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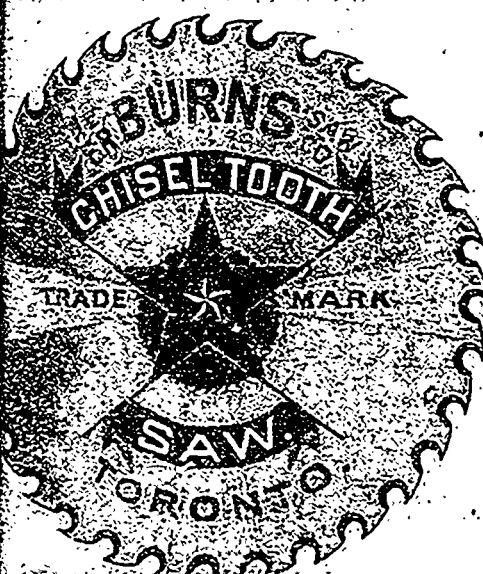
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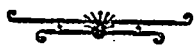
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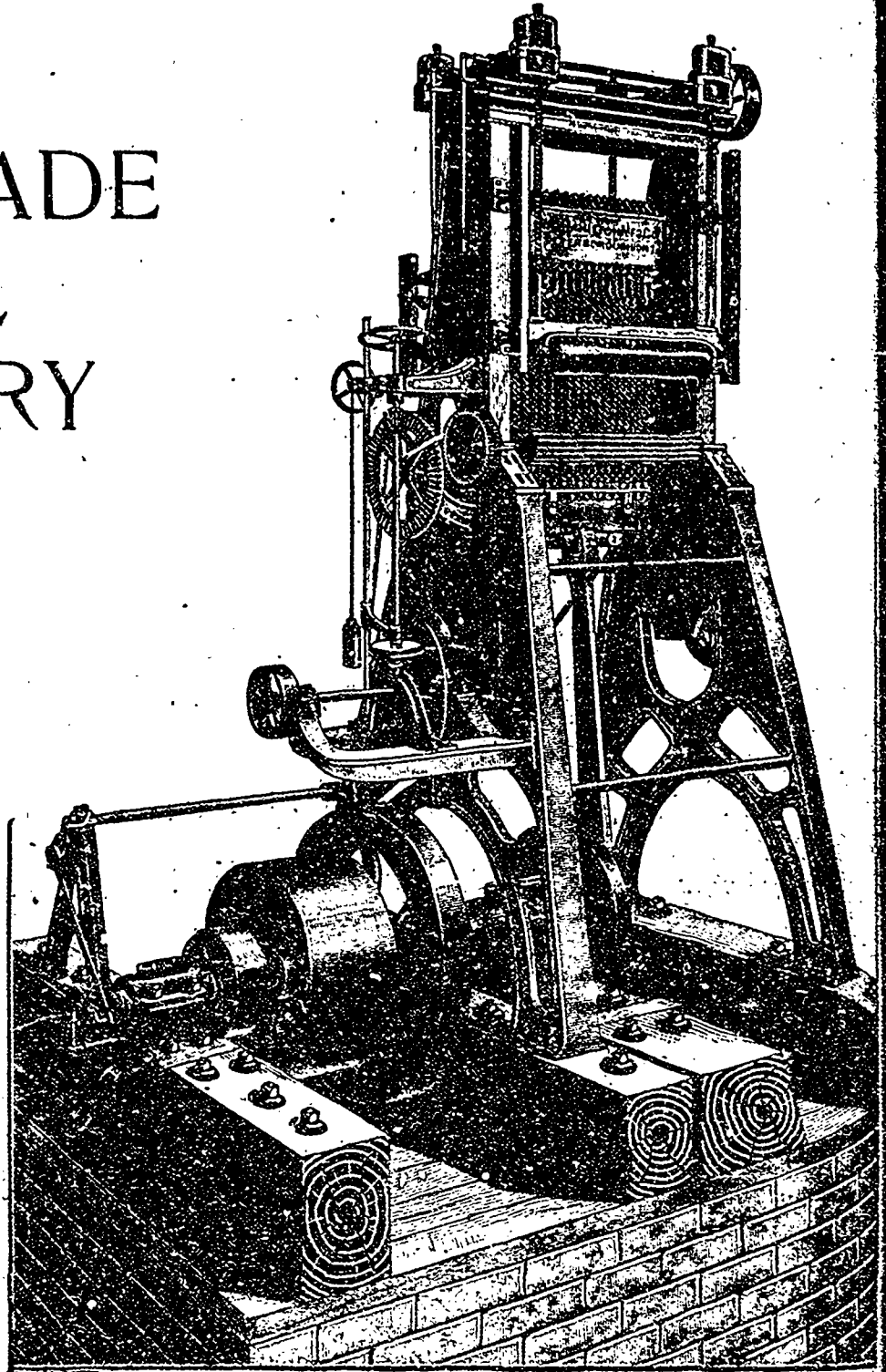
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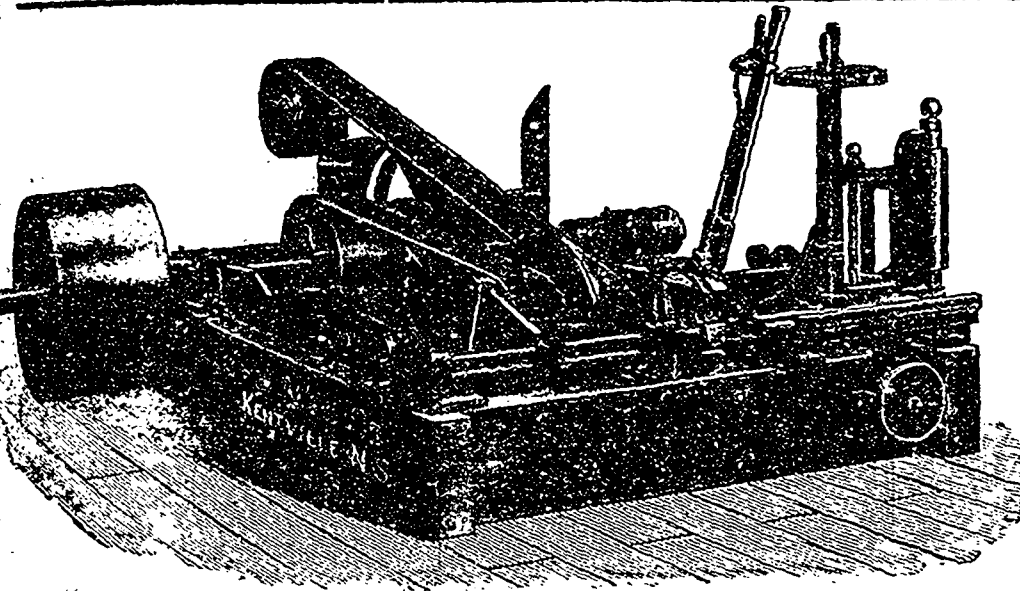
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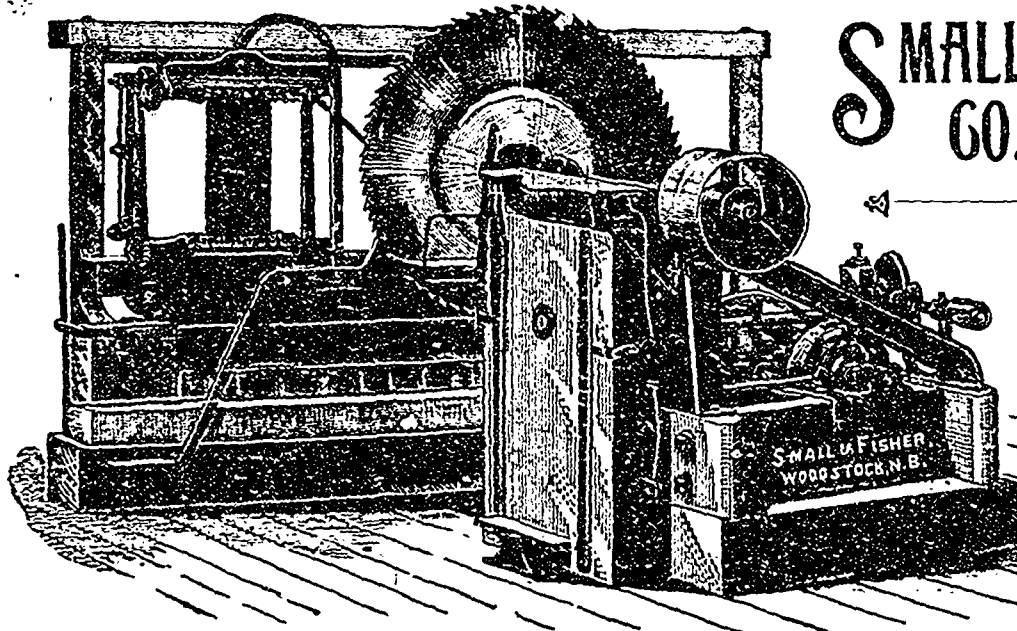
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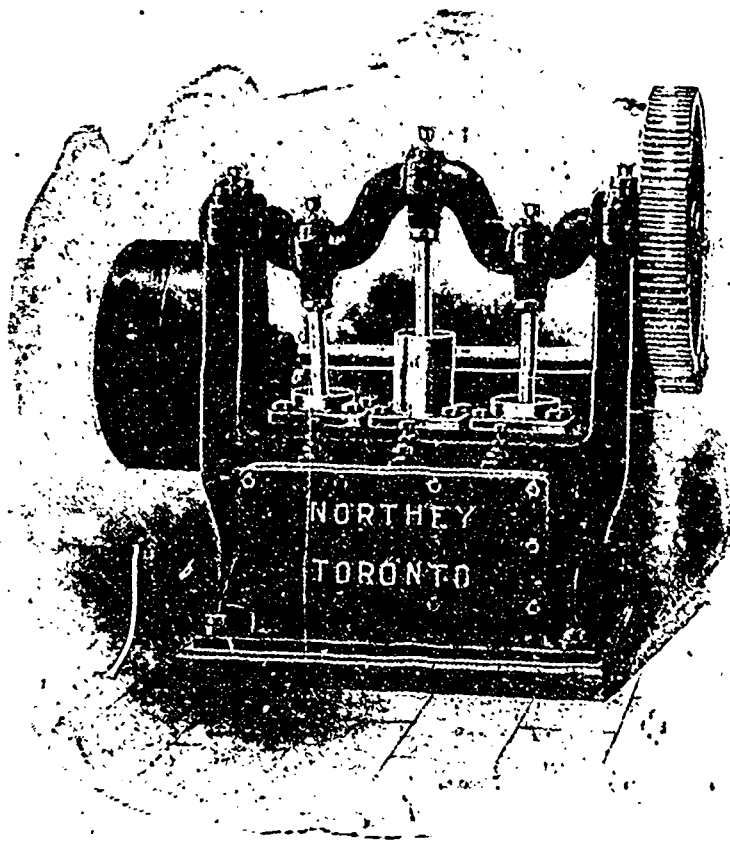
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VOLUME XXI.
NUMBER 10.

AN EASTERN LUMBER FIRM.

PROMINENT among the lumber exporting firms of Nova Scotia are Clarke Bros., whose operations are carried on in Digby county. The firm is composed of Messrs. W. W. and W. G. Clarke. An illustration of their large Lake Jolly mill is shown on this page. The building is 136 feet in length and 26 feet wide, two stories high, the mill proper being on the upper floor. Besides the equipment for the manufacture of ordinary lumber, the mill contains shingle, lath and clapboard machines, planers, resaws, etc., and is modern in every respect. There was installed during the past summer a battery of three boilers with a capacity of 150 horse power, and a 125 horse power engine. Saw-dust and the refuse of the mill are used as fuel for the boilers. The capacity of the mill is about 40,000 feet per day.

Messrs. Clarke Bros. own about ten thousand acres of timber land, but they have been carefully preserving it to provide for future needs by purchasing perhaps two-thirds of their log supply from small land owners and loggers along the Bear river. Their average output is about 8,000,000 feet, made up of spruce, pine, hemlock and hardwoods. They own large tracts of hardwood limits containing a good quality of beech, birch and maple, which they expect to utilize to a greater extent in the near future. The shipments of this firm are chiefly to South America, Cuba, United States and the West Indies, special attention being given to South African business. The firm also carry on an extensive business as general merchants at Bear River, and are owners of five vessels, ranging from 150 to 300 tons, engaged in their own trade. Their cable address is "Clarke," Bear River.

UTILIZATION OF SAWDUST.

In Austria a new method of utilizing sawdust has been invented. At the sawmills of Joseph Fialla the experiment has been tried of making briquettes of the sawdust for domestic heating purposes. The dust is heated to dryness and then to the point where the tarry elements begin to exude. These are used as the consolidating matter, the hot sawdust passing on steam-heated tables to a press which forms them into briquettes, five by three by one and one-quarter inches, weighing about one-half pound. It is shown that they give four per cent. of ash and that their heating power is equivalent to that of lignite. The process makes 19 bricks per minute, and with 300 days of work produces 6,000,000 briquettes per year. The experiment has shown that the cost of manufacture is 16 cents per thousand, while the selling price is \$1 per 1,000.

FORESTRY FROM A LUMBERMAN'S STAND-POINT.

The following interesting chapter on the above subject is extracted from the report of the Ontario Forestry Commission, just issued.

The question has now reached a stage at which the various types of forest embraced in the Crown domain should be considered with the view of adopting such special treatment in each case as its peculiar features demand, in order to realize the best results. No timber berth or township can be found in the Province where all the trees are of one species, but in many tracts of smaller dimensions pine so largely predominates as to give a specific character to the whole area. In such instances the timber is frequently found at two or three stages of growth. Some very old trees may be seen, many of them showing decay at the butt and slowly dying of old age, while the main body are sufficiently advanced to have killed off the competitors which started even with them in the race, the place of the latter having been taken in part by seedling pine or by the shade enduring hemlock or spruce. In all probability the trees of the main body commenced their growth with the usual surroundings of poplar and birch over which the pines in the course of time asserted an easy supremacy, or they may have been

quite equal, if not surpass the total growth of the forest before it was entered upon by the lumberman. It is a question that can only be determined on the spot, how far the shade enduring varieties should be cut in a forest consisting chiefly of pine, as they may be of great use in keeping the soil of the forest covered when too great a gap has been made in the forest canopy. If the smaller but merchantable timber is to be extensively cut away, the retention of the shade enduring trees is desirable, if the reproductive value of the forest is to be retained.

HARDWOODS AND PINE.

In a mixed forest of hardwood and pine where the former prevails, it will nearly always be found that the pine trees are large and old, the remnants of a former forest growth before the advent of the hardwood. The latter possesses such a thick shade that where it prevails pine seeds dropped under its cover either will not germinate or attain only a very sickly growth. A specimen of pine struggling to live under such conditions, examined under a magnifier, showed a growth of only one inch in diameter during a period of thirty to forty years. In such a case, if the perpetuation of the hardwood forest is desired, the pine should at once be cut as fully ripe, together with as many of the large hardwood trees as are considered desirable, leaving the space gained to the smaller trees. If on the other hand the district is not

considered suitable for a valuable hardwood growth, it should all be cleared off, leaving a pine tree here and there in sheltered localities if possible, and the surface of the ground should be burned over to get rid of the rubbish and debris. It will then present favorable conditions for seeding by the ever-prevalent birch and poplar, to be followed by degrees by the pine seedlings springing from the scattered old trees left standing.

