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THE CANADA LUMBERMAN

Wood-Workers', Manufacturers' and Millers' Gazette

VOLUME XXIV. NUMBER 12. | TORONTO, MONTREAL AND WINNIPEG, CANADA, DECEMBER, 1904 | TERMS, $1.00 PER YEAR Single Copies, 10 Cents.

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VOLUME XXIV. NUMBER 12. } TORONTO, MONTREAL, WINNIPEG, CANADA, DECEMBER, 1904 { TERMS, $1.00 PER YEAR Single Copies, 10 Cents

MR. W. K. GRAFFTEY.

We have the pleasure of presenting the portrait of Mr. W. K. Grafftey, Managing Director of the Montreal Lumber Company, Limited. Mr. Grafftey was born in Derbyshire, England, in the year 1849. His parents, coming out to Canada in the year 1856, settled in Owen Sound, where he obtained his early education and his subsequent business training, serving an apprenticeship of five years with Mr. William Kough, the famous hardware merchant of that town. Arriving in Montreal in 1869, he entered the employ of Benny, MacPherson & Company, wholesale hardware merchants, whom he served as traveller for several years.

Turning his attention to the lumber business, Mr. Grafftey took charge of the office of G. A. Grier, lumber merchant, with whom he remained in the closest business relationship for 20 years. The separation after these years of satisfactory experience was felt keenly, yet it opened the way for larger development. Others had noticed his business capacity and the formation of the Montreal Lumber Company, Limited, in 1897, was the result. Associated with him are men of the highest business integrity and influence, including Geo. I. Dewar, the Ottawa manager of the Export Lumber Company; John McKergow, of the firm of A. A. Ayer & Company, the largest shippers of cheese in Canada, and others, who form the company for which he acts as manager.

During the spring of 1900 the subject of our sketch visited England and laid the foundations for English trade, and while there the great fire of Hull and Ottawa occurred, marring the prospects for that year. Although handling all branches of the business, of which he has a thorough knowledge, the principal line to which he devotes attention is Ottawa white pine.

Success has attended the company since its formation and it is now recognized as a strong factor in the Ottawa district. They have handled large contracts for the city of Montreal and the Montreal Harbor Commissioners and are supplying the material for the extensive plant of the Singer Manufacturing Company at St. Johns, Que., which included in one order over a million feet of spruce.

Mr. Grafftey is a gentleman much respected in the community, careful in his operations, ready to take a fair risk, but always loyal to the obligations he makes, so that he commands confidence and respect from all who know him. He takes no active part in municipal or political matters, yet finds time when called on to do his part in any good work.

Our sincere good wishes accompany this short notice of a thorough lumberman and a worthy friend.

BRIQUETTING AND CARBONIZING SAW MILL REFUSE.

Dr. Rolof Juergenson, of Prussia, Austria, has lately been in the United States and Canada for the purpose of giving information regarding the Heidenstam patents for the transformation of sawdust and waste wood into charcoal without agglomeration and for the recovery of all secondary products. The process is the invention of a Swedish engineer, Gustave v. Heidenstam, of Stockholm. The

MR. W. K. GRAFFTEY,
Managing Director of the Montreal Lumber Company.

principal points of the process are the following:

Sawdust and waste wood are to be freed from moisture in a suitable way. The dry material is to be pressed in a continually working press, like the well known lignite coal press, into briquettes. Then it undergoes destructive distillation under mechanical pressure in suitable coaling apparatus.

The pyrolignous acid and tar vapors which are escaping during the coaling process are condensed in special coolers and the liquids derived therefrom stored in receptacles for further treatment into commercial chemical products, as acetic acid, methylated spirits, acetone, etc., the yield of which in treating hard wood waste has proved exactly the same as from best beech or oak wood.

The wood tar which is formed by cabonization contains about 50 per cent. of pitch. But what gives to this process its characteristic value is highly interesting. Only the tar oils of lower boiling point are "escaping" with the pyrolignous vapors, carrying on in solution a little part of pitch, while the main quantity being of high boiling point by action of the mechanical pressure, remains in the fibres of the carbonizing waste wood briquettes, cementing same, and is finally changed into carbon, forming an intimate dense charcoal briquette with the same.

The arrangement for a coaling apparatus under pressure for waste wood and sawdust briquettes in connection with a sawmill will take place in this way:

Sawdust and shavings containing 50 to 60 per cent. of moisture are to be reduced to 25 to 30 per cent. The wood refuse having been dried in a special apparatus by the waste heat leaving the coaling apparatus, enters into the briquette presses, producing briquettes in the form of cords, advancing mechanically to the charging apparatus of the coaling retorts.

The coaling retorts consist of vertical iron cylinders to be put into ovens of special construction and fireplace. The cylinders are fitted with outlet pipes on the bottom to give way to the by-product vapors. On the head they have cast iron covers on which the pressing cylinder is fixed, the piston of which works directly on the briquettes during the coaling operation of 14 hours' duration.

The charcoal discharged from the apparatus will be absolutely cooled in 12 to 14 hours.

This coal has been tested by calorimetrical analysis of the Stockholm Technological Government Institute to be of a caloric power of 7,800 calors and density of 0.6.

The further treatmen and rectification of the pyrolignous product is exactly the same as practiced in the well known and well paying wood distillation industry, and the output of chemical products by the Heidenstam process is proved to be equal, if not superior, to that of best beech or oak wood.

The acetate of lime produced is used to make acetic acid and acetone, both highly important products of the chemical industry.

Another product is the wood tar, which is exactly of the same quality as the well-known Finnish or Swedish tar-fluid and of light brown color, if produced from waste of soft wood, as pine, fir, etc.

The great economy of this simple process is said to consist in mechanically conveying the waste wood from its accumulation in the saw mill, dried and pressed, direct to the charging apparatus in the coaling oven.

Considering the great difficulties for most of the sawmills to get rid of their waste wood and sawdust, the lumber industry will, no doubt, highly appreciate the importance of the Heidenstam process.

A MODERN SAW MILL.

Among the many saw mills on the shores of the Georgian Bay, that of Tanner Bros. at Waubaushene ranks high in its equipment and management. The mill was started thirty years ago by the father of the present owners. About ten years ago, Messrs. G. M. and W. H. Tanner, the present proprietors, assumed control, and five years afterwards rebuilt the mill, extending its size and capacity, and it now covers a large area on the shore of the bay.

The main building is 142 feet long by 40 feet wide, with a transfer wing 40 × 60 feet. In addition to this is a lath mill 30 feet square. A separate solid brick and stone boiler house, with three boilers of a total of 250 horse power, complete the buildings.

The average daily capacity of the plant is from 60,000 to 80,000 feet per day. The mill contains two single cut band mills of the Allis improved style. Up to last spring one band mill and a circular saw were employed, but time. Mr. G. M. Tanner looks after the mill and the shipping, while Mr. W. H. Tanner has charge of getting out the stock. The piling yard capacity is equal to about 10,000,000 feet, and the lumber cut is entirely white and red pine.

Adjoining the mill is a large booming ground capable of holding eight million feet of logs. The timber limits of the firm are located on the Spanish and French rivers, and cover an area equal to four townships, half of which have not yet been touched.

AUTOMATIC ELECTRIC SAW MILL.

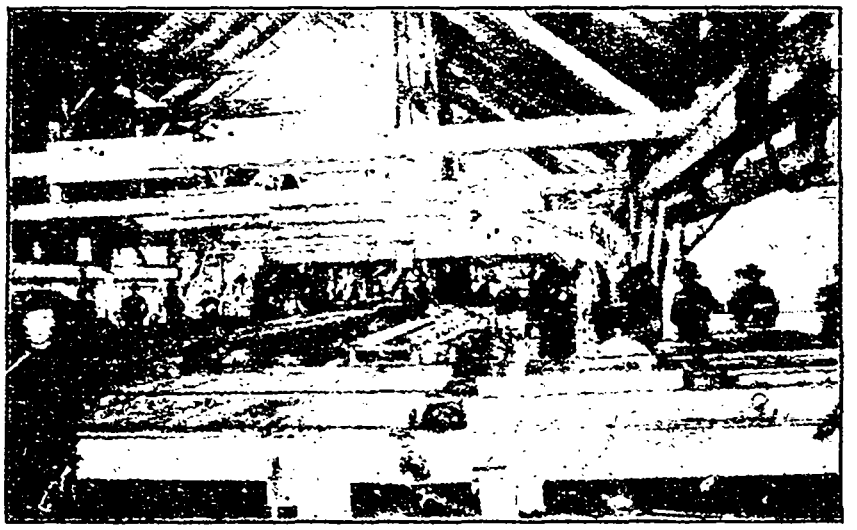
A Swiss firm have been making experiments in the direction of an automatic electric circular saw mill, in which the saw is fed along the log instead of the latter being fed to the saw. There are two kinds of mills being experimented with—log saws and resaws. In the log saw mill there is an iron track, which is made fast to the middle line of the log by means of clamps extending down to grip the center of the log. On this track there runs a carriage which bears a small electric motor; there is also upon the under carriage a cross-carriage which can be rotated about a vertical axis by means of a handwheel and screw. On the cross side or carriage is borne the principal motor that carries the saw.

