improvements is \$100,000.

NEW COOPERAGE MILL.

At Castleford, Ont., which is situated about eight miles from Renfrew, the Southerland Innes Company, of Chatham, have commenced the construction of a plant for the manufacture of cooperage stock. This company is the largest cooperage concern in the world, operating no less than fifty-seven plants. The mill in question will consist of a boiler house, with 230 h.p. capacity in boilers; saw mill and hoop works, driven by a 75 h.p. engine; stave and heading department, with 100 h.p. boiler capacity; dry kiln 18 x 125 feet, heated by a Buffalo blast fan; steam box building containing eleven compartments, wherein all material for staves is steamed and cut while hot; blacksmith shop, fitted with all the necessary appliances for repairing machinery; store shed 26 x 300 feet; and two stave sheds 26 x 300 feet each.

The capacity of the stave department will be 40,000 daily, the sawmill 20,000 feet of lumber, the heading room 3,000 sets per day and the hoop works 50,000 per day. The annual consumption of lumber will be upwards of 3,000,000 feet, and employment will be given to about 50 men. A branch line of railway will be constructed from the main line to the mill.



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# WOOD PULP ~

# DEPARTMENT

## WET AND DRY PULP.

By W. A. HARR.

In preparing mechanical pulp for export in nearly every mill in Canada and the States, the percentage of 50 per cent. pulp to 50 per cent. water seems to be considered the standard of dryness. Why this limit has been adopted is not generally known, for the simple reason that it is non-existent. By present methods this percentage is about the limit, and instead of changing the methods the owners of mills seem to have been content to lose thousands of dollars annually by exporting water. That pulp can be cheaply and easily made, containing not more than 5 to 10 per cent. water by weight, has been already proved by at least one mill in Canada, and there is no reason why nine out of every ten mills should not be equipped in this way.

When pulp is supplied to the wet machine it is less than 1 per cent. by weight of the water in which it is carried. This is as it should be, because the solution of water and pulp is easy to handle by means of centrifugal or plunger pumps. When it is delivered by the ordinary wet machine in the form of a sheet, the pulp will comprise from 35 to 45 per cent. of the total weight, the remainder being water. In many mills where paper making is carried on as well, the presence of water in the pulp is practically of no consequence; in fact in many cases it is considered a decided advantage, as the pulp and water can be pumped directly to the paper mill, thereby entirely doing away with the wet machine. In other places the pulp is delivered to the paper mill in the form of a sheet with a percentage of 25 to 35 per cent. pulp. The presence of water in the pulp in this case enables the sheet to be more easily reduced to a solution again. In the case of a mill which manufactures for export, however, the conditions are entirely different. Freight is paid per hundred pounds, and is the same if you ship water or pulp. When pulp is shipped at 50 per cent. the transportation charges are double what they should be. As this item in any case would not

be by any means a small one, the effect of doubling it is apparent. This will explain the reason why some United States pulp mills can import their wood sawn and barked instead of moving the mills to the forests and railing their pulp to the paper mill. Air dried spruce can be more cheaply transported than the same quantity when manufactured into pulp at 50 per cent. dry.

The usual method of increasing the percentage of pulp from 35 or 40 per cent. as delivered by the ordinary wet machine to 50 or 55 per cent. for export, is by means of hydraulic presses. The method is briefly as follows: On the platen of the press are placed thick felts or bagging, then folded sheets of pulp, then more bags or felt, and more pulp, and so on until the press is full. On applying the pressure the water is pressed out and runs down the outside. After sufficient pressing the platen is lowered and the pulp and bags removed. In nearly every case the pulp will vary in dryness according to the position it occupied in the press, that which was near the edge being very wet, while the interior is fairly uniform. By folding the sheets as is done in some mills, a great deal of water is retained. When the pulp is under pressure it is saturated with water, but as it is occupying a much smaller space some water is driven off, nevertheless there is considerable water still in the pulp and bagging and between the sheets of pulp. If the pressure be now removed the pulp will expand and soak up this water again. The result is that to produce 50 per cent. pulp we are required to produce a higher percentage when in the press which we get no return for.

It is quite evident, then, that we cannot obtain dry pulp by this method unless we greatly reduce the capacity of our presses by using higher pressures and allowing more time for pressing. In any case, the limit of the hydraulic press would probably be in the neighborhood of 70%, which, according to our new standard, is still wet pulp. The question has been raised by some paper-

makers as to the advisability of making dry pulp. As it has to be all reduced to a solution by the paper-maker would rather get his pulp so it can be easily beaten up. The price, then, is to produce a pulp at least 95% dry, and put up in such a form that there will be no difficulty experienced in reducing it again to a solution by mixing with water and beating when it has arrived at the paper mill.

It is claimed by some makers that their machines will produce 50 pulp directly from rolls, but in nearly every case the capacity will have to be reduced to obtain this percentage, the machine being run slower to allow the water to escape.

There are a number of mills that find transportation charges so high that they are practically prevented from exporting. If they would put in machinery capable of producing dry pulp they would be able to market their product twice as far from the mill as at present with a correspondingly enlarged market, and with greater opportunities to avail themselves of changes in foreign prices.