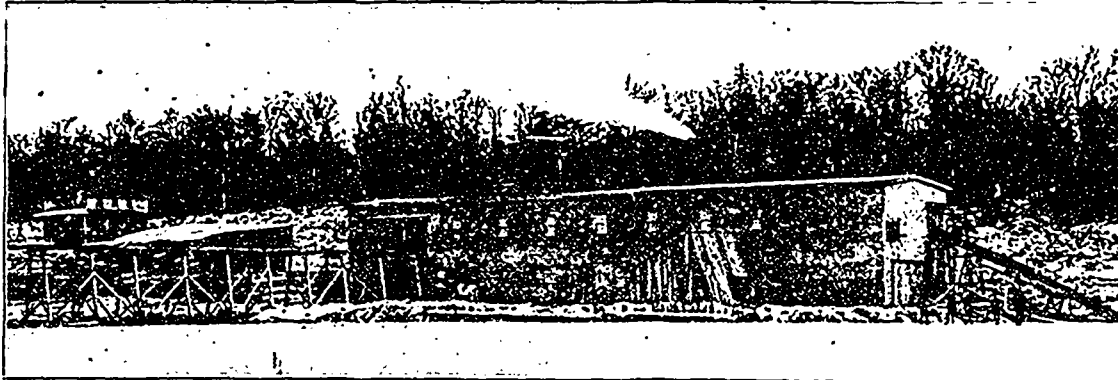
PURE PINE FOREST.

A pine forest may often be seen where the trees are nearly all the same age—or it may be differing by ten or twenty years, and where they have succeeded by their abundant growth in overshadowing and killing out every other variety, the only difference observable being in the diameter of the trees, brought about by the diversity of their individual surroundings. The tall and slender trees have maintained the struggle for existence with insufficient sunlight, having been overshadowed by their more favorably situated neighbors, and while they are of small diameter, it would be of no use to leave them standing, as when the others were removed they would only blow down and encumber the ground. The only course to pursue if the reproductive character of the forest is to be maintained, would be to preserve the trees on any neighboring ridge or hillside, the height of which would secure the distribution of the seed over a wide area, or in case the country is comparatively level, then clumps of trees growing on the highest ground available should be allowed to stand for that purpose.

After the remainder of the forest has been levelled, the ground should be burned over to destroy the covering of pine needles and the litter left by lumbering operations, so as to leave the soil in the best condition for future seeding. In doing this due care should be taken to leave a cleared space around the groups left standing, so that the fire cannot reach them.

MIXED CONIFERS.

One of the most difficult conditions to deal with, where the growing of a future crop of pine is the end in view, is



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subjected to a severe competition with their own species or with other conifers which they have been enabled to outlive by reason of quicker growth, better adaptability to the locality, or more robust qualities.

SELECTIVE CUTTING.

This type of forest is the easiest to understand and treat in accordance with the principles of forestry by selective cutting. The merchantable timber should be cut down and marketed, and many of the smaller trees, growing too close together under the shade of their neighbors, should also be removed, as they would ultimately die before attaining maturity. But due care should be taken to preserve the forest cover and yet to make sufficient openings in it to allow the sunlight to reach the younger trees and give the seed a chance to germinate.

When these considerations are borne in mind, it will be seen that no absolute rule can be applied as to the smallest tree that should be cut, as a tree which it would be desirable to spare if growing in one situation considered with regard to its neighbors, might be nearly superfluous in another. A pine that would make a 10-inch butt log sixteen feet long would be regarded as merchantable, but it would not be good forestry practice to cut it unless a sufficient number of smaller trees be left standing near it to fairly cover the ground. It has been demonstrated by many specimens now in the Bureau of Forestry, that the accelerated growth of the young trees resulting from the removal of the overtopping mature vegetation, will

when the existing forest consists mainly of balsam, spruce and hemlock intermixed with good-sized old pine trees. In such areas it will be found that few seedlings of pine are coming up among these shade enduring trees, unless it may be on high land or where the canopy happens to be thin. The young pine is not so tolerant of shade as the other conifers. Hemlocks, for instance, may be seen growing up in the gloomy shade of their parent trees where a pine seed would not even germinate. The treatment of a forest of this kind will depend entirely upon its locality. If the less valuable conifers can be cut down and marketed without loss, then by all means remove a sufficient quantity of them to insure such opening in the canopy as will admit light enough to permit the growth of the young pine. If on the other hand the ground is covered thickly with young trees of the shade enduring species, with little or no pine growing amongst them, then a clean sweep may as well be made, first cutting the mature pine trees with the exception of a sufficient number in well-chosen localities spared for future seeding.

As to whether fire should be used or not in clearing the ground depends on the number of young pine trees coming up. In many districts where pine is being cut and which it is desirable to retain in timber, the spruce, balsam and hemlock cannot be cut so as to repay the outlay. The forester must be guided by the existing conditions in the locality, or allow the question to stand over for future solution, bearing in mind that new factors are likely before long to simplify the problem.

It is very evident, for instance, that if Chicago and other cities on or near the lake frontier, continue to increase in population at the same rate as in recent years, all varieties of timber will greatly increase in value, and the kinds now slighted by the lumberman for want of any profitable market, if growing in territory tributary to the lakes so as to admit of easy transportation, will be an increasingly valuable asset.

Though, as has been said, no two forests are alike, and a great variety of special conditions as to soil, climate and location may create frequent divergencies in the result, yet the evolution of an ordinary pine forest can easily be traced in its broad general outlines. The rocky and broken region of Central Ontario, the same style of country in Wisconsin, and Minnesota, with the gravel ridges and sand flats of Michigan, are peculiarly the home of the pine tree. No doubt large quantities grow in New York, Pennsylvania and the North-eastern States, but were found more as existing among the hardwoods which the soil was better fitted to nourish than as the prevailing forest type. Its adaptability to the districts where it specially flourishes and predominates, is shown by its power to maintain itself and thrive in conditions adverse to other species. While it grows on rich soil and attains its greatest proportions alongside the hardwoods, it will flourish where its roots are only embedded in the fissures of rocks or amongst the disintegrated blocks and debris at the foot of escarpments where hardwoods could only survive as stunted bushes.

FOREST EVOLUTION.

The prominent features in the evolutions of a pine forest can be seen in its various stages in almost any pine district. While a pine covered tract is overrun by one of the frequently recurring fires to which all coniferous forests are liable, it will usually be found that here and there a tree or a small group of trees has been spared by some favoring circumstance.

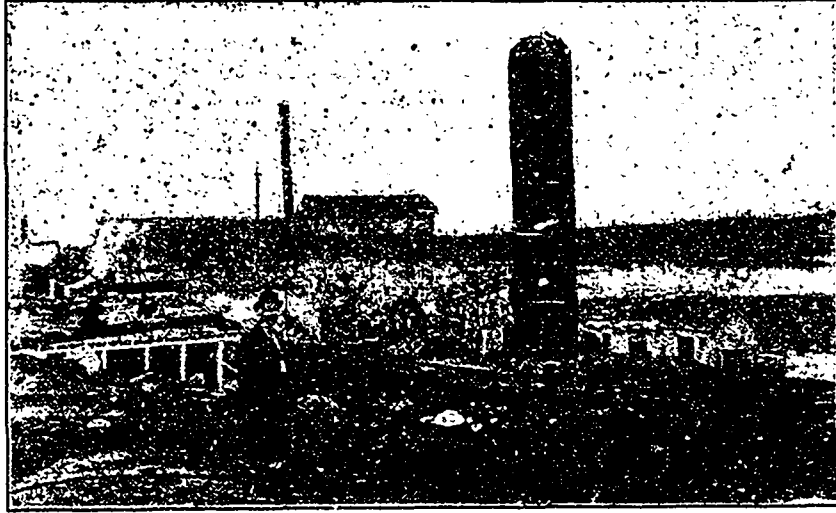
What then takes place is that the ground is first seeded by poplar and white birch, trees which are very widely distributed and each year shed immense quantities of seed well adapted by their structure for being carried long distances by the wind. The seedlings of these varieties spring up immediately and during their earlier years grow rapidly, covering the burned over ground. Conifers, on the other hand, do not bear seed every year and are not so prolific.

White pine, so far as has been observed, seeds irregularly perhaps every third or fourth year, so that as a rule the deciduous trees which have seeded first hold possession, get a good start and commence to shade the

soil, making an ideal condition for the growth of young pine. When a seed year for pine comes round, then those trees left in the district will distribute their seed and seedling pines begin to make their appearance among the varieties already growing. Finding the requisite amount of light and shade amongst the poplars, they grow up under these favorable circumstances as forest trees, shedding their lower branches as they grow older owing to the close neighborhood of the older trees and shooting upward rapidly.

It is a matter of common observance that pine growing up without shade progresses more slowly, as the main strength of the tree is put forth in developing the branches, which expand at the expense of the stem. The restriction of space in the forest, however, promotes the upward growth as the trees struggle towards the light. If a sufficient number of parent trees have been left to cover the ground fairly with a young growth, then commences a conflict for existence between the rival occupants of the soil. It will be generally found that in say from twenty to thirty years after the new growth began the tallest pine and poplar are about equal in height, but after this period the struggle is very uneven.

The pine will so completely overmaster the poplar that in about thirty years more hardly a poplar or a birch will be left alive, except it may be where pine has not seeded or some other variety is disputing possession. Of course the process indicated is liable to be modified or reversed by conditions in which other varieties of forest vegetation are introduced, especially in wet or swampy places



GRAVENHURST MILL OF THE LONGFORD LUMBER COMPANY.

which will be occupied by the trees best fitted for such surroundings. When a forest of pine once fairly covers the ground its life may with care and attention be continued indefinitely, adding yearly by its growth to the wealth of the country, besides exercising other valuable functions in the economy of nature.

RATE OF GROWTH

The rate of growth of pine trees is a question of great interest to all concerned in silviculture, and as has been pointed out, the answer depends greatly upon varying local and individual considerations. As a general rule, however, any lumberman can testify that having cut the merchantable trees in a pine forest, leaving the smaller growth, he can, if fire is kept out, go back in twenty years and take another crop, not so large, it may be, as the first, yet sufficient to pay him handsomely for the operation.

The rate of growth of any given tree can easily be determined by counting the rings denoting the annual increase, the history of the life of the tree being thus written on the cross section.

The question of how far pine seed will distribute itself is more difficult of solution. After many observations conducted in different districts we are still unable to say how far a pine seed may be carried. Obviously it depends on the position of the tree and the strength of the wind. If the parent tree stands in a hollow or even on level ground surrounded by other trees, it cannot fly very far, but if situated on a ridge or mountain—a situation much affected by pine trees—the seed could be carried a long distance. The structure of the seed is peculiarly fitted for this, as the kernel is light and attached to a broad sail of thin texture. When the cones open in the

fall of the year on a tree high up on a hillside, and the seeds become detached from the cone which is most likely to occur in a violent windstorm, they may be whirled a great distance. It is only on this assumption that the appearance of young trees springing up a mile or two from where any parent tree may be seen, can be accounted for. This will apply to all conifers, though more frequently noticeable as regards pine, as the latter are more generally found occupying high and sterile ground, where they can maintain themselves better than the other varieties.

Reference has been made to the effects of fire as regards re-forestation. When a district has been burned over once the utmost care should be taken to prevent another visitation. The deliberate or careless setting of fire in a forest should be a criminal offence. A second fire occurring soon after a first is very detrimental to the soil, besides killing off such young trees as may have appeared in the meantime. And if fire sweeps the same locality again and again, as in that part of the township of Burleigh visited by the Commission in 1897 it will leave nothing but a howling wilderness, a veritable barren land that will require generations to recover any degree of fertility.

While precautions are being wisely taken by the Government of Ontario, through their fire ranging system, to prevent forest fires, it by no means follows that fire should never be used. As has already been shown, fire is, under certain circumstances, the best and cheapest agency that can be used in preparing the ground for another forest crop. The soil is often thickly covered with moss, needles, leaves, old trees and dead branches, in addition to the debris left by the lumbermen, that it is difficult for seeds to come in contact with the ground.

THE LONGFORD LUMBER COMPANY.

AMONG the prominent manufacturing firms of North Ontario is the Longford Lumber Company, of which Mr. Wm. Thomson is president and general manager. The mills at West Gravenhurst, commonly known as the "White Mills," are located on the Northern Division of the Grand Trunk Railway, which affords the company excellent shipping facilities. The company have been fortunate in having associated with them Mr. F. S. McNab, who superintended the building of the mill in 1887, and it is largely due to him that the present complete system is being carried on.

The capacity of the mill is from 80,000 to 90,000 feet per day. It is equipped with all the latest and most improved machinery. There is a brick engine and boiler house containing two large engines. The saw mill equipment includes two Prescott band mills, the band saws manufactured by Shurley & Deitrich, of Galt, Ont. The company have their own fire protection, consisting of two large pumps, which keep the tanks supplied with water. There is no handling of waste, as it is carried by tramways to the refuse burner. A large tug boat is used for towing logs to the mill, etc. The company also have mills at Longford, Ont. A view of the mill at Gravenhurst is shown on this page.

REBATE ON EXPORTED TIMBER.

THE government of British Columbia has given notice that the order-in-council of the 1st of March, 1907, allowing a rebate on all lumber exported beyond the limits of the province, has been rescinded. There is a royalty of 50 cents per one thousand feet charged by the government on timber, but since the order above referred to has been in force, a rebate of one-half this amount was allowed when the lumber was exported from the province. This rebate has now been expunged.

Many lines of shafting require much more power to run them than is actually necessary, because heavy machinery has been located on the floor above, thus causing it to settle and throw the shafting out of line. For this reason adjustable hangers are much preferable to the old-fashioned, non-adjustable kind.

CHINESE SAW MILLS.

The accompanying illustrations of a Chinese saw mill and planing mill are reproduced, by permission, from the Scientific American. If these are representative of the wood-working industry in China, we may expect a wonderful revolution in the event of the division of the country by the European powers.

REPORT OF THE ONTARIO FORESTRY COMMISSION.

The final report of the Ontario Forestry Commission, appointed by the Ontario govern-



A CHINESE SAW MILL.

ment to report on the subject of restoring and preserving the growth of white pine and other timber upon lands in the province, has been issued. This commission, which presented a preliminary report in the spring of 1898, is composed of Messrs. John Bertram, E. W. Rathbun, Thomas Southworth, J. B. McWilliams, and Alexander Kirkwood.

Accompanying the report is a map prepared by Mr. M. J. Butler, C.E., showing the location of the arable and forest lands of the province.



CHINESE CARPENTER PLANING A LOG.

The general principles of forestry are first explained. It is stated that the problem of reforestation is greatly simplified when it is understood that all that is really required to be done in most cases to secure a certain, if somewhat tardy restoration of the original forest growth is to allow the reproductive energy of Nature to have full play, with immunity from fire. Then follows a description of the three forest divisions of the province, with such suggestions for reforestation as seem to be demanded by the peculiar conditions of each. The report con-

cludes with the following summary of recommendations :

1. A large portion of the central division of the Province is more profitable from the standpoint of public revenue as forest land than under cultivation for farm crops, and as in addition to this it contains the head waters of all our principal streams, all that part of this division found upon examination to be not well adapted for farming should be added to the permanent Crown forest reserves.
2. All licensed and unlicensed lands held by the Crown where tourists, lumbermen or prospectors are permitted, should be patrolled by fire rangers, and these rangers should be controlled directly by the government.
3. Suitable regulations should be enforced to prevent too rapid or too close cutting upon lands under license.
4. No license in arrears for ground rent should be renewed, but the territory, if not suitable for agriculture, should be added to the forest reserves.
5. Fire notices in the English, French and Indian languages should be posted along the canoe routes throughout the territory north of the height of land.
6. License holders should not be allowed to cut any trees for logs smaller than will measure twelve inches across the stump two feet from the ground, except by special permission from the Department of Crown Lands and under the supervision of the district forest ranger.