A correspondent of the Wood-Worker says that the carriage is fed along the track by means of the small motor, and during the cut the large motor runs the saw through the wood. The cross-carriage or slide permits feeding the saw across the log the width of the desired board, plus the kerf. The arrangement by which the carriage can be turned about a vertical axis enables the saw to be turned ninety degrees about such axis and make the cut in the reverse direction at the same speed as during the first cut, thus saving the time necessary to run the carriage back, also avoiding the shock at the reversing points in both directions.

Of course, power can be brought any desired distance to the machine, by the usual insulated wires. Logs up to a diameter of 70 centimeters, or say, 28 inches, can be cut by a saw of 180 centimeters, or say, 6 feet diameter. Logs of greater diameter than 28 inches are first sawed from above to the depth that the saw can handle, then turned 180 degrees about their axis, so as to bring the kerf directly under the former line, then a second set of cuts is made, meeting the former ones. This seems to be the weak point of the invention, as very little lost motion in the machine will make the kerfs "come blind".

The resaw is lighter and more simple. The balks or planks are laid on round wooden supports and piled up to the maximum height of 30 centimeters, or, say, one foot. The planks are clamped together. The track and carriage are then set on the pile and fastened thereto by clamp bolts at the ends.

The inventor is a Herr Kottman, who has a plantation on the island of Sumatra. The invention was made by reason of the difficulty which he experienced in the primeval forests with the mills of the present construction. The largest and best trees could not be sawed in place. The new system does away with this disadvantage. For small logs the power required, including the loss in transporting the current 3,000 meters, or, say, 3,250 yards, is about 60-horse. The same amount of power does for two resaws. In order to work advantageously it is desirable to have at work together two log saws and three sets of tracks. While one log is being sawed, the second machine and track are being mounted on a second log, and the third track clamped to a third log.



VIEWS OF THE SAW MILL OF TANNER BROS., WAUBAUSHENE, ONT.

NEW LUMBER SECTION.

A Woods Section has been formed in connection with the Toronto branch of the Canadian Manufacturers' Association. The following are the officers: Convenor, R. S. Gourlay, of Gourlay, Winter & Leeming; Committee, J. Phillips, of Cobban Manufacturing Company; William Smith, of J. B. Smith & Sons; W. J. McMurtry, of Gold Medal Furniture Company; A.H.J. Eckardt, of Eckardt Casket Company.

REDUCTION IN FIR STUMPAGE.

The New Brunswick Government have reduced the stumpage on fir in accordance with the request of the Lumbermen's Association. The reduction is from $1.25 to 80 cents per thousand superficial feet, and took effect about two months ago.

BAND VERSUS CIRCULAR FOR SMALL LOGS.

Whether the band or the circular saw is the more economical for the manufacture of small logs is a question in which mill men are greatly interested—some being of the opinion that with the band saw there is very little, if any, saving in lumber, although there may be some saving in slabs. The Waterous Engine Works Company, of Brantford, Ont., have been experimenting with the cutting of small logs by a band mill, and state that the smaller

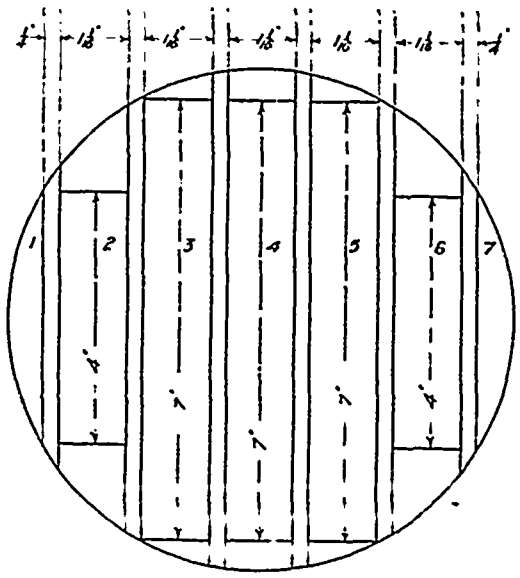


Fig. 1.—8" Log, cut with Circular Saw, 7-Gauge, Kerf ¼".

the log the larger is the percentage of saving in good lumber. To demonstrate the accuracy of this statement they give the following examples ·

Let us consider that we have a circular saw mill and 8 in logs to cut, using a saw to do the work having a kerf of ¼". Fig. 1 illustrates the method of sawing, and we find that we get two slabs marked Nos. 1 and 7, two 4" boards Nos. 2 and 6, and three 7" boards Nos. 3, 4 and 6, or producing lumber 29" wide by 1 1/16" thick.

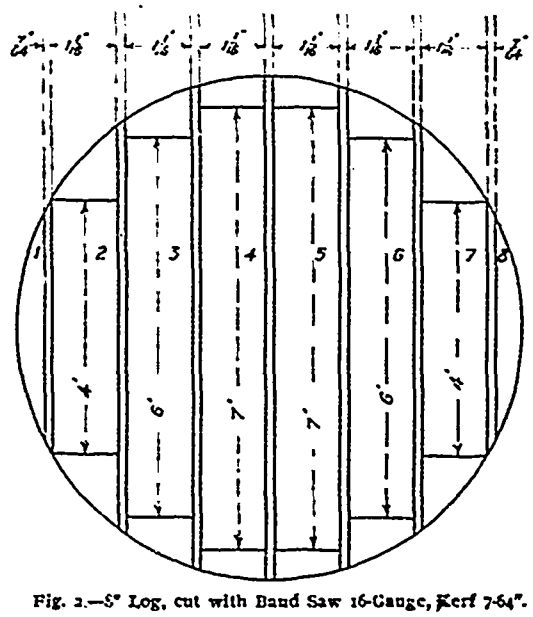


Fig. 2.—8" Log, cut with Band Saw 16-Gauge, Kerf 7-64".

By using a band mill with a 16 gauge saw, taking out a 7-64 kerf, we cut our log as shown in Fig 2, which results in two slabs Nos. 1 and 8, two 4" boards Nos 2 and 7, two 6" boards Nos. 3 and 6, and two 7" boards Nos. 4 and 5, or producing lumber 34" in width by 1 1-16" thick, a gain of 5" per foot in length of log.

If these mills each cut a thousand logs 8" iamater and 12 ft. long, the output of lumber for the circular would be 29,000 feet, and for the band 34,000 feet, or a gain of 5,000 feet for the band, which is equal to 17¼ per cent.

If we take a 6" log and cut it with the same circular saw having ¼" kerf, we would obtain, as Fig. 3 shows, two slabs Nos. 1 and 5, one 4" board Nos. 4 and two 5" boards Nos. 2

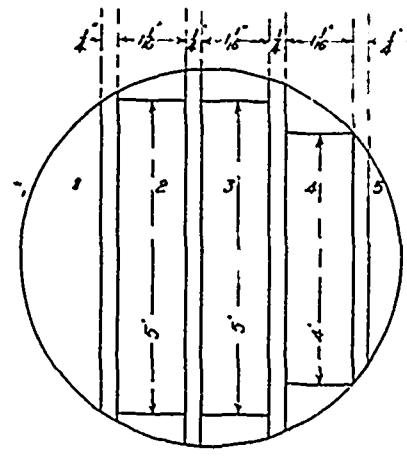


Fig. 3.—6" Log, cut with Circular Saw, 7-Gauge, Kerf ¼".

and 3, or producing lumber 14" wide by 1 1/16 in. thick.

Cutting this 6 in. log with the band mill having a 16 gauge saw with a kerf 7/64, according to Fig. No. 4, will give us two slabs No. 1, 6 two 4 in. boards No. 2 and 5, and two 5 in boards No. 3 and 4, or producing lumber 18 in. wide by 1 1/16 in. thick, a gain of 4 in. per foot in length of log.