One of the chief sources of difficulty in Canadian pulp in the English market is the variation in the moisture test, and therefore the ambiguity as to the exact weight of pulp shipped, leaving the way open for disagreement between purchaser and shipper. All this could be avoided if a standard of 95% or 99% were adopted—preferably the latter; but in this case great care must be taken in shipping to prevent water or moisture getting at the pulp, as it will absorb 10% to 15% from the air, reducing it to 85% dry. This does not present any great difficulty, as with the amount gained in the reduction of the freight charges, more could be expended in securing an efficient and cheap wrapper for the bundles, thereby ensuring the arrival of the pulp in a perfectly dry and clean condition. It would at once claim an advance in price over the product shipped under present methods.

There is talk of the Rathbun Company, of Deseronto, Ont., building a pulp mill at Bancroft.

William Lancaster, a prominent paper manufacturer in England, recently made a tour through the spruce districts of the Dominion. Mr. Lancaster expressed himself as being highly pleased with what he saw particularly in the province of Quebec. Formerly his supply of pulp has been obtained from Holland and Germany, but he expected to close contracts for a considerable quantity of Canadian pulp.

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**COTTON-SEED HULL PAPER.**

American is said to have discovered a process for treating cotton seed hulls so that the fibre attached may be utilized for making, and a company has been organized for testing the process. Experimentation regarding the system in exchange with the cotton seed industry is in progress so that it is doubtful whether it is possible to so destroy the hulls, either mechanically or chemically, as to make the residue suitable for printing papers. The successful resolving of cotton-seed hulls will be a matter of great importance to the pulp and paper industry. There is an immense quantity of cotton-seeds produced annually, and attached to these seeds is a considerable quantity of valuable fibre. Hitherto they have been crushed for the extraction of oil, but their value in the direction would not presumably be increased by their use in paper making, as the seed hulls would be quite as valuable, if not more so, for the paper maker. The seeds are also very largely used—especially in India—for cattle-feeding purposes, of course there are large quantities of the seed used in England made from them, and high linseed is also used for this purpose. The Egyptian seed, however, is the best of this trade, as it is larger and has less fibre attached than the American seed. The result of the experiments conducted to be tried in the United States will be looked forward to eagerly.

It has been announced that the Carnegie Company will ship steel by an all-rail route from Lake Erie ports to Europe via the St. Lawrence route. As the vessels cannot be loaded to their full capacity when the locks are passed, it is expected they will complete their cargo at Montreal, taking on considerable pulp.

**PULP NOTES.**

The Waterous Engine Works, of Brantford, Ont., have already secured orders for \$40,000 worth of pulp making machinery.

It is again stated that McKenzie & Mann, railway contractors, have decided to erect large pulp mills at Fort Frances, Ont., next summer.

It is said that the Canadian Electric Light Co., of Quebec, have completed arrangements for the construction of a large pulp mill at Chaudiere Falls.

It is reported that Mr. W. J. Hill, M.P. P., of Toronto, has secured the contract for building a large pulp mill at Shawinigan Falls, Que., for Belgian capitalists.

Mr. H. G. Fuller, of Portland, Me., is negotiating with parties in Canada in regard to establishing a plant for the manufacture of felts used in paper and pulp mills.

Eastern capitalists are proceeding with arrangements for the establishment of the proposed pulp mill in British Columbia. The mill will be tributary to Vancouver, the site chosen being but a few miles from that city.

The company which proposes to build a pulp mill at Musquash, N.B., will shortly apply for incorporation. The capital stock will be \$100,000. Geo. McAvity, H. R. McLellan, Geo. W. Jones and F. Stetson, of St. John, are interested.

The town of Woodstock, N.B., wants a pulp mill, and has offered a bonus of ten per cent. of the cost of the mill, the bonus not to exceed \$50,000. Mr. Henry Upham, of that town, has decided to donate a suitable site for a mill.

Mr. Thomas Malcolm, contractor for the building of the Restigouche and Western railway in New Brunswick, states that

he has received propositions from capitalists who purpose erecting pulp mills along the railway as soon as it is completed.

Chas. Lionais, civil engineer of Montreal, recently sold an iron pyrites mine at Garthby, Que., to a New York syndicate who have in view the erection of a sulphur factory at Levis. It is proposed to use the sulphur for the manufacture of pulp.

About three years ago Randolph & Baker, of St. John, N. B., discovered magnesia lime in the lime rock about their quarry. Recently they have commenced to burn it and have shipped large quantities to the United States for use in pulp mill digestors.

Sweden has 88 mechanical pulp mills, producing yearly 144,000 tons, dry weight, of pulp. She also produces 125,000 tons of sulphite, and 38,000 tons of soda pulp. Norway has 61 mechanical pulp mills, with an annual output of 180,000 tons of soda pulp. The total production is, therefore:

	Dry tons.
Mechanical pulp.....	324,000
Sulphite.....	212,000
Soda.....	46,000

Reporting on the wood pulp market in

France, M. A. L. Grondal, of Paris, states that prices of chemical wood pulp are well maintained. Considerable activity has been experienced in the renewal of contracts for 1901, and at the moment nearly all important buyers are covered. In regard to mechanical wood pulp prices remain high, especially for delivery during the winter months. The demand, however, is insignificant, and consumers who have not contracted for next year show a disposition to await future events.