SUCCESSFUL LOG CULLERS.

At the examination for cullers held recently by the Ontario government at Arnprior, there were sixty-three candidates, fifty-two of whom were successful. They were : Arch.

Milne, Patrick McClary, Wm. Cuthbertson, Thos. J. Armstrong, John A. Yuill, John McIntyre, Patrick McCart, Francis Learmonth, George Bremner, E. J. Pountney, John Graham, John Carty, Wm. Mulvahill, A. E. Price, John A. Carpenter, A. Trowse, Jas. Lindsay, R. J. Duff, Webster McCallum, Arnprior; Patrick Gorman, Eganville; Wm. Ryan, Killaloe; John A. Yuill, J. H. Findlay, Donald Carmichael, Braeside; Conelius Scully, John H. McGonigal, Whitney; Angus McNab, Burnstown; Arch. McNab, Jas. Donlevy, Jas. L. Lagree, Calabogie; Chas. Duvall, Half Way; Arthur Murphy, Ottawa; Eutrope Savoy, North Bay; C. H. McColgan, Quyon, Que.; James Fraser, Renfrew; John Pigott, A. C. Brown, Fitzroy Harbor; Daniel Thompson, Portage-du-Fort; Robt. E. McCagherty, Ed. A. Taylor, Westmeath; Jacob Mayhew, Northcote; Samuel Bromley, Geo. A. Griffith, C. L. Russell, Henry Kenning, Pembroke; J. F. Pressley, Ashton; Michael Labelle, Waltham, Que.; Henry Richards, John Lagree, Dacre; Julius Berlanguet, Opinican, Que.; C. T. Young, Harvey; Jas. Sullivan, Aylmer, Que.

THE ST. PETERSBURG STANDARD.

The Lumberman was recently asked to give an explanation of what is known as the "Petersburg Standard," the unit of lumber measurement commonly in use in Great Britain.

Thinking that other readers might be interested in the subject, we will explain that the proper expression is the "St. Petersburg Standard Hundred," the standard being a piece of wood of certain arbitrary dimensions, a gross hundred (120) of these making up the standard hundred. Locally, however, and in trade usage this standard means the amount of material equivalent to that contained in 100 of the standard pieces. The basis of the Petersburg Standard is a piece

of wood 12 feet long, 11 inches wide and 1 1/2 inches thick. This contains in American board measure 16 1/2 feet, so that 120 pieces, or a gross hundred of them, contain 1,980 feet, board measure. This latter is easily committed to memory. It lacks but twenty feet of being 2,000 feet board measure. The St. Petersburg Standard, however, is not the only standard, so-called, and to illustrate this matter we print the accompanying table showing the different standards in use.

Name	No. of Pieces.	Dimensions	Equivalent in Feet B M
St. Petersburg Standard	1	12 ft. x 11 in. x 1 1/2 in.	16 1/2
St. Petersburg Standard Hundred.	100	12 ft. x 11 in. x 1 1/2 in.	1,980
London or Dublin Standard.....	1	12 ft. x 9 in. x 3 in.	27
London or Dublin Standard Hundred....	100	12 ft. x 9 in. x 3 in.	2,700
Christiana Standard	1	12 ft. x 9 in. x 1 1/2 in.	10 5/8
Christiana Standard Hundred.....	100	12 ft. x 9 in. x 1 1/2 in.	1,058 1/8
Drammen Standard	1	9 ft. x 6 1/2 in. x 2 1/2 in.	12 3/16
Drammen Standard Hundred	100	9 ft. x 6 1/2 in. x 2 1/2 in.	1,231 4/16
Quebec Standard	1	12 ft. x 11 in. x 2 1/2 in.	27 1/2
Quebec Standard Hundred	100	12 ft. x 11 in. x 2 1/2 in.	2,750

We do not know the exact proportion, but the Petersburg standard is applied to the measurement of by far the largest portion of material coming from this side of the water. It is, however, used only for boards, deals and plank, timber being reckoned by the cubic foot or by loads or tons, a load being fifty cubic feet and a ton forty cubic feet, determined by string or caliper measure, the latter being a disadvantage to the buyer of from 4 to 9 per cent. American Lumberman.

HIGHEST AWARD FOR SCHOOL DESKS.

A great honor has been conferred on The Canadian Office & School Furniture Co., Limited, of Preston, Ontario, by the award at the Paris Exposition of a silver medal for school desks. The exhibit was made at the instance of the government to supplement the educational display. The silver medal is the highest award which could be given by the judges, and the fact that a Canadian firm has secured it is a matter of congratulation. The desks shown by the firm have attracted general attention, and, in consequence, a number of applications for price lists and samples have, we understand, been received from all parts of the world.

THE GRAND PRIZE.

Mr. Carl Zeidler, the well-known importer and exporter, of Toronto, has received advice to the effect that his exhibit has participated in the Grand Prize awarded to Canada for the best display of natural woods at the Paris Exposition. Mr. Zeidler had a most attractive exhibit of polished woods suitable for the manufacture of pianos and other like purposes. They were tastefully arranged in a case, and consisted of eighteen pieces, including hard maple planed, bird's eye maple, soft maple, soft elm, white and black ash, quarter cut and plain white oak, quarter cut and plain red oak, white and brown basswood, red and curly birch, cherry, butternut and white pine. That his exhibit attracted much attention is proven by the fact that Mr. Zeidler has received several communications from European firms asking for quotations on stock, and referring at the same time to his exhibit at Paris. One of these enquiries comes from Belgium, another from Germany, and another from England. Among the stock asked for is maple, 24x6x6, to be used for rolls for mangle machines, and white maple and other hardwoods for making small woodenware.

In the seven months ended July 31, 1900, the United States imported wood pulp to the value of \$1,654,383, as against \$387,042 for the corresponding months in 1899. It will be seen that there is a remarkable increase in the imports of pulp.

The August number of the "Timber News and Saw Mill Engineer," of London, England, was a special issue devoted to the forestry exhibits at the Paris Exposition. The exhibits of the different countries are described and illustrated, making a number very creditable to the publishers.



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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 for a 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 anyway 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.

IMPORT DUTY ON LUMBER.

THE question of an import duty on United States lumber coming into Canada was again brought up at a meeting of the Lumbermen's Association of Ontario held last month. As on previous occasions, strong sentiments were expressed in favor of such a duty. One of the members was delegated to communicate with the Premier, and upon the nature of the reply of the latter will depend the course of action to be adopted. It is probable that a meeting of the Association will be called for the specific purpose of outlining a policy.

The Lumbermen's Association of Ontario have resolved to work out their own salvation as an association of lumbermen, apart from political questions. The Association is responsible for the legislation now on the statute books of Ontario prohibiting the export of sawlogs, the practical working of which has been commended on all sides. It is not going too far to say that they will eventually meet with equal success in their demands for an import duty on American lumber.

The lumbermen desire simply to be placed on an equal footing with their competitors across the border, who are now permitted to send their lumber into Canada free of duty, while Canadian lumber shipped to the United States is subject to a duty. The free interchange of forest pro-

ducts is asked. If the United States is not disposed to treat with us on a fair and liberal basis, the disposition to increase the general tariff of the Dominion, and give a still greater preference to Great Britain, will gain strength. This would shut out much of the manufactured goods imported from the United States, without affecting the imports from Great Britain.

UNCERTAINTIES OF THE LUMBER BUSINESS.

THE lumber business is, we believe, fraught with greater uncertainties than any other branch of commerce. Naturally, therefore, we find at the head of our great lumbering concerns men of wonderful physique and strong mental powers, capable of wrestling with the perplexing questions which are constantly arising in the conduct of their business.

Perhaps the first great risk which is encountered is the possibility of loss by fire devastating the timber limits or consuming the mill or manufactured lumber. An instance of this was the fire at Ottawa last spring, by which saw mills and millions of feet of lumber were destroyed.

For successful operations in the woods, lumbermen are entirely dependent upon the goodness of Providence to give such weather conditions as will permit of making suitable roads for hauling the logs to the streams. When this is accomplished, there remains the further probability of having the logs hung up, owing to an insufficient supply of water for rafting purposes. As with all large employers of labor, more or less difficulty is encountered from labor troubles, although it must be said that in Canada, in late years, the relations between lumbermen and their employers have generally been of a friendly character.

The above are conditions which each year exert an influence in lumbering operations. The present year has brought about other difficulties with which the lumbermen have had to contend. The price of lumber advanced sharply last year, and the current year was entered with strong hopes that it would prove to be one of prosperity in the trade. This has been realized only in part. Since the early spring freight rates have been steadily advancing, and at the present time are fully fifty per cent. higher than they were six months ago. The freight from Montreal to a British port is now about \$10 per thousand feet of lumber. The result is that lumber cannot be placed in foreign markets at a reasonable profit, and shipments are being held over until next spring.

A still greater problem which confronts lumbermen is the labor question. It has been found almost impossible to get men for the camps, and it is feared that the production of logs this winter will be curtailed on this account. The scarcity of woodsmen cannot easily be explained. The average rate of wages in Ontario is about \$26 and board per month, while in Michigan it is said that as high as \$30 is being offered without securing the desired number of men. These wages are as high, if not higher than those paid in previous seasons when the same difficulty was not experienced. It would seem that workmen are not altogether fond of camp life, and that they prefer the attractions to be found in the more cultivated and inhabited districts of the country.

THE FOREIGN TRADE OF CANADA.

ALTHOUGH not pertaining specifically to lumbering, no apology need be offered for referring in these columns to the remarks of some of the speakers at the recent banquet of the Canadian Manufacturers' Association in Toronto, inasmuch as the subject of foreign trade received much attention, and many of the suggestions offered are equally applicable to all branches of industry.

Hon. G. W. Ross, Premier of Ontario, spoke strongly of developing our export trade in manufactures. We have as great facilities for manufacturing in this country as any country in the world, especially in connection with our mineral and forest resources, and he believed we had sufficient energy and skill to multiply the products of the mine and forest one-hundred fold in the next twenty-five years.

The statement was made by Hon. Mr. Patterson, Minister of Customs, that during the fiscal year ended June 30th, 1900, the total imports and exports of Canada would be over \$370,000,000. He said that henceforth monthly reports would be issued, showing the exports and imports, as compiled from the trade and navigation returns.

The address of Mr. Massey, President of the Massey-Harris Company, was entitled "Practical Points on our Export Trade." Mr. Massey pointed out that the ability of our manufacturers is largely measured by the cost of raw materials and transportation. There was no doubt as to our supply of raw materials, but that our foreign shipping facilities are not what they should be was very manifest. He urged that something should be done to provide better shipping facilities from the ports of the St. Lawrence.

Treaty relations were then touched upon. It was no doubt information to many to learn that by virtue of a treaty between England and France, in which Canada does not participate, English manufacturers are enabled to lay certain of their products down in France at a much lower rate of duty than those coming from Canada, and that a similar treaty has recently been negotiated between France and the United States, giving the United States manufacturers the same privilege as manufacturers in England. He understood that a similar treaty was being negotiated between the United States and Germany. These treaties will have the effect of giving the manufacturers of other countries a great advantage over those of Canada, and it is the duty of our Government to endeavor to remedy this discrimination.

Mr. Massey pointed out that two mistakes were frequently made by the seeker after export trade, first, the supposition on his part that the foreign market will readily take a surplus stock which may be a little out-of-date or inferior in quality; second, the mistake of cutting prices. He said that the foreign buyer generally takes the price as the criterion of the quality of the goods, but, of course, the goods must be of a quality to merit a good price or it cannot be obtained.

Foreign exhibitions, to Mr. Massey's mind, are more useful in the direction of opening the exhibitor's eyes to the possibilities of trade in the territory which he visits in attending the exhibition, than as an advertisement of the manufacturer's goods. While this may be true in respect

the particular of goods which Mr. Massey manufactures, we do not think that it will apply every case. A proof of this, it might be mentioned that some of the Canadian exhibitors of wood products at the Paris Exposition have already received communications which promise to result in the placing of orders. We are quite in accord with the statement of Mr. Massey that it is necessary for the prospective trader to learn the needs and conditions of the territory in which he desires to operate, and that it is easier to begin by giving the people what they want than to persuade them to take what you have, with the object that you may gradually educate the foreigner to take the class of goods used in this country.

MARINE INSURANCE

The prevailing high rate of marine insurance from Canadian ports has again been taken up by the Montreal Board of Trade and City Council. The discrimination against Canadian ports is believed to be out of proportion to the risk involved, being one per cent. to the first of September and two per cent. after that date. Hon. R. R. Dobbell is also working earnestly to secure a reduction in the insurance rates, the responsibility for which, he claims, rests on the constantly recurring losses of deck loads of lumber. His proposal, which has been agreed to by the Lloyd Insurance Company and the English Board of Trade, is that the loading of decks be done under the supervision of an inspector. He maintains that the size of the deck load need not be reduced, but that, on the other hand, under proper inspection, it might with safety be increased, so that the winter steamers would carry about six feet on deck. Some shippers are opposed to inspection, on the ground that it would cause delay and trouble. In any case, an arrangement which would place Canadian vessels on an equal footing with those sailing from United States ports, is much to be desired.

Written for the CANAD. LUMBERMAN.

THE REASON WHY SOME BELTS DO NOT GIVE BETTER SATISFACTION.

By E. H. NEWTON.

We often hear this or that particular brand of belting condemned because it did not give satisfaction. Some men prefer leather for all purposes, while others are partial to some other kind. If we study the conditions under which one belt will work better and last longer than another, we will find that most belts are good if the proper judgment was exercised in their selection for the work they are intended to do. The fact that a leather belt will not last in a damp place or where it is exposed to wet is no reason why the use of leather belting should be discouraged, for under favorable conditions there is nothing better than a good leather belt. On the other hand, if a rubber belt has been run where oil got on it, destroying its good qualities, or the edge has been allowed to rub, against something until it is worn through, allowing the belt to separate, or, as is too often the case, the belt is too light for the work and a gum or resinous substance is used to make it stick to the pulley—under such conditions good results will never follow, for I know of no better way to destroy the life of a rubber belt than to use oil or gum on it. I have seen the rubber peel clean

off the inside of belts and stick to the pulleys by the use of resin and oil. In many mills incompetence does more to destroy the belt than the work if it was properly adjusted and cared for.

I once knew a man to use up five leather belts in succession in one season, where water was allowed to get on them. The next season a rubber belt was put on the same place and covered so that it was kept dry, and at the end of the season it was nearly as good as new. Had this precaution been taken when the first leather belt was put on the result would have been equally satisfactory.

Much care should be exercised in selecting belts heavy enough to transmit sufficient power without being run too tight. If a wide belt cannot be used and a narrow one is not able to do the work, increase the diameter of the pulleys proportionately and you will overcome the difficulty. When a thick belt is run at high speed over a very small pulley with unfavorable results, if a wider and thinner belt cannot be used, increase the pulleys also, and note the improvement.

The lacing has quite a lot to do with the life of a belt, as when a belt is not properly laced the holes soon tear out, destroying the belt. I lace in three different ways for three different kinds of belt, namely, very thick, medium to thin, and crossbelts. Thickbelts, being usually run on large pulleys, work well with the straight lace. Thin belts on smaller pulleys work best with what I call the interwoven lace, as laced in this way the holes never tear out. But for a cross belt, rubber or leather, I prefer the lacing known as the "boot-leg," as the lace cannot wear when the belt rubs together, and laced in this way any cross belt will work well.