If these mills each cut a thousand logs 6 in. diameter and 12 feet long, the output of lumber for the circular would be 14,000 feet and the band 18,000 feet, or a gain of 4000 feet in

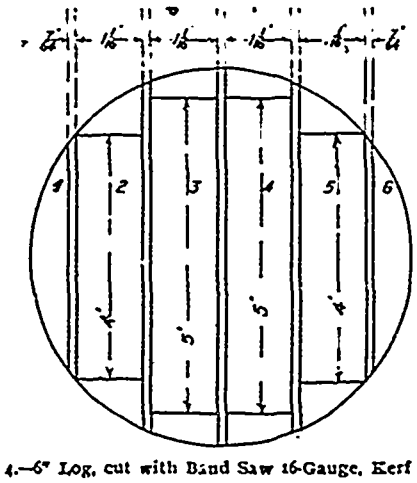


Fig. 4.—6" Log, cut with Band Saw 16-Gauge, Kerf 7-64".

favor of the band mill, which is equal to 28½ per cent.

If these mills cut on small logs, say 30,000 feet of lumber per day, and we presume that they have an equal number of 8 in. and 6 in. logs, the gain would be 21 per cent., or 6,300 ft. to the credit of the band mill.

Taking the value of this lumber at the mill at $12.00 per M, this would amount to $75.60, a fair day's profit.

The sawing season in this country (where the winter shuts us up for about half the year) is called say 160 days, and a saving of $75.60 per day amounts to $12,095.00 for the season. We know of lumbermen who are permitting their old circular saws to waste that amount of value every season.

We have compared the band mill with a circular saw taking ¼" kerf, and are informed by one of the largest and most progressive lumberman that the most of the circulars in use take that amount or more and very few less.

The cutting capacity of a mill depends largely upon the men who handle it ; a circular saw will undoubtedly cut faster than a single cutting band mill on small logs, but the difference—if any—in the output between a double-cutting band and a circular will be very small and the band mill will do far nicer work.

THE FORESTS OF CANADA.

The first of a series of lectures on the resources of Canada, under the auspices of the Political Science Club of Toronto University, was delivered in the Chemical Building on Monday evening, November 14. The speaker was Mr. E. Stewart, Superintendent of the Dominion Forestry Department, and his subject "The Forests of Canada. He spoke on the forest resources, their origin, legitimate use and proper conservation.

Mr. Stewart traced in a very interesting manner the growth of the forest, from the evaporation of the water in the sea, its transportation, its condensation, and finally its dissipation and reservation in the vast forests of the country. The people of America had been profligate in their use of these great resources, continued Mr. Stewart, and they were now paying the inevitable penalty in the form of annual spring floods and destructive freshets. He strongly advised the provincial governments to protect their watersheds by inserting a clause in their timber patents providing that at least 10 per cent. of the timber should be left on all grants. The vast water-power resources of Canada, he said, were threatened by the wholesale destruction of forests which were the permanent sources of these streams. Only seven countries in the world to-day were able to export any timber, and this number, owing to practical difficulties in transportation, was limited to only three real exporters, namely, Sweden, Finland and Canada. To Canada would fall the lion's share of this trade if she but properly husbanded her resources.

Forestry, as erroneously supposed, did not attempt the conservation of timber, but on the contrary, the production and proper use of trees by scientific methods. A system of planting trees on the co-operation plan had already been inaugurated in the North-West, and the system would be further expanded. Already the Dominion Government had secured twelve large reserves protecting important watersheds, and are now on the lookout for more.

In conclusion, Mr. Stewart drew attention to the fact that our forests were not merely a mine of wealth, but an inexhaustible source of income, were they but properly developed. A number of interesting lantern views illustrative of his remarks were shown at the close of the lecture.

The man that reads the trade papers doesn't know it all, but he has a mighty good chance to know more than the fellow that doesn't read them—and he generally does, too.

THE ARROWHEAD LUMBER COMPANY'S MILLS.

The above company was organized in the summer of 1903 as a joint stock company under the laws of British Columbia and with a capital of $250,000. The directors of the company are: Archibald McMillan, of Westbourne, Man., president; Thos. Meredith, of Yorkton, N. W. T., vice-president; W. W. Fraser, of Emerson, Man., secretary-treasurer; W. R. Beatty, of Arrowhead, B. C., managing director; George McCormick, M. P., of Kamloops, B. C., and Alex. McMillan, of Winnipeg, Man.

The construction of a mill was immediately undertaken and on June 19th, 1904, the first lumber was produced. The location of the mill is on the north shore of the Upper Arrow Lake, about half a mile east of the town of Arrowhead, B. C., and occupying a site of about twenty-five acres. It is one of the best designed and most modernly equipped mills in the Province, and reflects great credit upon the manager, Mr. Beatty, by whom it was designed. The capacity of the mill is 100,000 feet in ten hours.

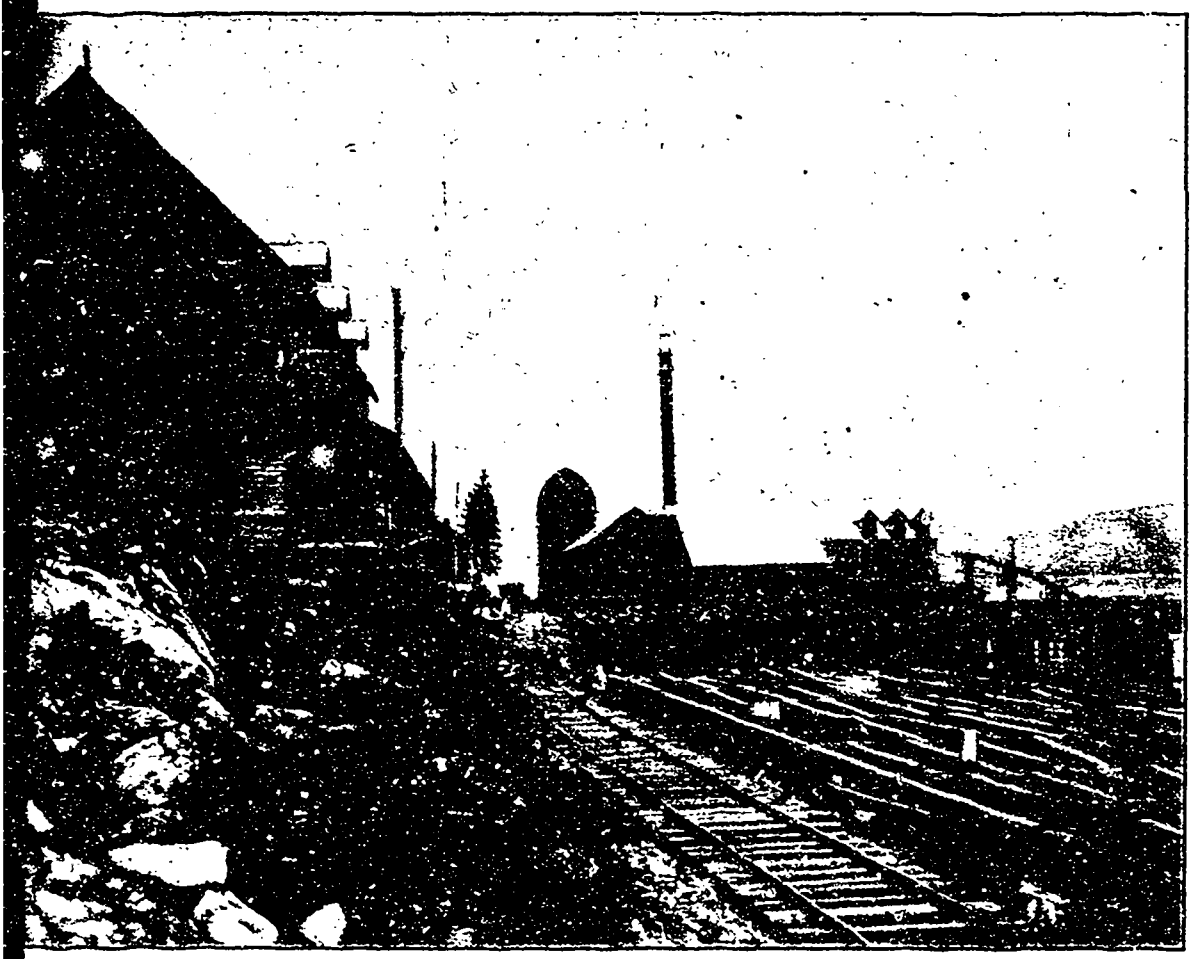
Besides the mill proper, there are a warehouse 32x70 feet built at a point convenient for loading or unloading either by boat or rail, a three-storey boarding house 32x70 feet, a two-storey office building 30x50 feet, finished in native woods, and a machine shop 20x40 feet. The equipment of the latter consists of a planer, large lathe, two drill presses, bolt cutting machine, and two forges, power being supplied by a 20 h. p. horizontal engine.