A West Hartlepool correspondent of the Timber Trades Journal thus refers to a shipment of Canadian pulp: "We have just received 1,971 bales Canadian sulphite wood pulp per steamer via Liverpool for local consumption, which we believe is the first lot we have had, hitherto it having come from West Hartlepool. The bales, we notice, are very compact, and well bound with hoop steel, and as our cousins, the Canadians, are evidently pushing this article in England, this new departure may mark an epoch in the pulp trade, as the supply of whitewood in Canada is practically unlimited. Baltic exporters take note! The shippers are Becker & Co., London, and the shipping agent here is Mr. Andrew Farmer."

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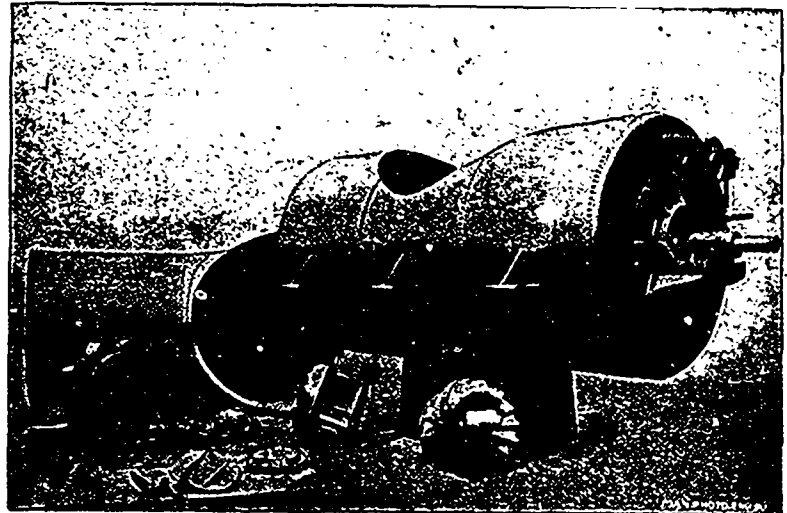
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## CANADIAN FORESTRY ASSOCIATION.

The Canadian Forestry Association has been in existence for less than a year, but already it has made sufficient progress to demonstrate that its success is assured. It now has a good representative membership in every province in the Dominion, and new additions are steadily being made to the list.

Owing to the attention of the public being taken up by other important matters during the present year, the Association has been doing its work quietly, but the report of the first annual meeting has been widely distributed and the foundations of a strong movement have been laid. More active steps will, however, be taken during the coming year, and it is expected that meetings in the interests of the Association will be held at a number of important points. A conference has been arranged for at Toronto on the 5th inst. and following that will be the second annual meeting at Ottawa in the early part of March. The arrangements for the annual meeting were under discussion by the Executive Committee of the Association at a meeting held at Ottawa on December 7th. It is intended to have papers read representing the forestry interests of all the provinces of Canada as far as possible, and it is also hoped to obtain the services of Mr. Gifford Pinchot, Chief Forester of the United States, for an evening lecture.

## CUBA NOT WELL WOODED.

John Gifford, the founder of the Forester, who recently journeyed across Cuba from Cienfuegos to Havana, says it is not a well wooded island, notwithstanding many printed statements to the contrary. The marketable lumber is being cut so rapidly that in a few years it will be extirpated. Considerable quantities of mahogany, cedar and lignum vitæ have been shipped from Cuba in the past, and the large number of structures on the island containing mahogany shows that it must formerly have been much more plentiful than it is now. Both the mahogany and cedar trees are far apart and are becoming rarer every year, so that Mr. Gifford predicts their disappearance in a short time. In the mountains lignum vitæ is still abundant, and is exported largely, being used for pulleys, blocks, croquet mallets and balls and many other purposes. In the forests of Western Cuba the Cuban pine is abundant and is much used for timber. The finest tree of Cuba is the royal palm, which grows in fields and plantations and along water courses, without which the Cuban would be hard put to it for building material. It is not a very ornamental wood, but it is peculiarly fitted for building purposes, as it has the valuable quality of shutting out the heat, and houses built of it are cool. The nuts of the tree are good food for swine. The mango is rather common and its fruit is very popular with the natives, who eat it so inordinately that "mango bell" is a recognized ailment all over the island—not dangerous but unsightly, as it causes a remarkable and ridiculous distention of the abdomen, particularly in children. The mango is a splendid shade tree. Another magnificent shade tree is the ceiba or silk cotton but it is worthless in any other sense, as the wood is too soft for use. The great ceiba tree under which the surrender of the Spanish commander was received near San Juan Hill, Mr.

Gifford notes, has been so chipped and hacked by souvenir vandals that there was danger of its being destroyed, and now a barbed wire fence protects it. In the cities the common shade trees are the Spanish laurel; the beefwood, *Ficus Indica*, which is the sacred Bo tree of India, and is something like a poplar, though not so tall and majestically erect; the West India almond, which is not an almond at all, and the sandbox tree, which has the peculiar trait of exploding its fruit with a sharp report and scattering its seeds far and wide. Because of this the natives call it the monkey dinner bell, as they say that at the sound of the report the monkeys rush in from all sides to eat the delicate seeds.