AMERICAN LUMBER IN GERMANY.

MR. E. L. HARRIS, United States Consular Agent at Eibenstock, reports to his government on the prospects of extending the trade in lumber with Germany. He says:

"The kinds of foreign lumber which find a ready sale in Germany are black walnut, poplar and oak. The logs which the sawmills buy readily are usually not less than 24 inches, but run to 3 to 4 feet in diameter. The length is from ten to seventeen feet. The logs should have as few knots and as little sap as possible. Last fall such logs brought, c. i. f. Hamburg, about \$17.85 per cubic meter (35.316 cubic feet). The average price of white oak lumber of 2 inches, 1 3/4 to 1 1/2 inches in thickness, and 6 to 11 and 12 inches in width, in Hamburg and Bremen last fall was 60 cents per cubic foot. The price of poplar lumber is about the same. If our exporters would only put the very best lumber on the market in Germany, much higher prices would be realized."

"The inland cities of Germany are capable of consuming much more lumber than at present. This is especially true of logs. I personally know of German sawmill owners who would cheerfully give space and shelter gratuitously to any American firm of exporters who would be willing to keep a stock of first-class logs on hand. They themselves would at once buy large quantities. The American consignor would be at liberty to sell to anyone else in the Empire. The best policy would be to appoint

some responsible agent to take charge of the stock and sell for 5 per cent. commission."

During the calendar year 1898, German statistics give the following figures on importation of wood from the United States:

Description.	Quantity.	
	Kilograms.	Pounds.
Wood for building and manufacturing, in the log ...	21,797,300	48,054,328
Oak dowels.....	32,411,800	71,455,054
Hardwood:		
In the log.....	7,289,700	16,070,668
Sawed.....	72,400	159,613
Timber and lumber sawed.....	300,452,900	662,378,667
Cedar.....	1,684,400	3,713,428

The following is extracted from a letter written by a merchant in Hamburg:

"The modes of payment are generally as follows: The importers on this side generally pay from 50 to 75 per cent. of the invoice value on receipt of the documents, and after having inspected the lumber in order to satisfy themselves that the shipment is in accordance with the order. Lumber merchants in Hamburg who are not sharp, however, have suffered considerable losses from shipments for the following reasons: They ordered lumber from the United States, received the documents, paid one-half or three-fourths of the invoice value, inspected the cargo after having paid for the same, and then found that the lumber was not in accordance with the order. They had to sell the best they could, experiencing loss in order to cover the same, being obliged to bring suit against the firms in the United States, and, in every case I have come in contact with, the parties in Hamburg have been losers. This is caused by the expenses connected with the suit or by the firms in the United States compromising in such a manner that the firms here were obliged to accept the compromise. I know of one case in Hamburg in which the firm has lost about \$14,280 in this way."

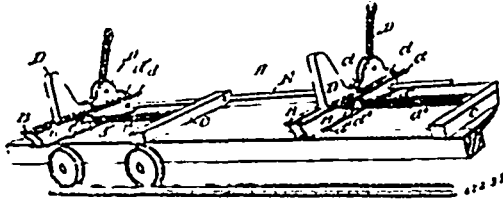
BRITISH COLUMBIA LUMBER SHIPMENTS.

The following vessels sailed from British Columbia ports, lumber laden, for foreign destinations, up to Aug. 31st, 1900:

Vessel	Sailed	From	For	Cargo-ft
Estona	Jan. 9	Moodyville	Valparaiso	788,319
Guy C. Cox	Jan. 19	Hastings	Philadelphia	1,306,625
Alicar	Jan. 19	Moodyville	Callao	922,307
Fred J. Wood	Jan. 24	Esquimaux	Santa Rosala	14,440
Antofagasta	Feb. 28	Chemainus	Antofagasta	820,454
Errol	Mar. 10	Hastings	U. K.	1,067,195
Creedmoor	Mar. 30	Chemainus	U. K.	1,156,540
Star of France	Mar. 20	Hastings	Sydney	1,180,193
Silo	Mar. 31	Chemainus	U. K.	1,186,308
Adderly	April 5	Moodyville	Sydney	1,080,349
Wrestler	Mar. 31	Chemainus	Melbourne	574,632
Renee Rickmers	May 7	do	U. K.	1,820,956
Glenalvon	May 11	do	London	1,872,368
Caesar	April 27	Hastings	U. K.	1,314,450
Fred J. Wood	May 11	do	Kobe	785,205
Ilandaneira	May 25	do	U. K.	1,581,925
Glenasil	May 25	Chemainus	Cape Town	1,425,972
Peru	June 14	do	Cork	1,800,382
Falls of Garry	June 4	Moodyville	Sydney	1,655,847
Arnold	June 6	Hastings	Newcastle, Eng	632,617
Onaway	June 26	Port Moody	Adelaide	687,353
Dehance	June 22	Conowichan	Santa Rosala	1,101,335
Drumnuir	June 27	Chemainus	Melbourne	1,508,610
Sonoma	June 21	Hastings	Melbourne	720,712
Lakemba	June 25	do	Iquique	800,968
Senator	June 29	Moodyville	Callao	1,074,518
John T. Tallant	June 20	Hastings	Guayaquil	327,995
Emilie	July 31	Chemainus	U. K.	1,393,217
John Smith	July 25	N. Westminster	Nagasaki	673,447
Tartar	July 7	Hastings	Hong Kong	449,022
Corona	July 20	Chemainus	Santa Rosala	76,701
Garibaldi	July 20	Moodyville	Callao	410,075
A. J. West	July 18	Cowichan	Santa Rosala	14,110
James Drummond	Aug. 13	Chemainus	Sydney	1,104,711
Maria	Aug. 20	Moodyville	London	1,312,375
Hustle	Aug. 29	Moodyville	Freemantle	942,443
Chas. F. Cocker	Aug. 15	Hastings	Sydney	880,405
Bertha	Aug. 15	Moodyville	Valparaiso	673,335
Wm. D. Foster	Aug. 11	Chemainus	Australia	887,130
Elwell	Aug. 8	do	Cape Town	1,099,574
Hesper	Aug. 24	do	Melbourne	799,059
Elena	Aug. 29	Moodyville	Callao	351,198
J. B. Thomas	Aug. 31	Chemainus	Adelaide	1,442,465
Nymph	do	Chemainus	U. K.	
Louisiana	do	Hastings	Melbourne	
William H. Smith	do	Moodyville	Sydney	
Lindfield	do	Hastings	London	
An. Miral Tegethof	do	Chemainus	Antofagasta	
Wilhelmine	do	Hastings	South Africa	
Nixe	do	Moodyville	London	
Marian Chilcott	do	Chemainus	Adelaide	
Lowwood	do	do	South Africa	
Ivy	do	Hastings	Shanghai	

RECENT PATENTS PERTAINING TO LUMBERING.

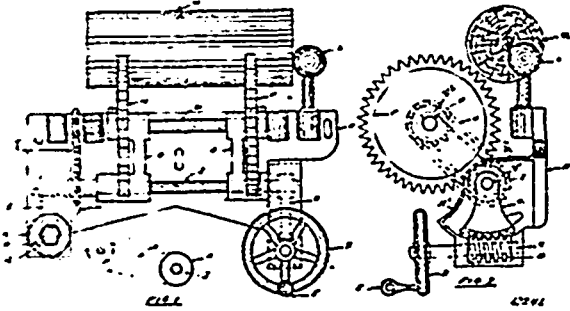
Patents have recently been granted by the Dominion Government for the following devices of interest to lumbermen.



SAW MILL.

Patentee: S. W. Butterfield, Three Rivers, Que., granted 9th May, 1900; six years.

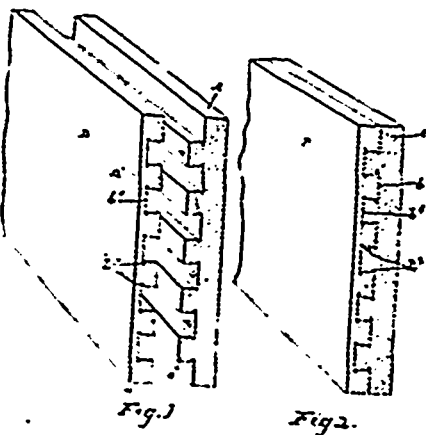
Claim: In set-saw works, an attachment for preventing slack motion comprising a set knee slidably mounted upon suitable set blocks, a rack bar secured to said set knee, a shaft fixed at one end to the set blocks and at the other end to a suitable beam, a pinion loosely sleeved on said shaft and engaging said rack bar, a collar fixed to said pinion and a coiled spring mounted upon said shaft and secured at one end to said collar and at the other end to said beam, substantially as described.



LOG-TURNING DEVICE.

Patentee: A. G. Campbell, Sherbrooke, Que., granted 9th May, 1900; six years.

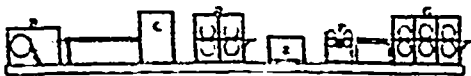
Claim: In a log turning attachment for pulp wood barkers, a shaft held in suitable bearings, arms or brackets fastened to said shaft to form bearings for a shaft, to which wheels are fastened which revolve the blocks while being peeled. The combination of a frame, a bracket with stud fastened to said frame, an idler pulley made to revolve on said stud and a box, cast or bolted to said frame, which forms a reservoir for oil, bearings for main driving shaft to which pulley and worm are attached, which latter meshes into worm gear and imparts motion to operating parts, etc.



LUMBER MANUFACTURE.

Patentee: David Gilmour, Trenton, Ontario, granted 11th May, 1900; six years.

Claim: As an article of manufacture, lumber composed of two tongued and grooved parts, the tongues having plain faces and the grooves having small lateral grooves, with the fibre of the tongues pressed laterally therewith, substantially as described.



METHOD OF MANUFACTURING LUMBER.

Patentee: David Gilmour, Trenton, Ont., granted 11th May, 1900; six years.

Claim: The hereinbefore described process of forming

lumber composed of two parts tongued and grooved to fit each other, said process consisting in first applying glue or cement, placing the two parts together with the tongues and grooves interlocking, and afterwards passing these parts so interlocked between heated rolls, longitudinally of the fibre of the lumber, and thus subjecting the parts to heat and pressure, successively from end to end, whereby the moisture is expelled, the surface condensed and finished, and the parts united and welded together, substantially as described.

S. W. Butterfield, of Three Rivers, Que., has also been granted a patent on a machine for removing the bark from slabs of wood for pulp making purposes, and for a resawing machine. Arthur Demers, of St. Julien De Wolfstown, Que., has secured a patent for a saw frame, and Jos. Moreau, of Forestdale, Que., for a rossing or barking machine.

THE OTTAWA VALLEY.

(Correspondence of the CANADA LUMBERMAN.)

The Canadian Underwriters Association has written the Ottawa fire insurance agents to the effect that rates on lumber in Ottawa are to be increased by one-half and three-quarters per cent. This means that the lumbermen piling within the city limits will have to pay \$2.50 and \$2.75 per hundred, where formerly they were only called on to pay \$2. Following on the recent heavy increase in mercantile risks, the addition on lumber means an enormous tax on the city. It is admitted that the fire protection afforded in Ottawa is inadequate, and for some time there has been an agitation for another steamer. The Chaudiere lumbermen, who have a steamer and large quantity of hose, may also strengthen themselves in this particular. If this is done, the rates may be reduced, but in view of the heavy losses incurred in April's costly fire, it is not likely that the insurance companies will take such steps for some time to come. The lumbermen feel that the increased tax is an unjust one, claiming that the lumber piles were not responsible for the spread of the recent fire. As a further preventive against fire, the city council has passed a by-law restricting the piling of lumber in certain districts. This, the lumbermen state, hampers them, but they submitted, only to receive a further handicap.

Ottawa may have a large pulp mill ere long to replace one of the Chaudiere lumber industries wiped out in April's fire. Mr. H. K. Egan, of the Hawkesbury Lumber Co., and Mr. W. C. Edwards, M. P., of the firm of W. C. Edwards & Co., have secured the water power and property on which the Hull Lumber Co.'s mill stood. The purchase price is stated to be \$150,000. As yet the gentlemen interested have made no definite statement regarding the disposal of the property, but the scheme of a large pulp or saw mill is freely spoken of.

Recently eight firms operating large mills in the Ottawa Valley gave tangible evidence of their appreciation of the faithful service rendered by their employees. The employees of the W. C. Edwards Co., Rockland, to the number of 1200, took advantage of the courtesy and favor extended by the firm, and visited the Central Canada Fair in this city. The trip was made by special train over the Canada Atlantic Railway, and each excursionist was furnished with a railway ticket, giving transportation both ways. They were also provided with street car tickets and enjoyed a trolley ride around the capital. Tickets giving the employees free admission to the fair grounds were also supplied, and in the evening they occupied free seats on the grand stand and witnessed the reproduction of the battle of Paardeberg. The return trip was made to Rockland at midnight, and needless to say, the excursionists voted the day an entirely enjoyable one. By a similar arrangement the employees in McLachlin Bros. mills at Amprior made the trip to the capital on two special trains over the Canadian Pacific Railway on the same day, visiting the fair and viewing the city as the guests of the well-known firm. There were 1595 excursionists on this trip. On Friday the employees of the Maclaren estate, operating large mills at Buckingham, and those of the Ross Bros. Estate, of the same town, were carried to the capital and its fair, over the Canadian Pacific Railway, on two special trains. All arrangements were made by the firms, which provided railway fare, exhibition tickets, etc., to each excursionist. There were on board 600 employees of the Maclaren Estate and 500 of the Ross Estate. Wednesday was proclaimed a holiday at the Chaudiere mill, and the employees of Mr.

J. R. Booth's mills and the Hull Lumber Co. the number of 2500 visited the fair. On the next day, Hull's civic holiday, the employees at E. B. Eddy Co.'s mills, in course of the workers at Gilmour & Hughson's mill, the opportunity of visiting the fair. Last year first one on which an outside firm extended the of an outing to their employees. The example by McLachlin Bros., of Amprior, and it is likely will be established as an annual fixture by the firms. Nearly \$1,000 was expended by the few firms in fair tickets alone. In this, a memorable strikes and labor troubles, the action of the has a special and healthy significance. The holds a great concession and boon, coming as it did midst of the busy season, when most of the working night and day. The following gentlemen known in lumber circles, accompanied the excursion: Messrs. Alexander Maclaren, J. E. Vainlee, manager A. O. Anderson, bookkeeper of the Maclaren estate, all of Buckingham; Claude McLachlin, Amprior, and Messrs. W. Yule and Manon, of the Edwards Co., Rockland.

Mr. George Millen, mechanical superintendent of E. B. Eddy Co., has the honor of being the first to traverse the well known Gatineau lumber regions in an automobile. Mr. Millen made the trip on a newly purchased American machine, scaling hills that defy the average bicyclist.

Mr. E. B. Eddy, head of the firm of E. B. Eddy & Co., last week celebrated his seventy-third birthday. Eddy, who is hale and hearty, is personally supervising the rebuilding of his extensive establishment, and received many congratulations on his birthday from friends in the lumber and other businesses.

The death occurred a few days ago of Mr. C. Hurdman, a well-known resident of Hurdman's Bay near Ottawa. Deceased was the father of Mr. C. Hurdman, of the lumber firm of Hurdman & Elgin, brother of Mr. Robert Hurdman, a prominent figure in Ottawa lumber circles.

It has been repeatedly rumored that Mr. J. R. Booth, the lumber king, was going to erect a large plant at the Chaudiere, near his present sawmill. Mr. Booth states his intentions in the matter are not yet definite. The property used will be the site of the McKay & Co.'s mills, destroyed in the great fire.