The mill consists of two buildings, one being 48x120 feet, three stories high, and the other 30x126 feet, two stories high. The planer room is 48x72 feet with floor beneath for actuating machinery. The boiler room, which is of fire-proof construction, is 50x60 feet. The refuse burner is 34 feet in diameter and 80 feet high, built of heavy tank steel lined with brick and surmounted by a dome of underwriter's fire screen. This burner was constructed entirely on the ground, the steel having been rolled, punched, erected and rivetted by the company's employees in their own shops.

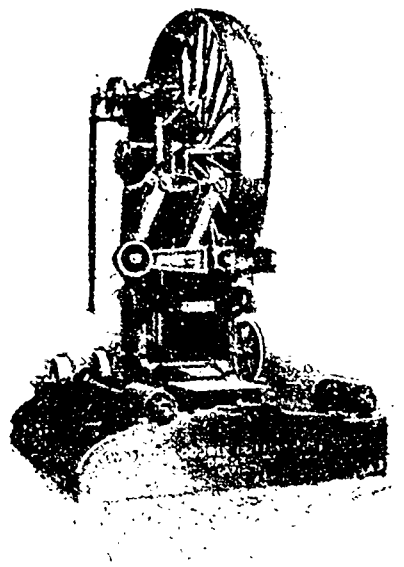
Power is supplied from a battery of four boilers, each 72 inches in diameter, equipped with "Dutch" ovens and operated at 125 lbs. pressure. The setting is of brick and stone and the floors are cement. The fuel supply is automatic, sawdust being delivered into the ovens by chain conveyors, while the refuse from the planer is delivered by pneumatic draft. Storage bins are provided to receive the surplus of fuel, which is used in the night to keep steam up for the use of the kiln and for fire protection purposes. The smoke stack is 6 feet in diameter and 105 feet in height from the roof of the boiler house.

The engines are two Waterous high pressure, each 20 inches diameter by 24 inch stroke, operating on one shaft. These engines operate at 105 revolutions per minute. Power is transmitted to the main shaft by a 38 inch double leather belt, from whence it is distributed by an efficient system of gears and belts to the various machines.

The electric light plant is situated in a room adjoining the engine room, and consists of a 500 light multipolar dynamo, manufactured by the Canadian General Electric Company, of Peterboro, Ont., direct-connected to a 90 h. p. McEwen automatic engine, built by the Waterous Engine Works Company, of Brantford. The different circuits are controlled from a fine grey marble switchboard on which are mounted the usual electrical measuring instruments and safety switches. The electrical equipment was furnished and installed by the Hinton Electric Company, of Vancouver.



MILLS OF THE ARROWHEAD LUMBER COMPANY, ARROWHEAD, B. C.



WATEROUS DOUBLE CUTTING BAND MILL
Installed in The Arrowhead Lumber Company's Mill.

THE MILL EQUIPMENT.

The equipment of the saw mill consists of a double cutting band mill, shown herewith, 50 inch Wickes gang, large double edger, slash table and trimmers. The mill is furnished throughout with modern steam handling apparatus, such as log-loaders, niggers, kickers and stock transfers, by means of which a great economy of labor is effected. A well-devised system of carriers conveys all the refuse from the various machines. Logs are delivered into the mill by an endless chain of exceedingly heavy construction and are delivered to the saw carriage by an ingenious arrangement of steam "kickers" and log-loaders. Every precaution has been taken against accident by efficient guarding of the machinery and by providing ample room for the workmen.

The logs go from the double-cutting band saw to the gang saw, which takes from one to four logs at one cut, delivering the whole in sawn lumber on to the trimmer table. The lath machinery is located conveniently to the slab slasher so that the stock is easily picked out for their manufacture. On the main conveyor to the refuse burner a workman is located, whose duty it is to select and throw out those slabs which are suitable for fuel.

The dry kiln is 44x120 feet and heated by live steam on the natural draft principle. The building is of "slow-burning construction," dimension lumber being laid on its flat and well spiked together. This is said to be the most nearly fire-proof of any form of wooden construction.

The planer equipment consists of three large "Invincible" planers built by the Berlin Machine Works, of Beloit, Wisconsin. This department is also supplied with a cut-off saw and a re-saw for the manufacture of bevel sid-

ing. Power is furnished by a 12x14 Waterous high speed engine.

Special precautions have been taken against fire. A large steam pump is installed in the engine room, and a system of pipes leads to hydrants at various points on the mill floor and in the yard. Hose is attached to these hydrants in readiness for immediate use. Two large hose reels are also provided for use in the yard. The company have constructed a reservoir of 60,000 gallons capacity, situated at a point on the hillside, which will give a pressure of 60 to 65 lbs. per square inch on the mill floor. The buildings are roofed throughout with iron and are carefully lime washed inside.

A noteworthy feature of the construction of the mill is the foundations which are placed under the engines and the gang saw. In order to get above high water level it was found

MR. W. R. BEATTY,
Managing Director Arrowhead Lumber Company.

necessary to build these concrete foundations 25 feet in height, necessitating a vast amount of material and a great deal of labor.

Owing to the formation of the shore it has been found necessary to construct all of the piling room, which has been done by means of pile driving. The platform is nearly a quarter of a mile long, varying in width from 90 to 150 feet. On this platform a system of steel rail track is laid, upon which are operated the lumber cars to and from the mill. This platform parallels the siding which has been extended from Arrowhead station and will be very convenient for loading.

For logging purposes, the company have constructed at Deep Creek a logging chute half a mile in length. Their limits comprise ninety square miles along the shores of the Columbia river and the Upper Arrow lake, the logs being towed to the mills by the company's own tug.

Mr. W. R. Beatty, the managing director of the company, was a successful lumberman in Ontario. He is also well known in political circles, having been M. P. P. for Parry Sound for the past eight years.

The office management is in charge of Mr. W. B. W. Armstrong, who was associated with Mr. Beatty in the lumber business in the east.

The operating staff consists of J. D. Ken-

MR. W. W. FRASER,
Secretary-Treasurer Arrowhead Lumber Company.

nedy, mill foreman; J. J. Woodland, planer foreman; Rand Gibbons, shipper and yard foreman, J. H. Linton, head filer. The disposition of the product of the mill is in the hands of T. A. Cuddy, one of the best known lumber salesmen in the west.

CONVENTION OF COOPERAGE STOCK MANUFACTURERS.

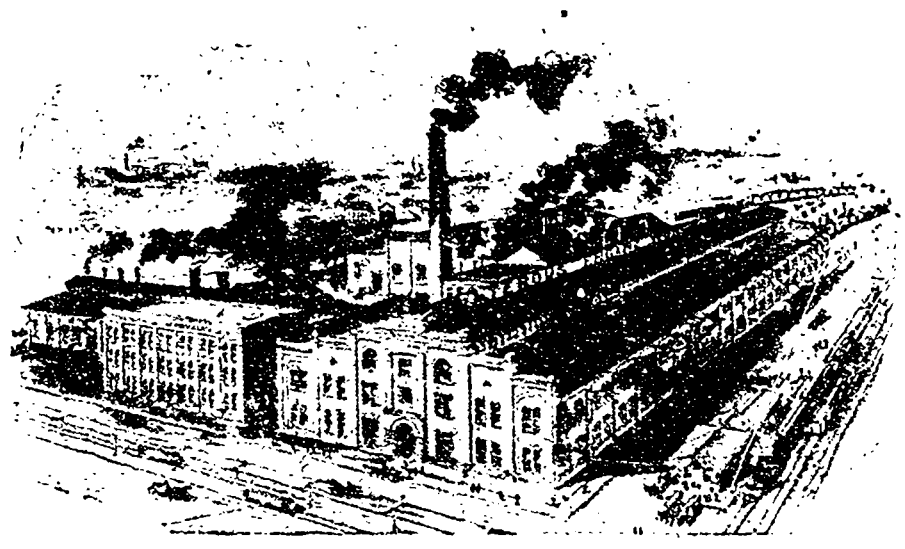
The annual convention of the National Slack Cooperage Manufacturers' Association opened in the Cadillac Hotel, Detroit, Mich., at 10.30 a. m. on November 1. President Wylie, in his opening remarks, stated that the scarcity of timber would compel the price of elm staves to remain firm. The value of log run elm lumber was $25 per thousand, and in many cases it brought even more than this price. He suggested that curtailment should be the watchword of the trade. There was some discussion on the question of grades, during which it was stated that every millman had his own ideas as to what constituted a No. 1 stave or a mill run stave. Some put in low grades and were therefore in a position to accept a lower price for their stock. It was believed that a uniform grade would be a benefit to the trade. Some of the members advocated the adopted of a specification as to the quantity of staves which should constitute a car load and a committee was appointed to report on the question at the next regular meeting.