## NEW MARKET FOR TIMBER IN GREECE.

The American consul at Athens writes to his department that "owing to the tariff troubles between Turkey and Greece, the Greek importers of timber are considering the question of importing from some other country the large quantities of timber, lumber, staves, etc., which they have heretofore annually brought from Turkey, and I think it well to inform American exports of this fact that they may have a chance to make a bid for the custom of the Greek market. As Greece does not produce any timber for manufacturing purposes, and very little for any use, she is obliged to import nearly all she consumes. In 1898, the latest year for which Greek import statistics have been published, Greece imported woods for building and manufacturing purposes valued at 7,709,746 francs (\$1,511,710.98) from Austria, Turkey, Germany, Roumania, Russia, Italy, France, United States, Belgium and England, these countries furnishing portions of the whole in the order named. Austria and Turkey produced the largest part of all the woods imported, while the United States furnished a few thousand staves for current barrels.

"The demand for woods of all kinds is rapidly increasing in Greece, and the local prices are very high. The great distance will make the freight on timber from the United States much higher than from any other of the countries named; but with a direct line or lines of steamships connecting Greek and American ports, there would be a good chance to open up the Greek market for our native timbers—a market in

which the demand for good qualities will naturally increase."

## PERSONAL.

Mr. Joseph Oliver, president of the Oliver Lumber Company, Toronto, is a candidate for aldermanic honor in Ward No. 2, with good prospects of success.

Mr. Lewis A. Grant, of the British & North American Timber Company, of London, Eng., is at present in the United States and Canada for business purposes.

Mr. C. A. McCool, the well known lumberman of Geneva Lake, Ont., was on November 28th elected by acclamation as the member of the Dominion Parliament for the Nipissing district.

Hon. R. R. Dobell, lumber dealer, of Quebec, is on his annual visit to England. Mr. H. R. Goodday, Quebec, and his son, Mr. H. G. Goodday, are also on business trip across the Atlantic.

Mr. David Whitney, president of the Skillings, White & Barnes Lumber Company, of Boston and Ogdensburg, died last month at his home in Detroit. Mr. Whitney was the founder of the present business.

The death occurred in Ottawa on December 26th Mrs. John Chitty, mother of Mr. Charles Chitty, of the & Johnston, an employment firm well known in local circles. The deceased lady was one of the oldest of Capital, being 97 years of age.

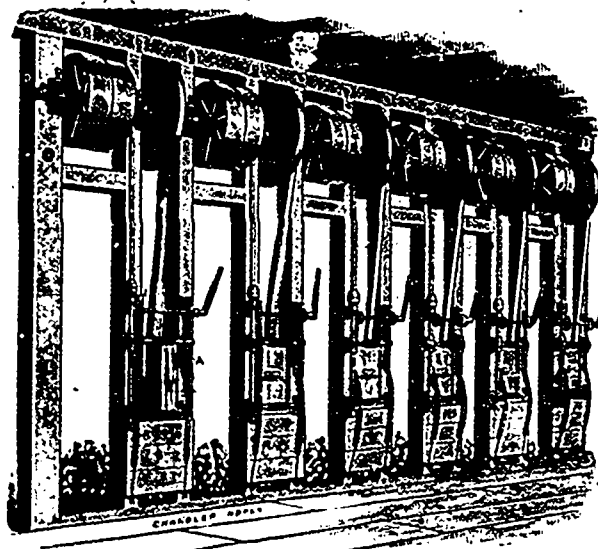
Mr. Charles Grant died on December 11th at his home in the township of Elizabethtown, near Ottawa. The years of his early life were devoted to railroad engineering, while he also engaged extensively in lumbering the Ottawa district. For the past twenty years he followed the life of a farmer.

Lieut. W. T. Lawless, a popular employee of the Ottawa Improvement Co., who was second in command of the Ottawa company first contingent, returned to Ottawa on Christmas day. He was given an enthusiastic reception. During his year's absence in South Africa Lieut. Lawless was continued by the well known concern on half pay. His position was also kept open for him.

Mr. E. Stewart, chief inspector of timber and forests for the Dominion, was in attendance at the recent meeting of the American Forestry Association at Washington. Mr. Stewart looked carefully into the workings of the plan adopted by the Division of Forestry of the United States for the encouragement of tree planting, it being the intention of the Department of Interior to apply a similar plan to portions of Manitoba and the North-west Territories. Mr. Stewart proposes to hold a number of meetings in the prairie sections of Manitoba and the Territories for the purpose of laying the plan before the people and asking their co-operation in carrying it out.

The machinery firm of Carrier, Lane & Co., of Levis, Que., was dissolved recently, and a new partnership registered under the same style, with Messrs. C. Carrier and J. E. Roy as proprietors.

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Mr. James Ballantyne, of Ottawa East, recently cut into cordwood a soft maple which grew from a seed planted by himself in 1874. The seed came from a tree on the tree was ten feet high it was planted for the purpose of room. In 26 years it grew to be 12 inches in diameter at the base and yielded a cord of wood without reckoning small branches. Mr. Ballantyne says that an acre will grow such trees, and he draws the conclusion that the forest growth in Canada is such as to insure us forever against a wood famine. The results of other calculation of his is that 40 cords of wood at three dollars per cord gives an annual rent of \$4.50 per acre, which is not slow consideration.