PERSONAL.

The marriage was celebrated at Powassan, recently, of Miss Ray Brown and Mr. W. Trezou, mill owner of that place.

The death took place recently of Mr. Chas. F. W. man, of the well-known lumber firm of Miller & W. man, St. John, N. B.

Mr. A. M. Regan, of Regan & Nickels, lumber merchants, Toronto, has moved into his new home, Huron street, which he has recently purchased.

Mr. Wm. Thompson, of Orillia, president of the Lumber Company, is receiving the congratulations of his friends on his recent marriage to Miss W. Newmarket.

Mr. George Mawson, of London, Eng., was a visitor at the office of the CANADA LUMBERMAN. Mawson purchases pulp and paper, and also acts as a selling agent in Great Britain for Canadian manufacturers of these products.

Mr. John Stewart, president of the Maritime Soft Fibre Company, of Chatham, N.B., and Mr. T. R. Usher, of the Riordan Paper Mills Company, of Huron, Ont., were visitors in Great Britain during the month of August.

Mr. Aubrey White, Deputy Commissioner of Lands for Ontario, returned to Toronto a few weeks from a two months' tour on the European continent. White visited the Paris Exposition and speaks highly of the exhibit made by Canada, and particularly of the forestry display.

We regret to learn that Mr. John A. Bertram, of the Collins Inlet Lumber Company, was recently taken suddenly ill at Little Current. Mr. Bertram was employed as lumber inspector in connection with his father's lumber interests. At the time going to press he is considerably improved, with the prospect of a speedy recovery to convalescence.

THE NEWS.

glued-up work for pianos, furniture, cheese box head-ings, etc.

—The British Columbia Mills, Timber & Trading Company write the CANADA LUMBERMAN that there is no foundation for the report that they have secured an order from the British Government for knock-down huts to be used for war purposes.

—A Rat Portage paper says: John Gault, superintendent of Mackey's lumber camps, has returned from an exploring trip through the White Fish River and Macdonell Lake district. He discovered a limit of about fifteen million feet of timber.

—A record cut is reported to have been made in the Berlin Mill Company's sawmills at Berlin, N. H., recently. In eleven hours 221,339 feet of spruce lumber was cut by one band saw, beating the world's record of 158,000 feet made last year by a mill in Maine.

—G. O. Buchanan, of Kaslo, stated recently before a meeting of the associated boards of trade of Eastern British Columbia, held in Nelson, that in the last eight years five times as much timber had been destroyed by fire in the Kootenays as had been cut up in the mills.

—A Vancouver exchange says: J. Clarke, A. Macdonald, and A. Felieu comprise a party of timber cruisers from Ontario who are staying at the Commercial. They are making arrangements to leave here early next week in a sloop on a trip up the coast to locate timber limits.

—Some Toronto parties have made a proposition to the town council of North Bay, Ont., to establish a factory there for the manufacture of veneer packing cases. In consideration of a loan of \$12,000 they agree to erect a factory to cost \$25,000. A Mr. Davidson is the patentee of the invention.

—E. Stewart, Chief Inspector of Timber and Forestry for Canada, returned early in September from a three months' inspection of the timberlands in British Columbia, the North-west Territories and Manitoba. He states that the government has made a grant to grow shelter belts of trees to break the winds of the prairies.

—The Metis Lumber Company is applying for incorporation. The company is capitalized at \$85,000 and the head office is to be at Grand Metis, county of Rimouski, province of Quebec. Those interested include Wm. Price and A. J. Colston, of Quebec; P. G. Owen, of Montreal; Wm. Seale, of Metis, and J. H. Conant, of Watertown.

—Mr. Garden, M. P. P., will endeavor to have the government of British Columbia alter the method of disposing of timber, as the following question appears on the order paper: "Is it the intention of the government to appoint timber cruisers to thoroughly examine the timber lands of the province and to report thereon, with the object in view of setting apart timber berths, to be offered for sale by public competition?" The principle suggested is the one now adopted by the eastern provinces, and which is believed to be the best policy of disposing of timber limits.

—The second preliminary meeting of the British Columbia Forestry Association was held in Vancouver recently. A letter was read from Alex. Philip, in which he advocated the planting, under intelligent supervision, of such trees as larch, oak, ash, elm, etc., and recommended that small grants of money and lands be solicited both from the Federal and Provincial Governments for the purpose. The committee appointed at a previous session to draft a constitution reported. The constitution submitted by them was discussed, clause by clause, and adopted after several amendments were made. The next meeting of the association is to be held in New Westminster during the week of the provincial exhibition.

CASUALTIES.

Nathaniel Kennedy was drowned at St. Stephen, N. B., while engaged in building a dam for McAllister Bros., saw millers.

Fred McIntyre, employed in Chisholm's sawmill at Roslin, Ont., had his left arm severed below the elbow by falling against a shingle saw.

A sad accident occurred in the Rathbun Company's mill at West Gravenhurst recently. After the mill had been closed Chas. Clarke was engaged in disconnecting some steam pipes, when an expansion pipe gave way and permitted the steam in the four boilers to escape, the pressure of steam being about 30 pounds. Mr. Clarke was so severely scalded that he died almost instantly.

TRADE NOTES.

The employees of Chaplin's saw works at St. Catharines, Ont., held their annual picnic last month to Victoria Park, Niagara Falls.

The Mongolia Metal Company, of New York, have opened a new branch office in rooms 411 and 412 Haig Building, Philadelphia.

Messrs. Payette & Co., of Penetang, call attention in the advertisement columns of this number to their machines for the use of lumbermen.

The Dodge Manufacturing Company, of Toronto, have been awarded a bronze medal for their exhibit of wood split pulleys at the Paris Exposition.

The Canadian Rubber Company, of Montreal, have been notified that they have been awarded a gold medal at the Paris Exposition for their display of rubber goods.

The Spicer Shingle Mill Company have overhauled their shingle mill at Vancouver, B.C., and put in a Dunbar upright machine. The mill has now a capacity of 5,000 shingles in ten hours.

P. Payette & Company, of Penetanguishene, Ont., find it necessary to enlarge their buildings and increase their plant. The town council has been asked to grant exemption from taxation on the proposed additions.

Chas. D. Dickinson, the well-known tanner and larrigan manufacturer, of Woodstock, N.B., has completed the changes and improvements to his factory. He has put in some new stitching and eyelet machinery. Recently he filled some large orders for Western Ontario firms, and reports that orders now on hand will keep his factory employed until December. He puts up the Henderson patent larrigan, which may be seen illustrated in our advertising pages. This larrigan, by its peculiar construction, cannot rip, and is much more water proof. It is much in use "down east."

The attention of our readers is called to the advertisement in this issue of the Metallic Roofing Company, of Toronto, manufacturers of all kinds of metal building materials. This company make a specialty of metal shingles and siding for mill covering. Some little time ago the insurance authorities in British Columbia granted a considerable reduction in rates to owners of mills who should cover their buildings with material of this kind. As a consequence, most of the mills in British Columbia, the home of the red cedar shingle industry, are said to be covered with metal shingles. We understand that a considerable reduction in rates is also allowed by the insurance companies in Ontario where mills are covered with material of this kind. In view of this it will probably pay the owners of large mills especially, to enquire into the merits and advantages of this material.

Messrs. W. B. Mershon & Company, of Saginaw, Michigan, have just issued the fourth edition of "The Use and Care of Band Resaws" and their new catalogue combined, and will send a copy on application to anyone interested in band resaws. They advise us that they have just put on the market a new 60-inch band resaw, combining all the improvements of their former machines, but covering a little different field. Recent sales include a special band edger and an Ideal resaw to John Mahan, of Cattleburg, Ky., who has been running one of their resaws in his Saginaw mills for nearly four years, and states that the original saw blades sent with the machine have never yet been broken or cracked. Mershon & Company state that by using a band edger or band rip saw damage suits and accidents would be avoided, as a board cannot fly from them.

A convention of salesmen of the Mongolia Metal Co., at which twenty-five gentlemen from all parts of the United States and Canada were present, was held at the Murray Hill Hotel, New York, on the 6th, 7th, 8th and 10th of September. All subjects appertaining to the sale of Mongolia metal were discussed, the greatest interest in the company's business being manifested. Reports from all concerned showed that the company's business had never, during the past fifteen years, been so prosperous as during the last year and a half, and that the prospects for the future are far better than ever before. The affair wound up by the presentation of a loving cup to Mr. E. C. Miller, the vice-president and general manager of the company. Cables and telegrams from the conference were sent to the London, Paris, Berlin, St. Petersburg and San Francisco offices of the company, and to a number of absent salesmen who could not be present.

McLean has erected a shingle mill at Clover-C.

McCormick, M. P., purposes starting a factory at Sundridge, Ont.

James Potter, late of Walkerton, Ont., has purchased a sawmill in Bentinck township.

S. Schurman, of Southampton, N. S., is sawing with his portable mill for Pugsley Bros.

Wilson, of Kingston, Ont., has installed new machinery for the manufacture of sash and doors.

Livingstone, of Blyth, Ont., whose handle factory was recently destroyed, will probably rebuild in the town of

McKinley Wood Lumber Co., of Parry Sound, are enlarging their saw mill and adding a new sawmill.

It is reported that the Pigeon River Lumber Company of Grand Rapids, Wis., will build a sawmill on the river.

Lachlin Bros., lumbermen, of Arnprior, Ont., this year treated their employees to a free trip to the Kawartha Fair.

Wright, of Thorndale, Ont., has decided to re-erect a cheese box factory at that place destroyed by fire last month.

The Georgian Bay Lumber Company are reported to have plans prepared for a new saw mill to be built at Madeline, Ont.

The Clarksburg Wood Rim Co., Limited, of Clarksburg, Ont., received the highest award for their exhibit at the Paris Exhibition.

The Dunnville Planing Mills Company, Limited, has been incorporated, with a capital of \$20,000 and head office at Dunnville, Ont.

L. Baillie, lumber merchant, of Penetang, Ont., is preparing to organize a company to carry on the business on an extensive scale.

It is reported that Arpin, Scott & Finger, of Grand Rapids, Mich., will erect a saw mill either at Port Hope or Fort William, Ont.

The Trout Creek Lumber Co., of Trout Creek, Ont., are erecting a large saw mill at Nipissing, and will manufacture lumber, shingles, etc.

Forest fires broke out early in September along the river, in Nova Scotia. Some timber belonging to the Bros. was destroyed.

It is estimated that the Victoria Lumber & Manufacturing Company, of Chemainus, B. C., will cut 10,000 superficial feet of lumber this season.

The Mount Sicker Mining Company have purchased a sawmill property of Thomas Lloyd at Westholme. The mill will be operated in connection with the company's mines.

It is the intention of E. Spragget, of Grand Forks, Ont., to build a sawmill of a capacity of 50,000 feet per month on the north fork of the Kettle river, about one mile from Grand Forks.

The Rat Portage Lumber Company, of Rat Portage, Ont., expect to commence shortly the erection of their new saw mill at Winnipeg. The mill will be one of the largest in the west, and will give employment to 400 men.

The Fraser River Lumber Company, composed of J. R. Sharpe, president, J. R. Sharpe, secretary, and J. Tait, manager, are building a shingle mill at New Westminster, B. C., in which they will install five Dunbar machines.

A new company has been formed, known as the Field Lumber Company. They have purchased the mill owned by V. H. Clark at Bonfield, Ont., west of Port Hope, on the C. P. R. Operations will be commenced this month.

The British Columbia exhibit at the Paris Exposition consisted of thirteen sections of trees, four pieces of red timber, six dozen deals, 140 pieces of polished and unpolished boards, flooring and wainscoting, and ten tan.

N. James & Co., of the Acme Veneer Works, Orillia, Ont., are building a large addition to their factory. Beginning out veneers, pails and chair seats, they are putting in machinery for the manufacture of

WOOD PULP ~ ~ DEPARTMENT

PULP CONCESSION ARBITRATION.

As we go to press arbitration proceedings are in progress in Toronto to determine the value of a pulp concession at Sturgeon Falls, Ont. This arbitration is attracting much interest, owing to the monetary consideration involved and the fact that British capitalists are interested.

It will be remembered that about two years ago some Huntsville parties secured from the Ontario government a pulpwood concession of about 3,700 square miles and a water power at Sturgeon Falls, where it was proposed to erect large pulp and paper mills. A year later they sold out to a British syndicate, the Imperial Paper Mills Company, commonly spoken of as the Sturgeon Falls Pulp Company. The work of developing the power and erecting mills was in progress when, in December, 1899, the entire property, including the timber limits, was sold to Edward Lloyd, Limited, London, England. The latter appear to have become dissatisfied with their bargain, and refused, it is said, to meet their obligations. The Imperial Paper Mills Company were compelled to press for settlement, and the litigation above referred to is the result.

Both parties to the dispute have refused to make public any statement regarding the trouble, but it is generally believed that the contention of the Lloyd Company is in respect to the quantity of spruce timber and the water power.

United States contemporaries are making a great cry about what they call unfair treatment on the part of Canadians and the Ontario government. They seem to forget, or have never known, that both parties interested are British companies. The original transaction between the Huntsville parties and the Imperial Paper Mills Company has never been impugned. These journals apparently hope, by giving a false representation of the situation, to injure the development of the Canadian pulp industry.

It is hoped, however, that the outcome of the arbitration will be a settlement satisfactory to both parties, and that the Lloyd Company will

proceed with the development of the property. It is understood that an examination of the timber limits is likely to be made, which will occupy considerable time.

DOLOMITES IN NEW BRUNSWICK.

PROFESSOR L. Bailey, of the Geological Survey, in his report to the Department at Ottawa, says: Reference has several times been made to the occurrence of dolomites in the neighborhood of St. John. Much interest has, during the last year, been aroused in these from the possibility of their being suited for use in connection with the manufacture of wood pulp. Some time was therefore devoted to the determination of whether or not, among the limestones occurring in that vicinity, any could be found carrying a sufficient percentage of magnesia to make them suitable for such use. The result was very satisfactory, for while at each of the three quarries which have been so long worked as a source of limestone for calcination, the rock is a nearly pure calcic carbonate—95 to 99 per cent., with only a trace of magnesia—these were found to be associated at several places with considerable beds, usually white or creamy instead of grey, which are decidedly dolimitic.

Thus a sample of rock from Randolph & Bader's Quarry, in Randolph, gave: Calcium carbonate, 62.85 per cent.; magnesium carbonate, 35.32 per cent.; iron, alumina, silica, 1.83 per cent. Other specimens from the same locality, examined in the laboratory of the survey, proved to contain close on 45 per cent. of magnesium carbonate, the proportion characteristic of true dolomite. There would, therefore, seem to be no reason, so far as chemical composition is concerned, why portions of these rocks should not satisfy all the requirements of pulpmaking.

As, however, in connection with the large pulp mills at Mispec it was not thought desirable to commence operations with untried materials, and large amounts of dolomite had been imported, the practical test necessary to place their fitness beyond doubt have not yet been made.

THE AMERICAN SULPHITE MANUFACTURERS' ASSOCIATION.

An important meeting of the American Sulphite Manufacturers' Association was held in the Windsor Hotel, Montreal, early in September. Arrangements were practically completed when by all the Canadian sulphite pulp mills will join the Association and aid in maintaining prices on both sides of the border. Four Wisconsin and three Canadian mills were admitted to membership, and at the next meeting to be held in Boston, on October 3, it is expected that the remaining six Canadian mills, or at least the majority of them, will be admitted.