Mr. James Innes, of Chatham, Ont., read a paper on "The Necessity of Understanding the Manufacture of Cooperage Stock before Entering the Business," and Mr. W. C. Hartman, of Detroit, submitted a paper on "Sales-

MR. GEO. MCCORMICK, M. P.,
Director Arrowhead Lumber Company.

manship in the Cooperage Stock Business." The Canadian Cooperage Manufacturing Company, Galetta, Ont., and John Hayne, Brigden, Ont., were admitted as members of the association.

Those present at the convention from Canada were: H. L. Merritt, Blenheim; John Hayne, Bridgen; D. K. Menzies, Niebergall Stave and Lumber Co., Staples; H. D. Chapman, Canadian Cooperage Co., Galetta; A.A. Scott, McGregor; Edw. Smith, Leamington; W. H. West, Jas. Innes, Mr. Fleming, Sutherland-Innes Co., Chatham; Neil Watson, Mull; J. L. Reaume, J. L. Reaume & Co., Essex.



WORKS OF THE WATEROUS ENGINE WORKS COMPANY, BRANTFORD, ONT.,
Manufacturers of the Plant Installed by the Arrowhead Lumber Compa y.

THE
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ADVERTISING RATES ON APPLICATION.

THE CANADA LUMBERMAN is published in the interests of the lumber, wood-working and allied industries, being the only representative in Canada of these important interests. It aims at giving full and timely information on all subjects touching these interests, and invites free discussion by its readers.

Especial pains are taken to secure for publication in the WEEKLY LUMBERMAN the latest and most trustworthy market quotations throughout the world, so as to afford to the trade at home and abroad information on which it can rely in its operations. 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.

Advertisers will receive careful attention and liberal treatment. For manufacturing and supply firms wishing to bring their goods to the attention of owners and operators of saw and planing mills, wood-working factories, pulp mills, etc., the CANADA LUMBERMAN is undoubtedly the cheapest and most profitable advertising medium. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which are inserted in a conspicuous position on front page of the Weekly Edition.

TWENTY-FIFTH ANNIVERSARY NUMBER.

Away back in the year 1880 the first number of the CANADA LUMBERMAN was sent on its mission. From that time to the present it has continued to be the sole exponent of the Canadian lumber industry, and is now entitled to rank among the oldest publications of its kind in the world. The publishers have considered it appropriate to distinguish in some manner this twenty-fifth year of the journal's existence, and this it is proposed to do by the publication of a special number, to be designated a Twenty-Fifth Anniversary Number and to be issued on January 1st, next.

We prefer to let the number speak for itself, but the aim is to make it the most attractive and interesting edition of a trade journal ever published in Canada. The pioneers in the business will tell of the early methods of lumbering; others will review the development in the various branches of the industry, contrasting the conditions of to-day with those which existed twenty-five years ago; statistics of the lumber production for the quarter century will be given, and as far as possible features of special interest and particularly adapted to a number of this character will be introduced.

Besides the large circulation which the journal enjoys, several thousand extra copies of this number will be printed and circulated in every part of Canada and abroad. To advertisers desirious of reaching the lumber and woodworking industries it offers a splendid opportunity. Regular advertisers have already arranged for enlarged spaces, and orders are in hand for many new advertisements. Others who may contemplate being represented in this number should reserve space at once, as no advertisement can be accepted after the 29th inst.

INFLAMMABILITY OF BUILDING TIMBER.

There has recently been a great deal of discussion about the fire extinguishing facilities in Toronto, and the Underwriters are clamoring for additional water supply and new engines for the business district. It seems opportune, therefore, to enquire regarding the class of material that is being used in the construction of new buildings. An inspection of these shows that the interior construction is almost exclusively of steel and Southern pine, notwithstanding that it is a well-known fact that water has little effect in extinguishing fire in Southern pine owing to the excessive quantity of turpentine which it contains.

The difference in weight between Canadian white pine and Southern yellow pine shows approximately the amount of pitch in the latter, the former weighing when dry about 2,500 pounds per thousand feet B.M., and when green 3,200 pounds, while, according to weights given by the Southern Lumber Manufacturers' Association, Southern pine weighs 3,400 pounds when dry and 4,200 pounds when green. Surely when the Underwriters restrict the quantity of bulk turpentine that may be stored in buildings, it would be pertinent that they should see that the material of which the buildings are constructed does not contain a large proportion of this highly inflammable article.

It has been repeatedly demonstrated by fires that water runs off Southern pine like oil and has little effect upon it, while our Canadian pine absorbs the water and when the fire is extinguished the walls are left intact. Where water is applied early enough the charred woodwork will remain in place and carry weight.

If the architects allege that they specify Southern pine because it is cheaper, it may be pointed out that they obtain less material for a thousand feet from the South than from Canadian mills. For instance, Canadian mills furnish flooring 7/8 × 3½ in., while from the south it is accepted 13/16 × 3¼ in.—a difference in quantity of 15 per cent., which increases the price of Southern pine in comparison with white pine. Further, in the case of joisting, Canadians are asked to furnish this material when planed 1⅞ in. thick, while Southern mills furnish it 1¾ in. In dressed timber there is almost a corresponding shortage in the quantity of yellow pine supplied per thousand feet.

It seems strange that Canadian architects should use Southern pine so extensively, while architects in Pennsylvania, Ohio, and other states give white pine the preference, even at much higher prices, on account of its better fire-resisting qualities and greater durability. It may be that arguments can be advanced in favor of the use of yellow pine; if so, such advantages should be of a very important character to offset the greater inflammability of the material.

THE PROBLEM OF LUMBERING.

The lumber business has made rapid advancement within the last half century and has fully kept pace with the general march of progress. Since the days of the muley saw for the manufacture of lumber, and the hand knife for the cutting of staves, one improvement after another has been perfected, until the operation of what we now term a modern saw mill would seem to represent almost the acme of science and invention. But with it all, the problem of successful lumbering has not been simplified; indeed, we almost question whether the difficulties and inconveniences which are encountered at the present time are not more pronounced than in the earlier days.

Improvements have been confined chiefly to mill equipment as the most natural field for the application of new devices. Manufacturing methods have been wonderfully modernized, but the plan of conducting woods operations has, quite naturally though, undergone no important change. It is, therefore, in respect to the cutting and transportation of the timber that the operator of to-day is confronted by problems which give him the most concern.

Lumber, like every other commodity of common use, is affected by periods of prosperity and depression. The maximum in demand is usually reached at a time when the country generally is in a prosperous condition and labor fully employed. At each recurring period of this nature, greater difficulty is being experienced by lumbermen in obtaining men to work in the woods and in retaining them after once engaged. The high wages which prevailed during the past two winters seemed insufficient to induce men to submit to the trivial hardships associated with life in the woods; the industrial activity of the more thickly populated districts, where work could always be obtained, proved too great an attraction. The severity of last winter also tended to discourage the woodsman and make his labors unpleasant. It was likewise disheartening to the operators, who have no desire to experience another such season.

Turning to physical conditions, the question of moving the logs from the limits to the mill is one which, as time goes on, is becoming a more difficult problem. The source of the timber supply is gradually becoming further removed from the consuming markets, and in many cases from the saw mills. Transportation by means of water channels is still the common method, but the greater distance means increased expense and more liability of having the logs hung up on account of the longer period which must elapse before they reach their destination.

The construction of railroads for the transportation of logs means a heavy expenditure, but this method is recognized as possessing advantages over a water route, affording greater security, and being quicker and cheaper after once the road is built. In the United States logging railroads have been extended into many districts where a few years ago it was not considered that the timber would be accessible. In Canada a few logging railroads are in operation, and as these increase in number the problem of the transpor-

tation of timber will become less troublesome to lumbermen. The extension of our railroad system will also enhance the value of standing timber. The greater value of the German forests may be attributed, in part at least, to the somewhat extensive railroad system in that country.

The past summer has witnessed the adoption in Ontario of an entirely new method of lumbering, the plan being one which should commend itself, as it does away entirely with winter logging. The saw mill is built on wheels, so that it can be moved through the bush to the timber supply. When the timber for a distance of, say, 200 feet is cut out, the mill is moved along to a new location and the process repeated. The cost of laying the track for transporting the mill is said to be small when compared with the advantages which the system possesses.