It is reported that the extensive lumber of C. K. Eddy & Sons, of Saginaw, Mich., are considering the removal of their mill to the Georgian Bay district, where they own about 200,000,000 feet of timber.

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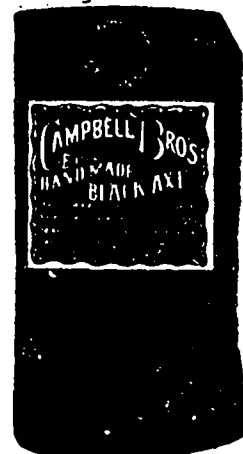
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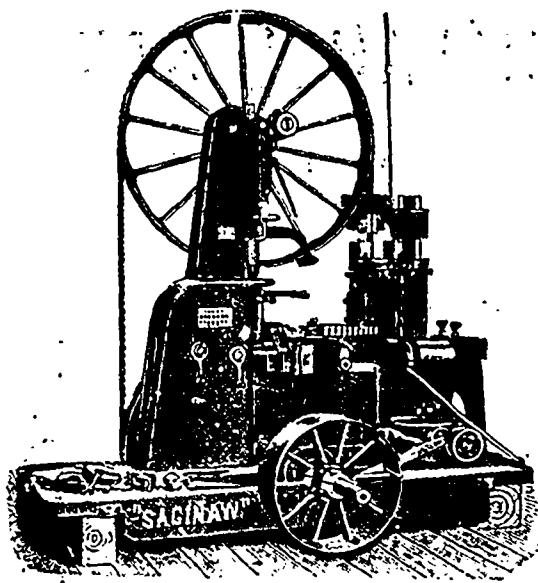
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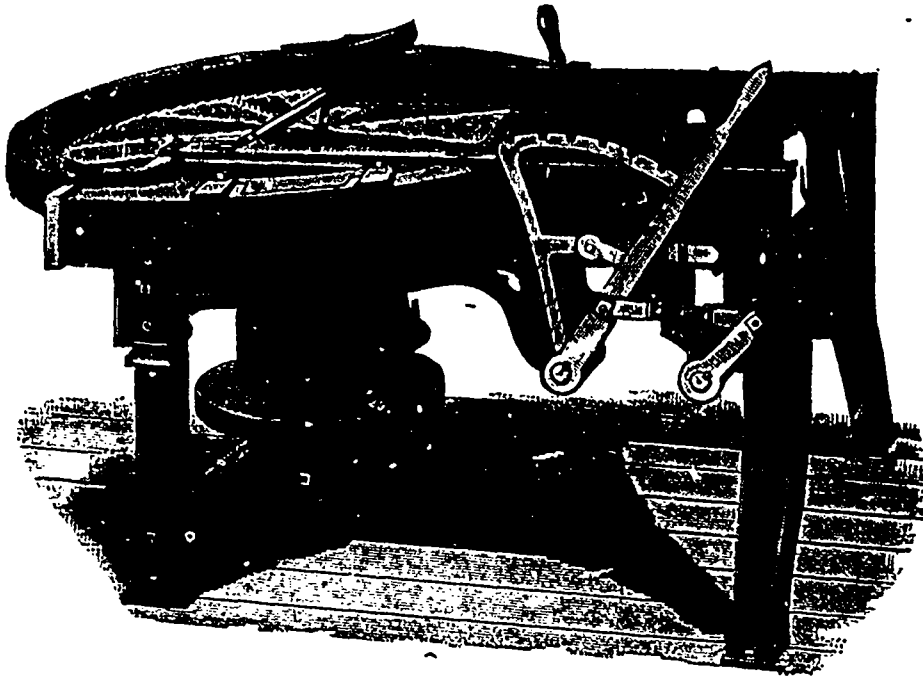
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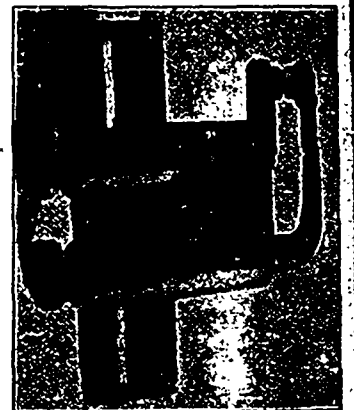