The following is a list of the Canadian mills which it is said will join the Association: Canadian Paper Mills, Limited, Hawkesbury and Merrickton, 105 tons per day; Laurentide Paper Company, Limited, Grand Mer, 25 tons; The E. B. Eddy Company, Limited, Hull, 25 tons; Dominion Pulp Company, Chatham, N. B., 25 tons; St. John Sulphite Company, Limited, Mispec, N. B., 30 tons; Cushing Sulphite Paper Company, St. John, N. B., 40 tons; Sault Ste. Marie Pulp and Paper Company, Sault Ste. Marie, Ont., (within 8 months), 40 tons; McIntyre Sulphite Fibre Company, Limited, Chatham, N. B., 40 tons; total, 325 tons.

Out of this total of 325 tons all but 95 tons are marketed abroad. Of the 95 tons about 25 tons are at present consumed in Canada. This leaves about 60 tons for importation into the United States, leaving the Sault Ste. Marie mill out of the calculation. Although there is a duty of \$3.35 on unbleached fibre, the Canadian manufacturer has in some instances been able to market his product in the United States at a profit even below the price quoted by the Sulphite Manufacturers' Association.

Under the new arrangement, the association will be in a position to maintain the steadiness of prices all over American territory.

PULP NOTES.

It is reported that J. R. Booth, of Ottawa, is considering the erection of pulp and paper mills at the Chatham.

The Sheet Harbor Lumber Company, of Sheet Harbor, N. S., is said to be considering the erection of a pulp mill.

A meeting was held recently at Dryden, Ont., says the Wabigoon Star, to consider the erection of a pulp mill at that place.

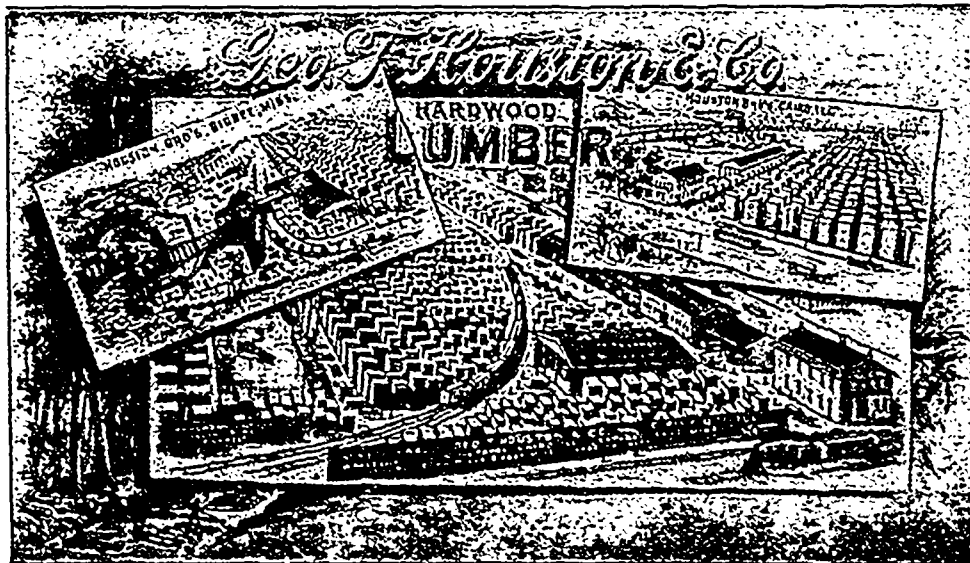
Charles H. Vogel, mill architect, is preparing plans for the new pulp mill to be built at Thorold, Ont., by the Thorold Pulp Company.

The organization of a company by Mr. Moore

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PLAIN OR QUARTERED
POPLAR
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GUM
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CHICAGO ILL.

NOVEMBER, 1900

a pulp mill at Clark's Cove, near
 ... N. B., is progressing favorably.
 W. Wilson, paper manufacturer, of
 ... has applied for a lease of certain
 ... at Indian Lorette, Que., on which
 ... a pulp mill.

... Fraser & Sons, of Fredericton,
 ... announce their intention of erecting
 ... mill adjoining ... saw mill at
 ... on Temiscouata Lake, Quebec.

... new pulp wood ... with head.
 ... at Roberval, Lake St. John, Que
 ... been formed, with capital of \$30,000.
 ... Vellemand, A. C. Piquet, and others,
 ... Quebec city, are interested.

... Sault Ste. Marie Pulp & Paper
 ... of Sault Ste. Marie, Ont., have
 ... Messrs. John Hudson & Com-
 ... to Mark Lane, London, E. C., sole
 ... in Great Britain for the sale of their

... site is being cleared for the erection
 ... Ebbwood, Ont., of the proposed pulp
 ... of the Spanish River Pulp Company,
 ... work on the dam, mill and canal
 ... not likely to be commenced until next

... negotiations are in progress for the
 ... lease by Messrs. H. K. Egan and
 ... C. Edwards, M. P., of the Table
 ... water power owned by the Hull
 ... Paper Company, at Hull. The water is
 ... ble of developing 5,000 horse power,
 ... it is said to be the intention to build
 ... large pulp mill.

... number of English capitalists are ex-
 ... ed to arrive in Canada shortly to make
 ... investigation of some pulp wood pro-
 ... jects. A representative of these capital-
 ... called upon Mr. Johnson, Dominion

Statistician at Ottawa, a few days ago.
 Mr. Johnson advised his interviewer to
 have the capitalists explore the Moise
 river basin, in north-eastern Quebec, which
 is reported to be a dense forest of spruce
 timber.

An American syndicate is considering
 the erection of a large pulp mill at Fort
 Frances, on the Rainy river, a town which
 will soon be connected with Winnipeg by
 rail. J. T. Fanning & Son, civil engineers,
 of Minneapolis, recently made a survey
 of the falls in connection with the pro-
 ject.

The Belgo-Canadian Pulp & Paper Cor-
 poration, of which Messrs. Edmond de
 Vialder and Herman Cortmet, of Brussels,
 are the principal shareholders, have just
 completed arrangements to establish at
 Shawinigan Falls, Que., a 100 ton ground
 wood pulp mill, and have contracted with
 the Shawinigan Water & Power Company
 for 15,000 horse power. They have pur-
 chased over 700 square miles of heavily
 timbered spruce lands on the St. Maurice
 river. The company's engineer is Mr.
 A. C. Rice, of Worcester, Mass.

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Paper, Pulp and Sulphite Fibre Mills.
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Many Years Experience. References on Application.

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RAILS FOR TRAMWAYS

NEW AND SECOND-HAND STEEL AND
 iron rails for tramways and logging lines, from
 ... per yard and upwards; estimates given for
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Good Reasons Why OUR CORRUGATED IRON
Is preferred by those who know.

We use only best Apollo or English sheets.
 The corrugations are pressed one at a time—not rolled—fitting perfectly, both at ends and sides without waste.
 No scale, pin holes or other defects are ever found in our goods.
 The galvanized sheets are coated on both sides with all the galvanizing material that can adhere to them.
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 We furnish any size or gauge required—either curved or straight.
 If you desire durable quality and certain economical satisfaction, send us your specifications or write for further information.



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CONTRACTORS FOR COMPLETE EQUIPMENT OF

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We invite correspondence from those requiring anything of this nature. We build a full line of

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- Digesters, Pumps,
- Jewell Filters, Conveying Machinery, Wet Presses,
- Screens, Screen Plates,
- Etc., Etc.

OUR CROCKER TURBINE PLANTS are driving some of the best mills in the Dominion. Write for Circulars and Prices.

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THE PORT HENRY PULP GRINDER.

With latest improvements, patented 1898. Operation continuous and production large. Most convenient in handling and thoroughly well built. Ask for special bulletin No. 505.

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ENGINE ROOM NOTES.

W. H. WAKEMAN, in the Wood-Worker.

It is always a good plan to watch an engine carefully for loose pins, setscrews and nuts, for an ounce of prevention of accidents in this way is worth several pounds of cure, after an engine is wrecked by the failure of a governor to do its duty.

Grate bars should fit the furnace so as to prevent waste of fuel; but they should not be wedged in so tightly that when they are expanded by heat they will be ruined.

Friction clutches and cut-off couplings are a great convenience in a mill or factory; they enable the operatives to quickly stop a line of shafting in case an accident happens, without waiting to get word to the engineer. They also save power by making it convenient, or possible, to allow one or more lines of shafting to remain at rest, when not needed for use.

When selecting hangers, choose those which will admit of taking out the shafting without removing the bolts holding the hangers; in case of repairs it may save much time and expense.

When laying out holes in belts for lacing, do not locate them so near together that the strength of the belt will be seriously impaired; and after you have laced it, draw in extra pieces of lacing so that they will come between belt and pulley when in use, as they will save the lacing that holds the belt together.

It is poor policy to allow any kind of packing to remain in use too long, and especially so in the case of valve stems on Corliss engines, which are often made of a composition that is easily cut and grooved.

When an injector has worked well for some time, then declines further service, examine the feed pipe to boiler and see if it has become choked with scale and sediment.

It is a good plan to use a little oil on asbestos wicking, when packing valve stems, but if much is put on it makes an unsightly mess on the bonnets of nickel-plated radiator valves and in other similar places.

It is very annoying to an engineer who understands his business, to find that as soon as the flywheel begins to revolve in the morning, or when starting up after dinner, some workman in the shop has started a heavy machine

into operation. As a rule these machines do not turn out good work when running at a slow speed; but whether they do or not, they should never be started until the engine has attained its full speed. Machinery in silk mills and similar places are exceptions to this rule, but wood-working machinery is not.

Metallic piston rod packing is a very good thing to have, but some kinds are made in the form of a wedge, and if an engineer screws the nuts on the studs up tightly, he may get himself into trouble; therefore he should go slowly until he fully understands the construction of the packing in his stuffing box.

If the indicator diagram from your engine shows an imperfection for which you cannot account, be sure that the indicator piston is well oiled before losing sleep to worry over it, for the oil may change the whole aspect of affairs.

Boiler compounds are necessary in many cases, but as soon as scale is removed from the shell and tubes, it

should be taken out without delay, as it may cause the crown sheet to be burned.

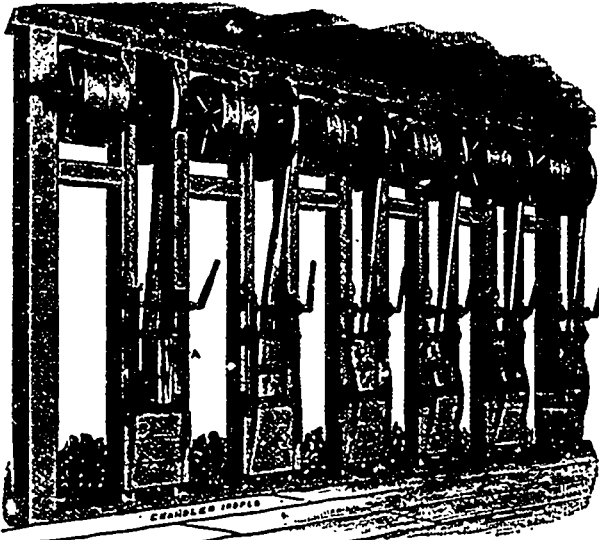
Flange unions in the main steam pipe between the lubricator and the cylinder should be packed with asbestos millboard, copper gaskets, or some other substance that hot oil will not dissolve.

Where a jet condenser is in use, some of the condensed steam will find its way back into the boiler, after being condensed and passing to the hot well; therefore measures should be taken to remove cylinder oil from before it is condensed.

If the main belt on your engine has run steadily years or months, and then begins to "flop" in an unreasonable manner, do not hasten to saw a piece of the floor through which it runs, nor yet to cut a piece of the belt, but apply an indicator and see if the belt does not need resetting.

Every pound of back pressure on the piston of an engine means another pound of forward pressure, and in turn means more fuel for the boiler, hence the back pressure should be reduced to the lowest point possible. This is what a condenser is used for.

The Best Excelsior Machine in the World

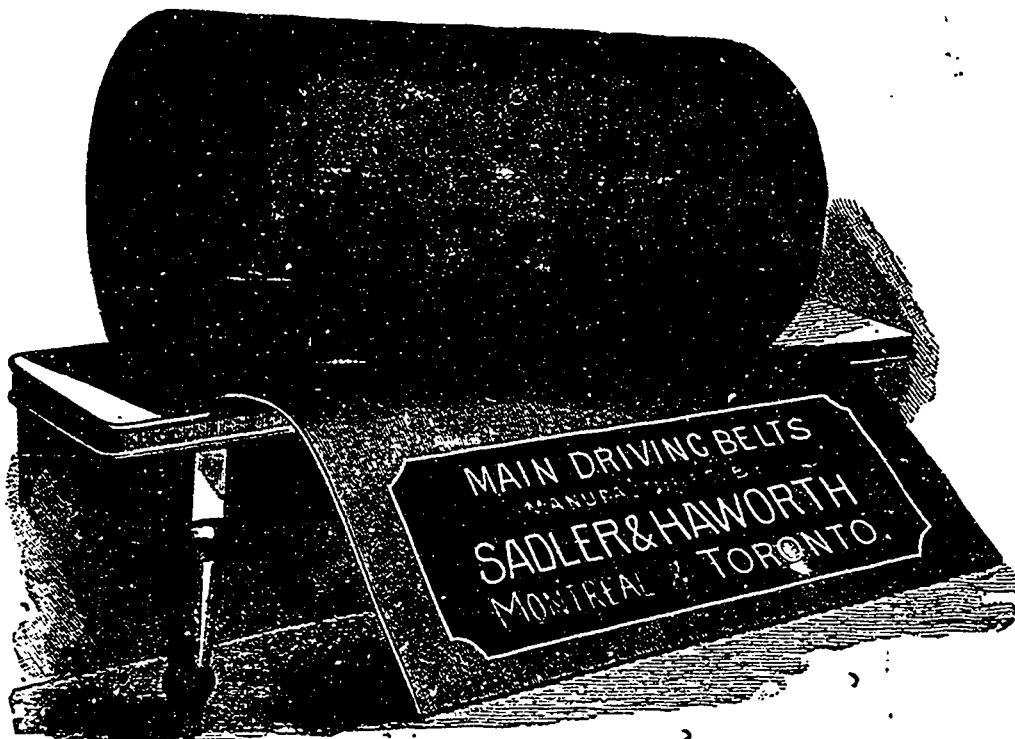


When two or more knives are used with one belt, all must stop when the belt is stopped to set bits or from any other cause. Our Machine has a belt for each knife, hence but one knife stops at a time. This great advantage should not be overlooked by purchasers. Time is money. Our Machine cuts more excelsior in a given time than any other machine. Get circulars and rices.

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BELTS MADE
ANY THICKNESS,
WIDTH, LENGTH,
AND STRENGTH
DESIRED.



OUR BELTING
HAS BEEN TRIED
AND PROVED TO
MEET EVERY
REQUIREMENT.

SADLER & HAWORTH

MANUFACTURERS,

TORONTO AND MONTREAL

THE BARBER TURBINE.

representative recently had the pleasure of visit-
the works of Charles Barber, at Meaford, Ont.,
the well-known Barber's Canadian turbine is man-
-ered. Mr. Barber reports business to be in a
-erous condition. For the past thirty years he has
- a special study of the question of turbine manufac-
- and claims to have perfected his turbine by such
- ovements as were demonstrated to be necessary by
- ience. At the present time, he states, he is pro-
- g an article that will meet almost every require-

the Barber turbine is purely a Canadian invention,
one of the few that has outlived the competition
American apparatus. It is claimed that this turbine
been tested in competition with the leading Ameri-
- makes, and that it has invariably given better
- ts, while at the same time being much lower in
- Mr. Barber has a complete list of all sizes, right
- left hand, for both vertical and horizontal installa-
- His engineer has perfected an original system of
- llation which, it is said, entirely overcomes the
- iculties of bulk-head, flume and conduit building.
- ons contemplating the installation of water wheels
- referred to the illustrations which appear in his ad-
- cement, and are asked to write Mr. Barber for fur-
- catalogues and particulars.