DECISION AFFECTING FREIGHT RATES.

Early in November the Canadian Railway Commissioners gave a decision in favor of the British Columbia Lumber & Shingle Manufacturers' Association in an action brought against the Canadian Pacific Railway Company in which it was alleged that the company had no right to charge a higher freight rate on cedar than on fir, spruce and hemlock lumber. The Railway Company is ordered to desist from making such discrimination.

As reported in our October issue, the C. P. R. have been charging forty cents per hundred pounds on fir, hemlock and spruce to Manitoba points and fifty cents on cedar, such rates applying to the Pacific Coast mills. The interior mills at the same time were given a preference of seven cents over the Coast mills on fir lumber, while the rate on cedar was seventeen cents lower than was given to the Coast mills. The British Columbia Lumber & Shingle Manufacturers' Association appealed to the Railway Commission, and the Railway Company endeavored to justify their action on the ground that owing to the lighter weight of cedar, the rate should be higher. Their explanation of the differential accorded the interior mills was that they did not manufacture clear cedar and were therefore at a disadvantage as compared with the manufacturers on the coast. The Commissioners decided that these arguments were not sound, and in their judgment designate the excess rate on cedar lumber as an unreasonable and excessive charge.

Subsequently the announcement is made that the Canadian Pacific Railway have entered a protest against the decision, basing their action on the clause in their charter which states that the railway shall not rduce its rates until the netearnings shall exceed one per cent. of the construction cost. The contention of the Commissioners is that, while they may not be able to interfere with the rates, they can prevent discrimination. It is believed that the question will eventually reach the Supreme Court.

The only lines on the American continent charging a higher rate for one commodity used for the same purpose as another are said to be the Canadian Pacific, Great Northern, Northern Pacific and Union Pacific. Other roads class as lumber all varieties of wood except high-class hardwoods. Considering the great desire of the C. P. R. to improve the position of the North-West farmer (if we may regard their recent attitude as sincere), does it not seem inconsistent to find them numbered among the few railroads which are endeavoring to increase the cost of his lumber supply? Is not this the same railroad whose management talked of establishing saw mills for the sole object of giving the farmer cheaper lumber?

EDITORIAL NOTES.

The lumber industry of British Columbia is now in a depressed condition as the result of an abnormal expansion in mill building. The present producing capacity is far in excess of the demand, and unsettled conditions promise to continue until the production is curtailed to a reasonable limit. That there is a great future, however, for coast lumbering is still everywhere admitted, and it is not too much to predict that before many years British Columbia will produce more lumber than any other province of the Dominion. Far-seeing capitalists are even at the present time buying up the timber limits, just as the white pine of Ontario was acquired a few years ago. One of the most recent transactions is the purchase of a timber tract in the Toba Valley of British Columbia by Messrs. B. A. Scott, F. F. Tillotson, D. L. Altland and Thomas Berry, of Detroit. The stand of timber on this tract is estimated at 600,000,000 feet, sufficient to keep a mill running for many years.

The Board of the United States General Appraisers have given a decision that, under the present tariff law, fire-proofed lumber must be assessed $2 per thousand feet as lumber, and not 35 per cent. ad valorem as a manufacture of wood. The testimony showed that the lumber had first been steamed, that the sap had been withdrawn and that a solution of sulphate and phosphate of ammonia had been injected, and that then it had been artificially dried. The Appraisers held that the lumber was still destined to be used as lumber, and that its subjection to a fire-proofing process did not change the purpose or use to which it would be applied. As a precedent to the decision, a previous case was cited in which the United States Supreme Court held that lumber which had been planed on one side and tongued and grooved was not a manufacture of wood, for its purpose and use remained the same.

LUMBER CAMP LIBRARIES.

A letter to the Minister of Education from the Rat Portage Lumber Company, applying for a travelling library for one of their lumber camps, says in part: "We find that the libraries have been greatly appreciated, and we wish to thank you for the interest you have taken in this matter. If you would allow us a suggestion, however, we would say that a considerable number of the books supplied seem to be rather above the class of men in the camps, and that a larger percentage of good, up-to-date fiction would be very acceptable. The men never seem to tire of reading stories by Ralph Connor, Conan Doyle, Thwing, Stuart White and Henty."

Trade Opportunities

BOX SHOOKS.

Mr. John B. Jackson, Commercial Agent at Leeds, England, writes to the Department of Trade and Commerce, Ottawa, under date of November 1, as follows:

Box shooks are very much in demand in Hull, and I have had various inquiries in regard to them. Box boards are manufactured very cheaply there, and as the freights from Hull to the Yorkshire points are very reasonable, goods can be sent all over the United Kingdom from there at prices that can more than compete with local manufacturers in the various towns, large quantities being sent daily to London, Liverpool, Manchester, Newcastle, Bristol, Glasgow and other principal towns, carriage paid from Hull.

SIZES AND PRICES.

The principal supply of shooks is from Norway, Sweden and Russia, at from 20 cents to 30 cents per cubic foot, manufactured, according to the thickness and widths required, c.i.f. Liverpool, Manchester, Newcastle and Hull. The following particulars of usual sizes and prices per cubic foot c.i.f. Hull, Manchester or Liverpool may be of interest:

Inside Measurement	Thickness Sides, top and bottom	Per cubic foot
12½ x 6⅝ x 4⅞	1-16	½ ends at 30½ cents.
10½ x 6½ x 2½	⅛	½ " 32½ "
16 x 15 x 4⅝ top and bottom in 3 pieces	5-16	9-16 " 24¾ "
18½ x 12⅜ x 16¾, 4 battens for ends 2½ x 11-16, top and bottom in 2 pieces, sides and ends in 3	5-16	11-16 " 24¾ "
9½ x 7¼ x 5½ lids planed sides, sides and ends planed on one side	¼	7-16 " 30½ "
16½ x 15⅝ x 9⅛	⅜	⅛ " 28½ "
27 x 5½ x ¾		20 cents.
30 x 7 x ¾		22 "
18½ x 8⅛ x 6⅓ tops in one piece, bottoms in 2 pieces	¼ & ⅛ thick	28½ "
14½ x 7¼ x 5⅛ lid and one side planed on one side only	⅛ & ¼ thick	27 "
25¾ x 15 x 17, 4 battens for ends 17 x 3½ x ¾ tops, bottoms, sides and ends in 3 pieces	¼ & ⅛ thick	26 "

All sizes are not planed, unless otherwise stated.

What the importers here desire more especially is to get in touch with good firms either in New Brunswick, Quebec or Ontario, so that if a car-load or two were wanted it could be ordered by cable, and thus delivery made in five or six weeks' time. If this could be arranged a regular supply of orders for the various sizes could be sent and a good trade be done.

INQUIRIES RECEIVED.

By P. B. Ball, Birmingham, England: No. 92—A large firm in Birmingham wishes to get in communication with a firm in Canada who can supply them with dowel sticks.

By Harrison Watson, Curator Canadian Section, Imperial Institute, London, England: No. 103—A firm invites correspondence from Canadian shippers of hardwood in a position to handle export trade. No. 107—An Irish firm of timber brokers report a good outlet for Canadian hardwoods, and would be pleased to hear from Canadian shippers.

From J. B. Jackson, Commercial Agent, Leeds, England: No. 75—Manufacturers and importers of box shooks, box boards, wood fibre and wood rope are anxious to get in direct communication with a large mill in Canada in a position to ship box shooks, &c, to England.

By Department of Trade and Commerce, Ottawa No. 44—Wanted by a French dealer, names of Canadian wood pulp shippers. No. 48—A French manufacturer wants the names of veneer manufacturers in Canada.

The names of the firms making the above enquiries, with their addresses, can be obtained upon application to the Superintendent of Commercial Agencies, Department of Trade and Commerce, Ottawa. Mention the reference number and the Commercial Agent in each case.

ECONOMICAL MANUFACTURE OF SMALL LOGS.

OTTAWA, November 12th, 1904.

Editor CANADA LUMBERMAN:

DEAR SIR,—The increasing scarcity of large timber or logs that will average 12 inches or over is bringing home to the manufacturers of lumber the necessity of arranging their mills for a more economical method of handling the increasing quantity of logs which run under rather than over 12 inches. Many firms are now taking out logs, in lengths from 12 to 24 feet, that will not scale over 1000 feet for every 25 logs.