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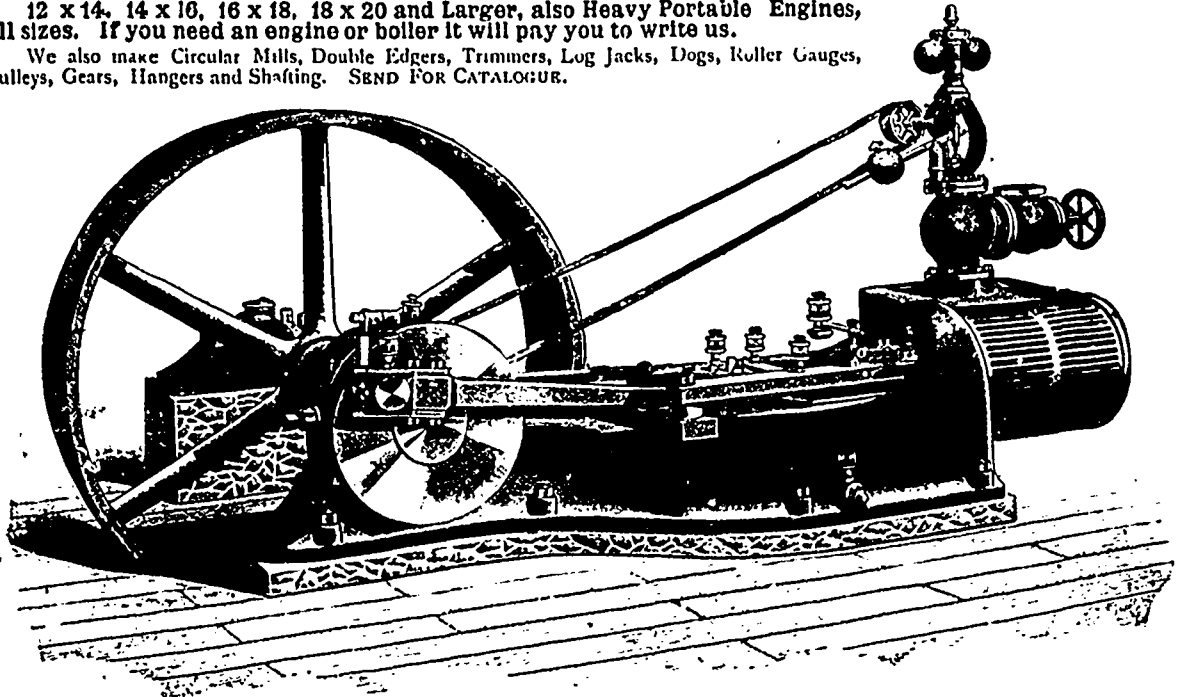
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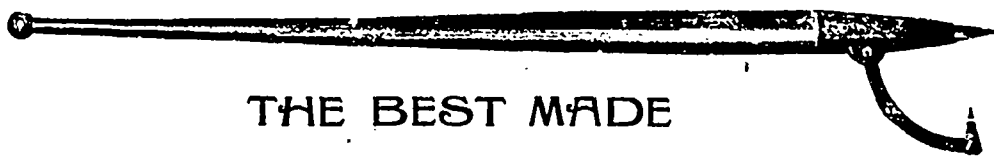
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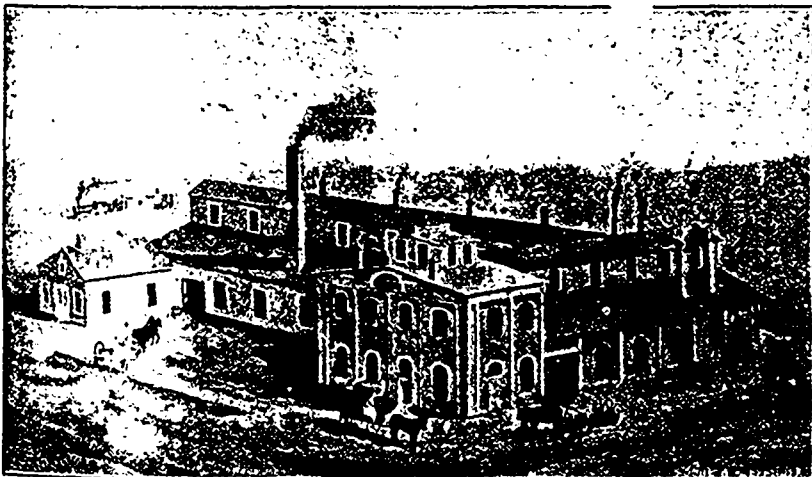
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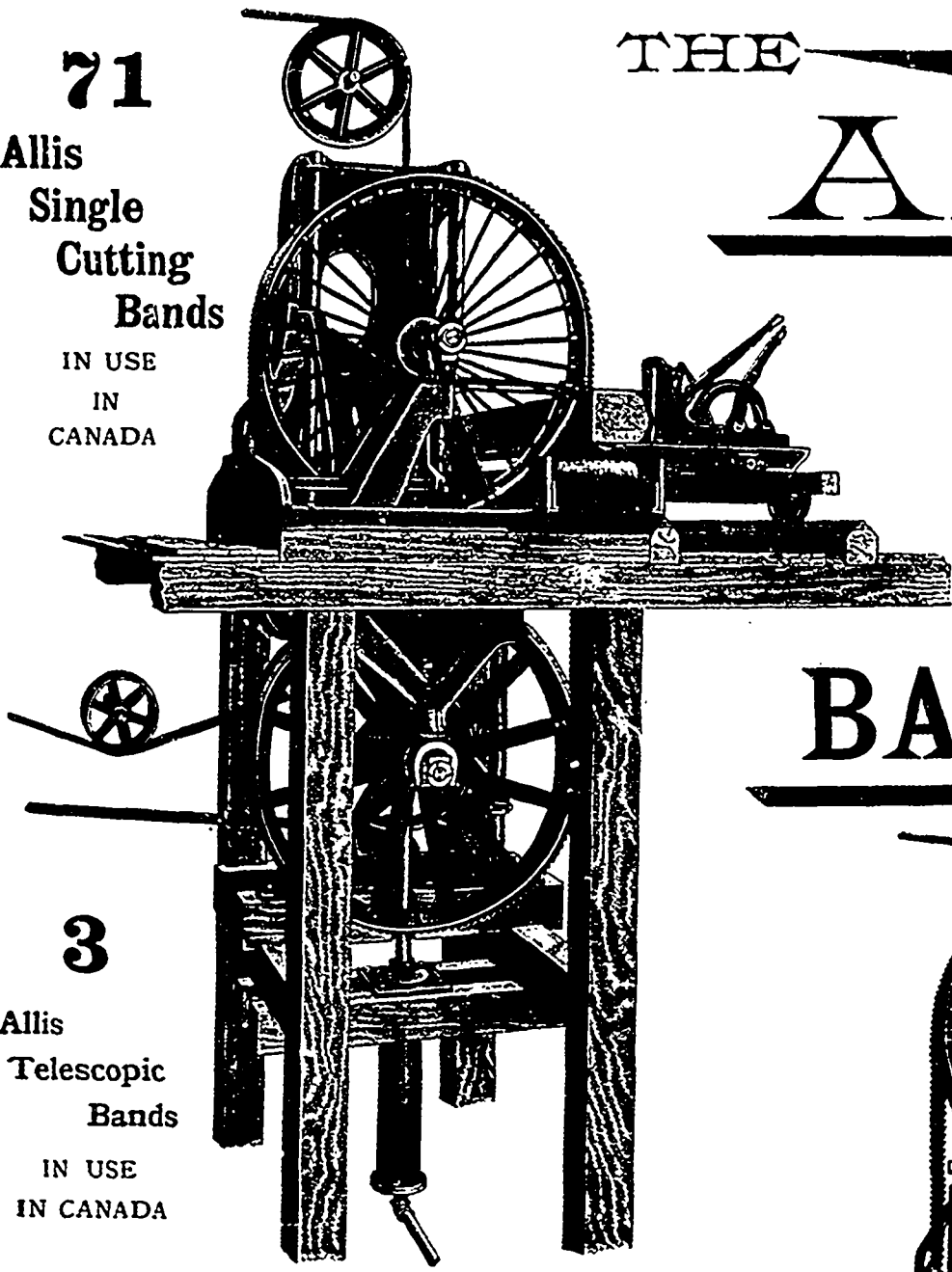