POWER FOR ELECTRIC LIGHTING.

(1) We have a mill that requires from 35 to 40 horse
power, according to the number of machines in use.
Our engine is 12 inches by 20 inches, with a boiler suit-
- able for 90 pounds pressure. How much more power will
- we require to run a dynamo capable of furnishing cur-
- rent for 600 incandescent lamps, and another one for
- 30 arc lamps?

(2) How much power will it require for 140 lamps on
a 110 volt circuit?

The above questions are asked by a writer in Modern
Machinery, and the answers given are as follows:

(1) The amount of power required depends on several
things that you do not mention; therefore, we cannot
attempt an answer. We should advise you, however, to
put in another plant to furnish power for the electric
light system you mention, for if you attempt to add to
your present plant, and drive the varying load in your
mill with the same engine that furnishes power for the
lights, the service will be unsatisfactory and hence un-
- profitable. It is customary when making estimates, to
- calculate that one horse power will be required for 10
- incandescent lamps, but this is only an estimate and
- should be considered as such.

(2) The power actually required to operate your lamps
can be determined when the resistance that each one
offers is known, and this you do not state. If we assume
it to be 50 ohms on a 110 volt circuit, then each
lamp will require $110 \div 50 = 2.2$ amperes, or 308 am-
- peres for 140 lamps. Multiplying the volts and amperes
- together, and dividing the product by 746, shows that

45.4 electrical horse power will be required. If the effi-
- ciency of the dynamo is 85%, the brake power of the
- engine will be $45.4 \div 85 = 53.4$ horse power. Assuming
- that the mechanical efficiency of the engine is 90%, it
- must indicate 59.3, or say 60 horse power.

We are indebted to numerous contemporaries for
complimentary reference to our special Export Number
issued in August last.

Special attention is called to the advertisement below
of Mr. Chas. Barber, of Meaford, inventor and manu-
- facturer of the famous Canadian turbine.

A Dominion charter has been granted to the Consol-
- dated Pulp & Paper Company, of Toronto, Limited
- This company, at the head of which is Mr. John M. Poole,
- has taken over mills at Newburg, which will be improved
- and extended.

The Thorold Pulp Company, Limited, has recently
been organized, with a paid-up capital stock of \$30,000,
for the purpose of erecting a pulp mill on the Welland
Canal at Thorold, Ont. The promoters of the enterprise
are Messrs. Peterson and Davidge, of Niagara Falls,
N.Y., and Messrs. Morse, John Brown and E. E. Rowe,
of Warsaw, N.Y. The necessary water privileges have
been secured and all other preliminaries arranged. The
erection of the mill will be commenced immediately,
under the direction of Mr. Vogel, who has had a long ex-
- perience in this class of work in the United States and
- who has recently taken up his residence at Thorold. The
- mill will be constructed of stone and wood and will have
- a capacity of 10 tons per day.

CAMP SUPPLIES . . .

We make a Specialty of all kinds
Supplies for Lumber Camps.

H. P. ECKARDT & CO.

WHOLESALE GROCERS - Cor. Front and Scott St., TORONTO

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BROOKFIELD, ONT.

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LUMBER INSPECTOR

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LITTLE CURRENT, ONT.

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Manufacturers of . . .
SAW MILL MACHINERY, MARINE EN-
- GINES, BOILERS, IRON AND BRASS
- CASTINGS, ETC.

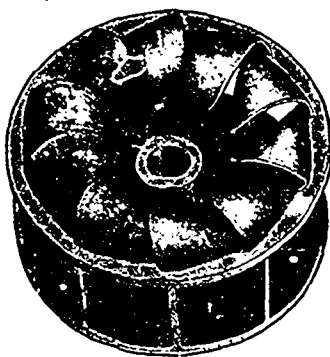


OUR EXTRA
HAND-MADE
AXE

This Axe stands
better in frosty
weather than any
axe made.
Send for sample.
Can supply any
pattern.

CAMPBELL BROS.
Mfrs.
St. John, N.B.

THE CANADIAN TURBINE



Presents the most
points of advantage of
any turbine made.

Examine these cuts
carefully.

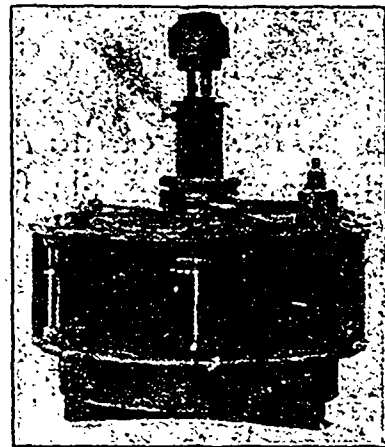
Perfect control.
The Highest Effi-
- ciency obtainable.

Careful Workman-
- ship. All wearing
- parts of brass.

Gives no trouble at
any season, and will
last a lifetime.

Prices, Plans and Information Furnished.

C. Barber, Meaford, Ont.



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43 YEARS

THE J. C. McLAREN

THISTLE
BRAND

RUBBER

BELTING

BELTING

IS
GUARANTEED

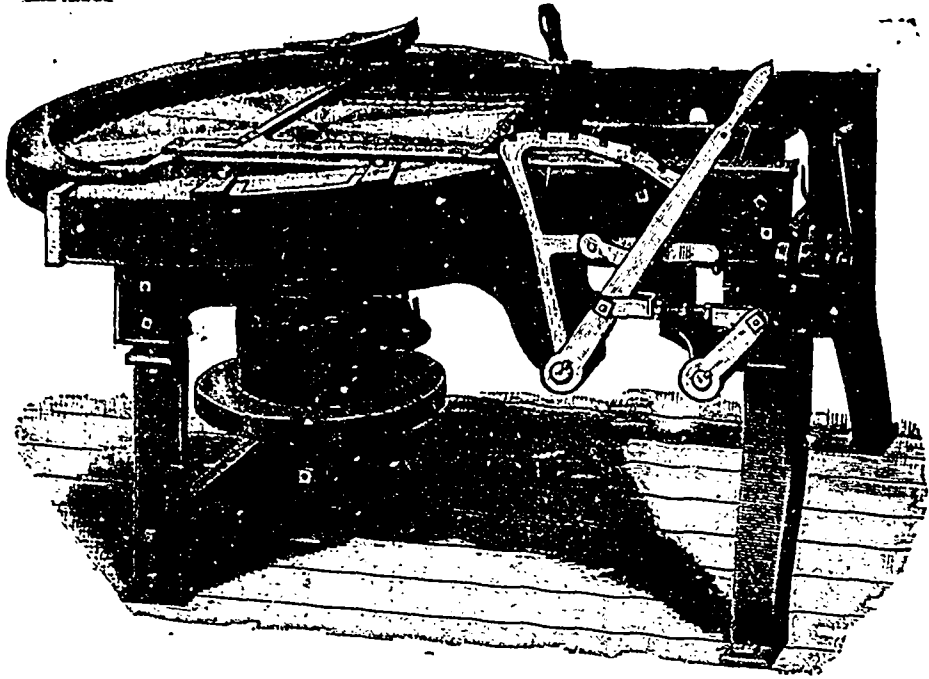
EVERY

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8 YEARS
ON THE
MARKET.

Dauntless Shingle Machine



"DAUNTLESS" SHINGLE AND HEADING MACHINE.
Capacity:—25,000 to 50,000 per day.

F. J. Drake's Patent Shingle Machinery

New patterns and everything up to-date. Complete outfits for Saw and Shingle Mills at special prices. Buy direct from the Manufacturer and save the Middleman's profit. I am quoting special low prices to Cash Purchasers. Every machine is built under my personal supervision and thoroughly guaranteed.

I am also prepared to design and build machinery for special purposes.

Send for Catalogue.

F. J. DRAKE - Belleville, Ont.

THE

"IMPROVED LANE" PORTABLE SAW MILL

Embodies all of the Advance Features of the heavier sizes. It is Light, Rigid and Durable. The carriage excels for handling long timber—can't cut anything but parallel with it, unless you want to.



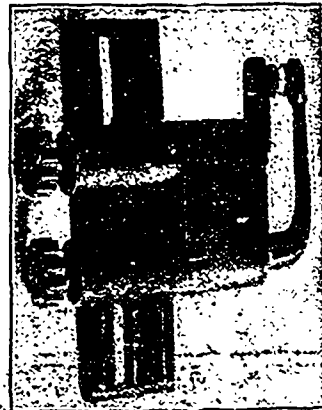
IMPROVED FAIRBANKS ROLLER GAUGE.

NOTICE this "Fairbanks" Roller Gauge, which is supplied with all Lane Mills. Can be used on any Mill. The same applies to the "Gurnsey" Saw Guide here illustrated.

We don't like to miss a chance of telling water power owners about

**"Leffel," "Vulcan"
and "Perfection"**

TURBINES



GURNEY SAW GUIDE.

They've never gone back on us, and are guaranteed equally faithful to all purchasers. The same catalogue that describes these Turbines, and gives their tabled powers under various heads, contains interesting matter on *Saw Mills, Lath and Shingle Mills, Pulleys, Gears, Hangers, Etc.*

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MADISON WILLIAMS

H. E. Plant, Agent,
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SUCCESSOR TO
PAXTON, TATE & CO.

PORT PERRY, ONT.

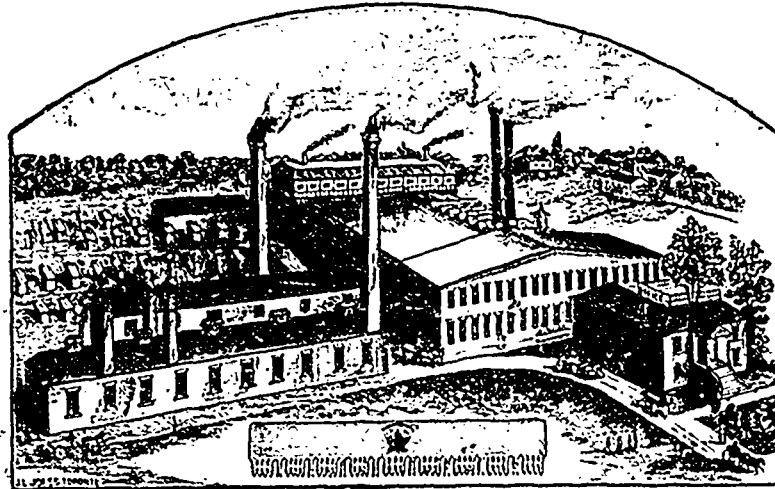
THE MAPLE LEAF SAW WORKS



Shurly & Dietrich GALT, ONT.

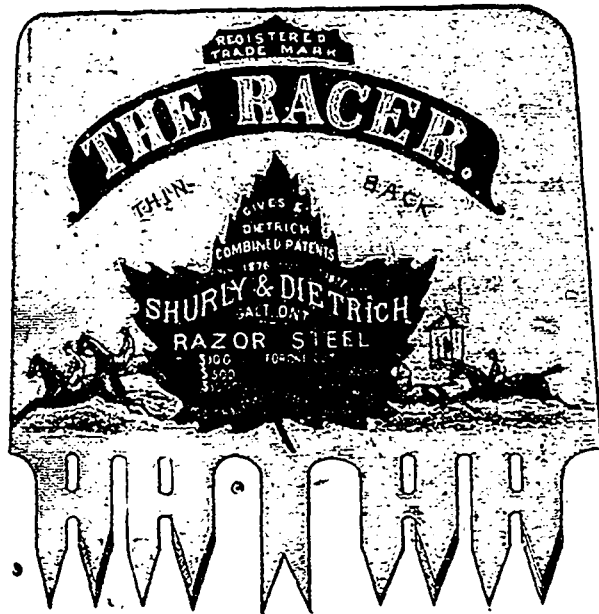
Manufacturers of

CIRCULAR SAWS
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HAND SAWS
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GROUND THIN ON BACK
Save Labor Save Gumming
Save Time Save Files

This Saw Stands Without a Rival

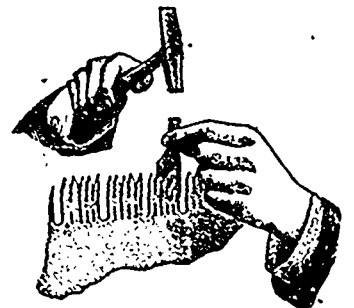
AND IS THE
FASTEST CUTTING SAW IN THE WORLD!

Its Superiority consists in its Excellent Temper. It is made of "P" or Steel, which is the finest ever used in the manufacture of Saws. We have the sole control of this steel. It is tempered by our secret process, which gives a superior cutting edge and a toughness to the steel which no other process can approach.

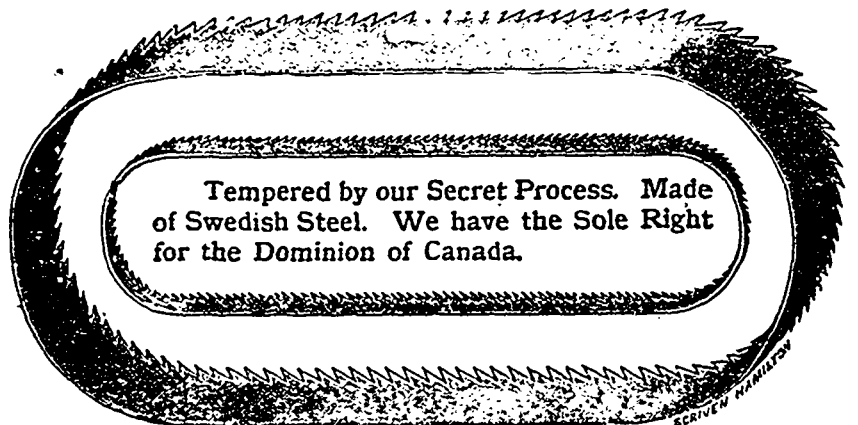
Maple Leaf Saw Set

MANUFACTURED BY
SHURLY & DIETRICH, Galt, Ont.

Directions. - Place the set on the point of tooth, as shown in the accompanying cut, and strike a very light blow with a tack hammer. If you require more set, file the tooth with more level.
If you follow directions you cannot make a mistake. Be sure and not strike too hard a blow, and it will set the hardest saw. On receipt of 40 cents we will send one by mail.



We are the only manufacturers in the world who export Saws in large quantities to the United States.



Tempered by our Secret Process. Made of Swedish Steel. We have the Sole Right for the Dominion of Canada.