To economically manufacture such material into lumber necessitates the rapid handling of a large number of small pieces in order to make any kind of a satisfactory showing. I would like to ask your numerous readers their opinion as to the best method of handling such material, cutting it into the following sizes of lumber, viz., 5/8x3" to 9" wide; 1"x3" to 9"; 2"x3" to 9"; 3"x3" to 9", and 4"x4" to 6", and length from 6 feet up, spruce or pine. I think the discussion of this question would be of much interest and value to the lumber trade at large, and hope those interested will discuss the question fully in your pages.

Yours truly,
I. N. KENDALL.

A COMPARISON OF POWER TRANSMISSION SYSTEMS.

TORONTO, Nov. 19th, 1904.

Editor CANADA LUMBERMAN:

DEAR SIR,—With your permission I will endeavor to give a few perhaps interesting facts on power transmission by rope.

The question may be asked, what is the oldest method of power transmission. Gearing is the oldest method, it is positive in its action, and is claimed to operate with less loss of power by friction than any other method. But as a means of transmitting large powers, this method is fast disappearing, for the following reasons:

A failure of one part is almost sure to be fatal to the whole. It is expensive in first cost as well as in erection and maintenance, and is very objectionable on account of noise, although in some cases it might be an advantage, especially with small power.

Belting comes next as a method of transmission, and can be used to advantage where high speed is to be obtained on account of its flexibility, or where it is necessary to shift from a tight to a loose pulley. But it also is expensive in first cost, and when large power is to be transmitted the great width necessary makes belt driving not only uselessly extravagant but also difficult to install.

Then again, all belting requires perfect alignment of shafting and has a large percentage of slip, especially on cast iron pulleys, and as a result loss of power. I have personally seen cast iron pulleys become so warm on account of the belt slipping that I could not hold my hand on the pulley. Hence belts have to be made so taut to do the required amount of work, that there would be a loss of power by friction in the bearings and sometimes cause heated bearings. Where this occurs it would be of advantage, if the pulleys would permit, to use lagging, as it is a well known fact that wood pulleys or pulleys lagged with wood will actually give from 25 to 60 per cent. more power, being guaranteed to that extent, providing the same belt is used and with like tension of belt. Belting like gearing is also noisy in operation and produces electrical disturbances.

Electricity as a means of transmitting power has considerable merit and for long distances its advantages are unexcelled. For example, a factory in California is driven from a power house 250 miles away. But for ordinary mill practice of to-day this method has not reached a sufficient state of perfection or economy in installation to justify the millmen in adopting it in place of belts or rope.

It is only within the last few years that the use of ropes as a means of transmitting power has received the general recognition of millmen. This system having forced its way to its superiority as main drives, is now superseding all others in new plants both in Canada and the United States, and in some places is used entirely throughout the factory. This is especially noticeable along the great lakes, where numerous grain elevators are found, in which belting has entirely disappeared. Below are some of the most prominent advantages peculiar to rope driving and which engineers and millrights are taking note of.

First.—The distance and direction in which power can be transmitted is practically unlimited. In one of Hawkins' books on Mechanical Engineering the following table is given comparing the four greatest powers of transmission, namely: Electricity, Air (pneumatic), Water (Hydraulic), and Rope.

Distance of Transmission in feet.	Electricity.	Hydraulic.	Pneumatic.	Rope.
300	.69	.50	.55	.96
1,500	.68	.50	.55	.93
3,000	.66	.50	.55	.90
15,000	.60	.40	.50	.60
30,000	.51	.35	.50	.36
60,000	.32	.20	.40	.13

Hence it is seen that rope is more effective up to about three miles, beyond which electricity and pneumatic powers are more effective.

Satisfactory driving may be done where the distance between shafting is as great as 175 feet without the aid of carrier pulleys. With carrier pulleys the distance may be prolonged indefinitely. On the other hand, successful driving can be done with ropes where the shafts are close together. There are now in operation many drives where the shafts are but 10 feet apart.

Second.—The amount of power that can be transmitted with rope is also practically unlimited; for instance, there are several drives in the United States which are transmitting from 3,000 to 4,000 horse power, of which I might mention the rod mill drives of the Sharon Steel Company, which is by multiple system; 60 ropes 2 inches in diameter are used.

Third.—Economy in first cost and maintenance. In drives of 200 h. p. and upwards and where the shafts are from 20 to 30 feet apart, the cost as compared with belt drives will vary from 10 to 30 per cent., according to the distance and size of drive. This advantage increases rapidly as the distance apart of shafts and amount of power to be transmitted increases.

Fourth.—Small cost and maintenance of a rope drive is a strong point in its favor. The average life of a rope on a properly constructed drive is from five to ten years, providing that the rope is running free from obstructions and the speed of the rope is not more than about 4,500 to 5,000 feet per minute, and in that time all the care that it needs is proper splicing, which is a simple thing when once the idea is grasped.

Fifth.—Economy of space. The width of rim space required is from one-half to two-thirds that of belting, varying with the size of rope used. It is also positive power where the angle of the grooves are 45 degrees; also when calculating for speed no allowance need be made for slipping of rope as is usually the case with belting. Further, it is steady running and absolutely noiseless, due to the flexibility of the rope and the air passage in the bottom of the groove, which usually is 9-16 of an inch. This holds good for large drives as well as small ones, notwithstanding that horse power is being transmitted in thousands and the ropes may be running a mile a minute. Another great advantage when wishing to convey power to a number of floors is that the full number of ropes start from the driving pulley, while the number for each shaft are easily dropped off at each floor.

Sixth.—The great advantage in future addition of power. This may be readily done by installing pulleys with extra sheaves, and when more power is wanted more rope is added, filling up the extra sheaves, where if it were belting, you would have to get a new belt because it would not be possible to splice a piece on the side of the belt.

There are two distinct systems of rope drives, namely, the multiple or English system, and the continuous or American system. The multiple system is the simplest, consisting of a number of independent ropes running side by side in the grooves of the pulley. It is claimed by some authorities that the life of the rope is longer on the multiple system on account of the rope always bending in the one direction, but I think this is doubtful.

In the continuous system one rope is wound around the driving and driven pulleys several times, the number of laps being according to the amount of power required. With this system it is necessary by some means or other to conduct the rope from an outside groove of the driver to the opposite outside of the driven. This is done by means of a travelling tension carriage whose duty is to do this as well as to secure a uniform tension throughout the rope. It is so arranged as to travel back and forth automatically, regulating the slack of the rope which occurs from the stretch in the rope, also irregularities of load. This should be so arranged as to take the slack where it accumulates, which is on the slack side of drive just off the driven pulley.

In the second way, where it is not convenient to take slack directly from the driving pulley, the same result may be obtained by taking it from the driven, the rope being led from an outside groove, which is a loose or independent sheave to the tension sheave, and thence returned to the opposite outside groove of the driven pulley. I think that splicing a rope is much easier accomplished than splicing a belt, being done in less time and requiring less tools. The proper splice is called a transmission splice, varying in length according to the size of rope used. One engineer has said that 95 per cent. of troubles in rope driving are due to bad splicing.

Much more could be said about rope driving, but time and space are limited. Thanking you, Mr. Editor, for the valuable space in your journal,

I remain, yours respectfully,
D. D. DAVIDSON.

OBITUARY.

Just as we go to press we learn, with profound regret, of the death of Mr. John Bertram, President of the Collin's Inlet Lumber Company. His demise took place on November 28th at his residence, 19 Walmer road, Toronto, after an illness extending over several months. About three weeks ago he was operated upon for appendicitis and from that time he gradually sank. Deceased was also President of the Bertram Engine Works Company and Chairman of the Dominion Commission on Transportation. His death is an irreparable loss to the country and to the lumber trade. A sketch of his career will be published in the January number of THE LUMBERMAN.

TRADE NOTES.

Henry Disston & Sons, Incorporated, have decided to establish a Canadian factory in Toronto.

Josiah Fowler, manufacturer of edge tools, St. John, N.B., recently returned from an extended trip to the Pacific Coast, where he arranged for placing his goods on the market there.

A. R. Wilson is building a new saw factory at St. John, N.B., which will be 40 x 100 feet, two stories, and built of brick. The ground floor, which will be used as a showroom and factory, will have concrete floors and a plate glass front.

The Hay Foundry, Limited, of Listowel, Ont., has been incorporated, to manufacture machinery and carry on the business of iron founders. The capital of the company is $40,000.

The Canada Machinery Company, Limited, is a new concern incorporated last month, to manufacture machinery of all kinds. The head office will be at Point Edward, Ont., and the directors include David Milne, Thos. Kenny and Charles S. Ellis, of Sarnia.