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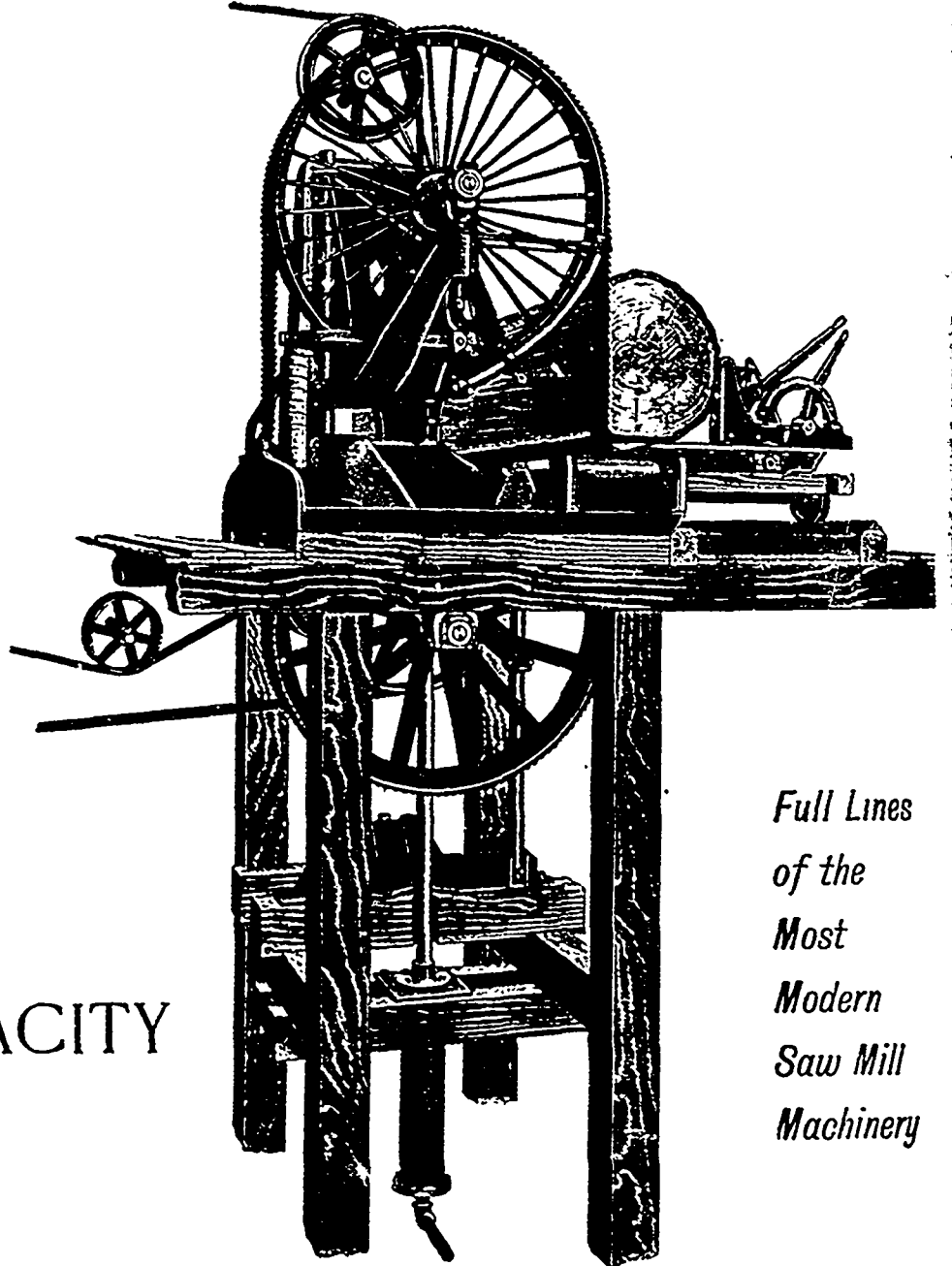
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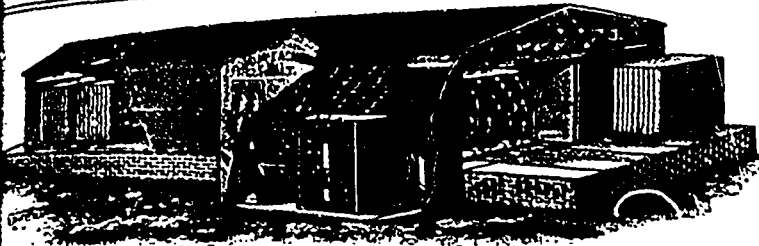
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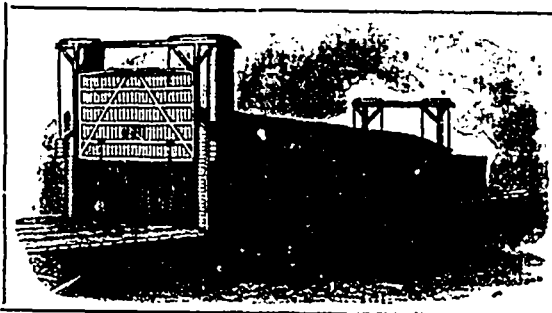