We Manufacture

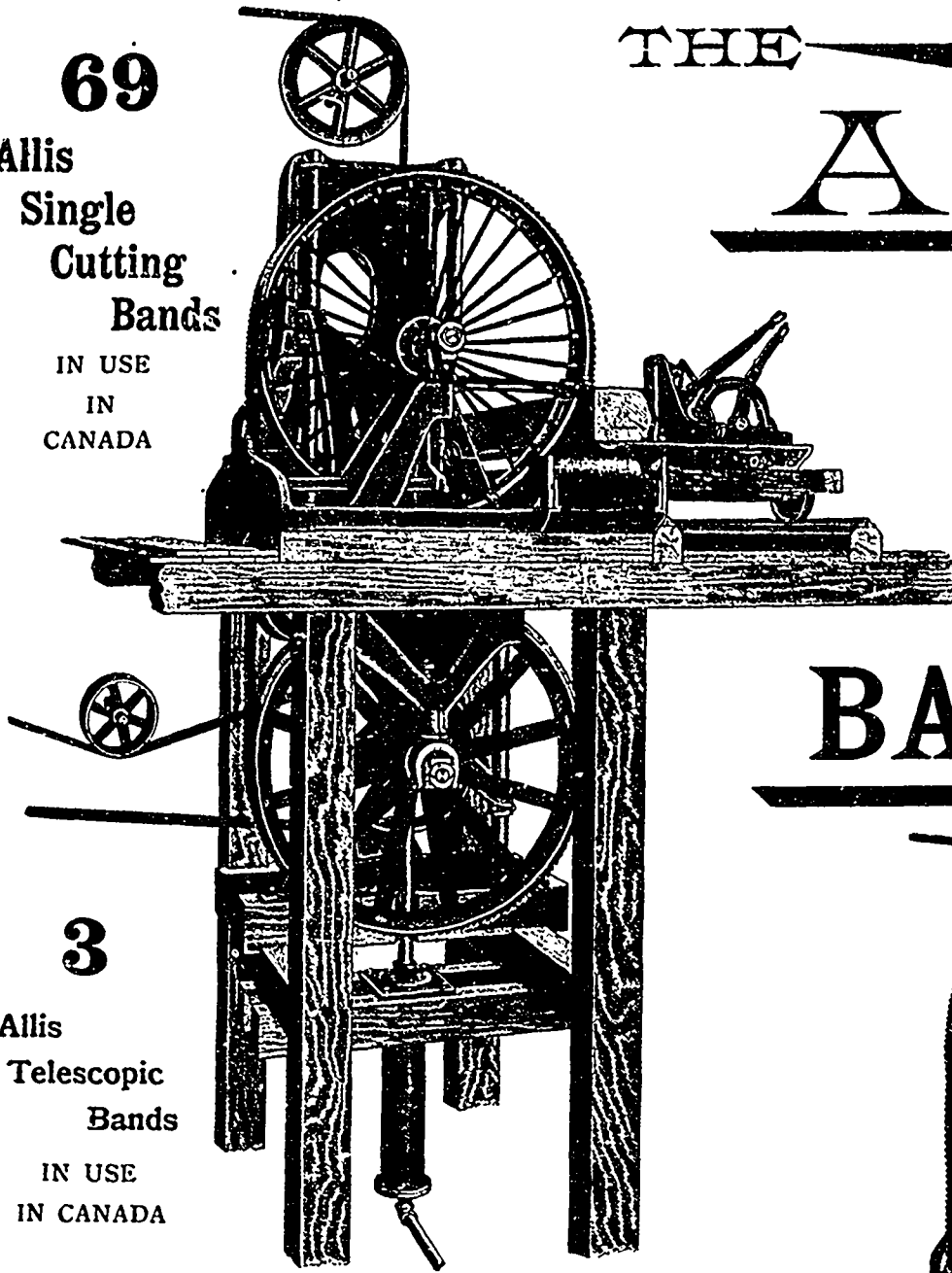
HIGH GRADE BAND SAWS

of All Widths and Lengths.

These Saws are made of Refined Swedish Steel imported direct, and tempered by our Secret Process, for Fine Finish and Temper are not excelled.

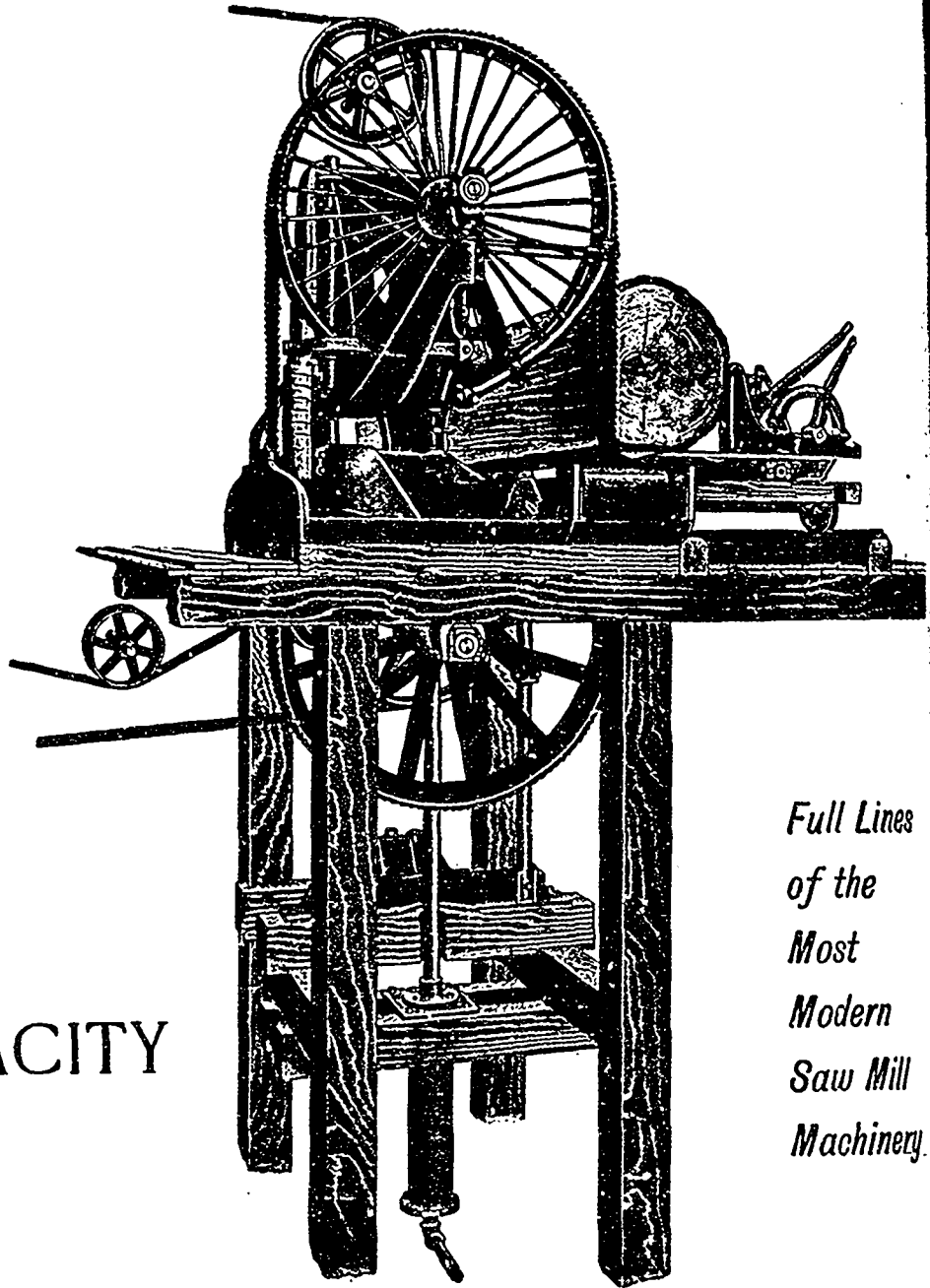
69

Allis
Single
Cutting
Bands
IN USE
IN
CANADA



3

Allis
Telescopic
Bands
IN USE
IN CANADA



THE
ALLIS

DOUBLE
CUTTING
TELESCOPIC

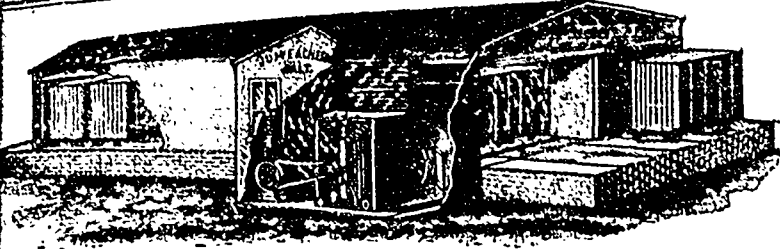
BAND MILL

CUTS
PERFECT
LUMBER
GIVES
ONE-THIRD
GREATER CAPACITY

*Full Lines
of the
Most
Modern
Saw Mill
Machinery.*

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McEachren's PROGRESSIVE LUMBER DRY KILN

Our Heaters and Fans are Economical with Steam and Power, are Safe as a Fire Risk. Plans and specifications furnished with each apparatus.

Write for Prices and Particulars to

McEACHREN HEATING & VENTILATING CO. GALT, ONT.

TALISMANIC BELT DRESSINGS
WILL INCREASE YOUR POWER
Prevents Belts Slipping Prolongs Life of Belts



"WHAT WE'RE ON WE'LL CLING TO"
TALISMANIC BELT CLINCH—For Leather Belts
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TALISMANIC ROPE PRESERVER
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Send for our Illustrated Catalogue and Price List of

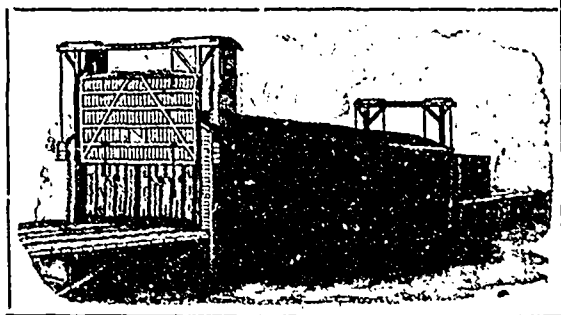
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The Standard Seemed the Most Common Sense Dryer, and We Made No Mistake in Our Choice.

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THE STANDARD DRY KILN CO., Indianapolis, Ind.
GENTLEMEN:—Having had for the last twenty years considerable experience with Dry Kilns—Hot Blast and others—without getting the desired results, last spring there being no dry lumber to be had, especially in hardwoods, this compelled us to take up the question of more drying capacity. After very careful consideration The Standard seemed the most common sense dryer in the market, and we are more than pleased to say that we made no mistake in the choice. We have had the best of satisfaction from exhaust steam only, not requiring to use any live steam. If we were adding another kiln, we would certainly put in another of your make. It is a great saving on stock; it comes out in splendid shape. Yours truly,
The Schultze Bros. Co., Ltd.

THE STANDARD is the highest type of development of the Moist Air System of Drying. Hundreds of users in all parts of the world say THE STANDARD has absolutely no equal.

Free Booklet for your name.
THE STANDARD DRY KILN CO., INDIANAPOLIS, IND.

LABOR SAVED IS MONEY EARNED

Sawdust and Shaving Conveyors

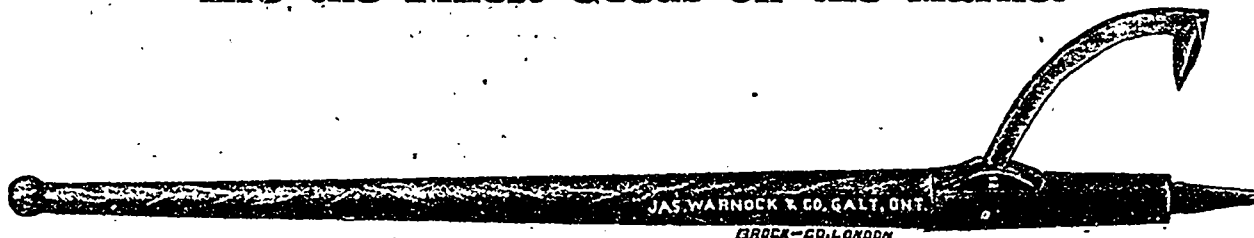
By the use of our Sawdust and Shaving Conveyors, labor is saved and your pay roll reduced.

Write to us for Proof.

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Are the Finest Goods on the Market



DUCK BILL BEST CAST STEEL, SOLID SOCKETS.

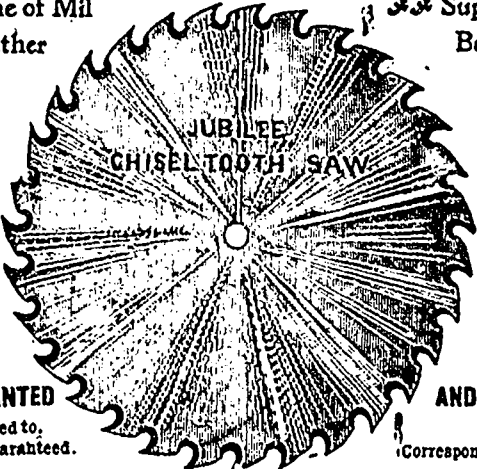
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JAMES WARNOCK & CO.

If not, write us.
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THE JAMES ROBERTSON CO., Limited.
 Manufacturers of... Saws of All Description

A Full Line of Mill Rubber and Leather Metal, &c., always

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ALL OUR SAWS FULLY WARRANTED
 Orders promptly attended to. Satisfaction Guaranteed.

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SUPPLIES
 OF ALL KINDS

Chains, Ropes, Axes, Files, Bar Iron, Horse Shoes, Peavy Cant Dogs.

RICE LEWIS & SON
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MACHINE KNIVES OF EVERY DESCRIPTION
 FOR **Woodworking Machines**
 ... Send for Price List ...
 PETER HAY - - - Galt, Ont.

Every Lumberman wants it **35 cents** buys

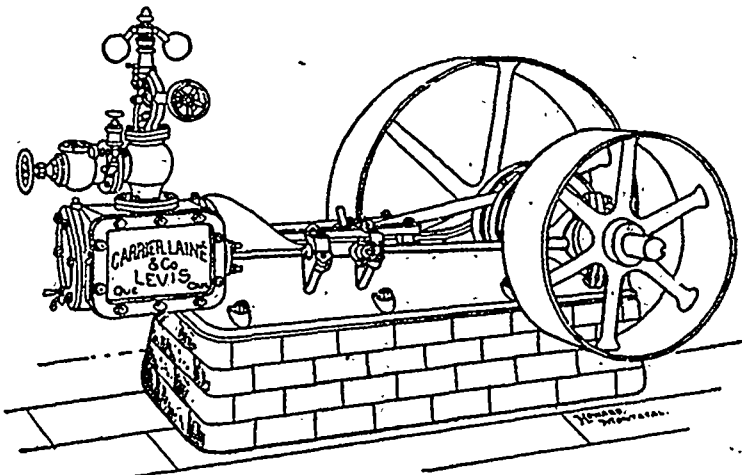
Scribner's Lumber and Log Book

BRIMFUL OF EVERY-DAY, PRACTICAL INFORMATION THE CANADA LUMBERMAN, Toronto Address:

SAVES TIME SAVES MISTAKES SAVES MONEY

7 "DEAD EASY" 3 10

But if that "3" represents Middlemen's commission on the Machinery you buy, you had better make a change and deal at headquarters.



No better Mill Machinery is made in Canada or elsewhere than that supplied "DIRECT" from our Machine Shops.

Portable and Stationary Engines and Boilers

CIRCULAR SAW MILL PLANTS
 GANG AND BAND SAW MILLS
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EDGERS, PLANERS and BUTTERS

Modern Patterns in Every Line
 Tools, Belting and Supplies

We are equipped to build any special machine you may require.

IF YOU HAVE PLANT TO EXCHANGE GET OUR ESTIMATES

CARRIER, LAINE & CO.,
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USE THE FAMOUS **PINK LUMBERING TOOLS**

Duck Bill Peavies, Round-Bill Peavies, Finest Duck Bill Winter Cant Hooks

Lowest Prices **THOMAS PINK**

Cant Hook Handles Peavy Handles By Car Load or More
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