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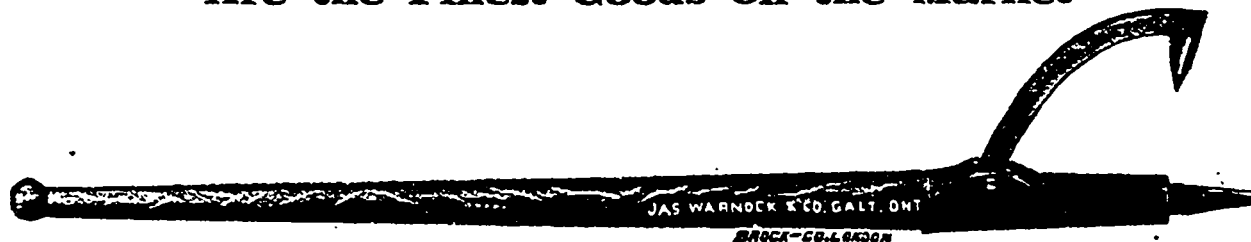
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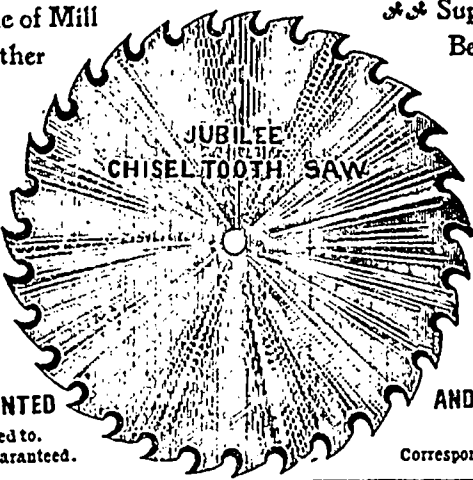
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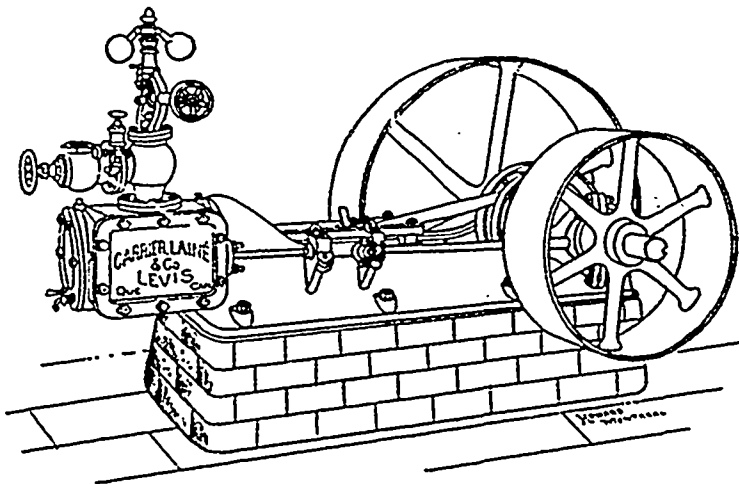
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