The American Axe & Tool Company, of Glassport, Penn., have decided to establish tool wooks in Canada, and are looking for a suitable location in Montreal or vicinity. The company have been doing a large Canadian trade, Mr. J. Hoffmann, of Montreal, being their representative.

On account of a recent large extension to their business in the Maritime Provinces and Newfoundland, Woods, Limited, of Ottawa, find their accommodation inadequate and are considering the erection of a large addition to their Slater street manufactory. This company manufacture a complete line of lumbermen's supplies for wood operations.

Among the orders recently received by the Gordon Hollow Blast Grate Company, the well-known manufacturers of blast grates, edgers and trimmers, of Greenville, Michigan, was one from the Dennis Bros. Salt & Lumber Company for their two mills near Tustin, Michigan, for two log haul-ups, two trimmers, two heavy edgers and two 10-saw slab slashers.

FORESTRY DEPARTMENT

CANADIAN FORESTRY ASSOCIATION.

At a recent meeting of the Board of Directors of the Canadian Forestry Association, final arrangements were made for the publication of a forestry journal in the interests of the Association and for the advancement of the forestry movement generally. Dr. Wm. Saunders, Professor John Macoun and Mr. E. Stewart were appointed an Editorial Committee and Mr. R. H. Campbell as Editor and Business Manager. The new journal will include scientific and descriptive articles relating to the Canadian forests and their management, forest administration in other countries, the planting and care of trees and such other related subjects as are of public interest. The aim will be to present the subjects in a popular style, so that it may appeal to the general public as well as to the scientific student. The number and standing of the contributors already secured give promise that the character of the magazine will do full credit to the Association and worthily represent forestry interests. The Association has steadily developed since its organization in 1900 and has now a membership of about six hundred, representing all parts of the Dominion and including also a number of foreign countries. One of the most recent additions to the life membership is Prince Colloredo-Mannsfeld, of Austria, who has been visiting Canada recently and takes a great interest in forest management, as he has large forest estates in Bohemia.

A resolution was passed expressing the opinion of the Board that in view of the annual destruction of timber in British Columbia and the difficulty of guarding the forests from fire, it is desirable that the Bush Fires Act of that province should be amended so as to prohibit the starting of fires for the clearing of land between the first day of May and the first day of November in each year unless a special permit for that purpose be granted by the forest ranger or other officer appointed for the district in which such permission is asked.

Preliminary arrangements for the annual meeting of the Association to be held at Quebec in March next were made. The prospects for a good meeting are very encouraging. The Government of the Province have promised their interest in making the meeting a success.

Resolutions of sympathy with His Honor Sir Henri Joly de Lotbiniere and with the family of the late Dr. W. H. Muldrew were passed.

Messrs. E. Stewart and R. H. Campbell were appointed to represent the Canadian Forestry Association at the Forest Congress to be held in Washington in January.

THE AMERICAN FORIST CONGRESS.

The official call for the American Forest Congress, to be held under the auspices of the American Forestry Association, has been issued. The dates fixed are January 2nd to 6th, 1905. The Congress will include :

Members of the United States Senate and House of Representatives ; Ambassadors, Ministers, and other representatives of foreign countries ; Governors of States and Territories; Members of the Society of American Foresters; Faculties of Forest Schools; State Forest Officials; Professional Foresters in private work; 100 Delegates from the American Forestry Association ; Editors of Lumber and other Trade Journals of industries dependent upon the forest ; 25 Delegates from the Bureau of Forestry of the U. S. Department of Agriculture ; 25 Delegates from the United States Geological Survey ; 50 Delegates from the United States General Land Office and Forest Reserve Service ; 75 Delegates from the National Irrigation Association ; 75 Delegates from the National Irrigation Congress ; 5 Delegates from each Forestry Association, State or Local ; 10 Delegates from the Canadian Forestry Association; 5 Delegates from the Canadian Forest Service; 5 Delegates appointed by the Governor of each State and Territory ; 5 Delegates from each Lumberman's Association ; 5 Delegates from each Wood-Working Association ; 5 Delegates from each Mining Association ; 5 Delegates from each Stockmen's Association; 5 Delegates from each Turpentine Association ; 2 Delegates from each Railroad, Telegraph or Telephone Company ; 15 Delegates from the American Society of Civil Engineers ; 15 Delegates from the American Institute of Mining Engineers ; Chiefs of Bureaus and Divisions of the United States Department of Agriculture ; 2 Delegates from each Chamber of Commerce and Board of Trade ; Delegates-at-large appointed by the President of the Congress from forest landowners and those who have rendered distinguished service to the cause of American Forestry.

The subjects, each of which will receive attention at a separate session, are : 1. Relation of the Public Forest Lands to Irrigation ; 2. Relation of the Public Forest Lands to Grazing ; 3. The Lumber Industry and the Forest ; 4. Importance of the Public Forest Lands to Mining ; 5. Forestry in Relation to Railroad Supplies ; 6. National Forest Policy ; 7. State Forest Policy.

The sessions will be held in the National Rifles Armory, 920 G. street, Northwest. The railways have granted a rate of a fare and a third for the round trip, in order to secure which delegates must procure certificates at starting points. Hon. James Wilson, Secretary of Agriculture, has been chosen President of the Congress.

CANADIAN PINE IN GERMANY.

A letter has been received at the Geological Survey, Ottawa, from Baron Max Fuerstenburo, of the German Government Department of Forestry, saying that great success has been obtained in growing seeds of Canadian pine and other conifers. More seeds are to be secured to restock the forests of Germany.

C. C. Andrews, fire warden for Minnesota, says that the pine timber of that State will last only fifteen years longer.

Bulletin No. 1 has been issued by the Forestry Branch of the Department of the Interior, Ottawa. It is entitled "Tree Planting on the Prairies of Manitoba and the North-West Territories," the author being Norman N. Ross, Assistant Superintendent of Forestry. This bulletin has been compiled with the idea of affording practical information to the settler on the western prairies as to the best methods of propagating, planting, and managing hardy trees for shelter belts, wind breaks, and plantations. It contains much information on the subject, also 42 illustrations, some of which show very strikingly what can be accomplished by tree planting. Chapter 4, devoted to obtaining plant material, contains much information which is not common knowledge.

RONDEAU PARK FOREST.

Dr. Clark, Ontario Provincial Forester, and Mr. T. W. Gibson, Director of the Bureau of Mines and Secretary of Parks, returned recently from an inspection of Rondeau Park, in Kent County. The park, which is 40,000 acres in extent, is largely forest and the inspection was made in order to make a report upon a systematic method of managing the forest with a view to its perpetuity as a reserve. The examination disclosed the fact that the reserve includes a considerable quantity of white pine, six varieties of oak, three kinds of hickory, two of maple, besides beech, white and black ash, black walnut, which is now very rare in Ontario, and some tulip trees.

LONGEVITY OF FOREST TREES.

Information gathered by the German forestry commission assigns to the pine tree 700 years as a maximum length of life, 425 years to the silver fir, 275 to the larch, 245 to the red beech, 210 to the aspen, 200 to the birch, 170 to the ash, 145 to the elder, and 130 to the elm. The heart of the oak begins to rot at about the age of 300 years.

CHANGE OF AGENCY.

The Dodge Manufacturing Company, of Toronto, have completed agency arrangements with the Vancouver Engineering Company, Vancouver, B.C., and have just shipped out to them two car loads of Dodge standard wood-split pulleys, along with various other Dodge apparatus, which will enable the latter firm to better take care of the already well established demand for Dodge pulleys on the Coast. The trade are invited to note this change.

Mr. F. Goto, Forestry Commissioner of the Department of Agriculture and Commerce, Tokio, Japan, is at present visiting Canada and the United States with the purpose of collecting information regarding the forestry and timber resources of these countries. Mr. Goto states that a market exists in Japan for British Columbian Douglas fir for use in heavy construction. Japanese cedar does not attain a large enough growth for this purpose, although well adapted and largely used in the lighter forms of construction such as houses and other small buildings, for which brick is too costly. *Beech is very plentiful and of large size in* Japan, particularly on the mountain ranges which longitudinally divide the island, but is not adapted for lumber and is used only for fuel. Mr. Goto will return to Japan in February.

WOOD PULP DEPARTMENT

FIRST PAPER MILL IN ONTARIO.

Mr. V. H. Hickox, of Niagara Falls, tells of the first paper mill in Ontario. He says.—

"It was in the summer of 1841 that my father and another paper maker, whose name was Samuel Prine, engaged to go to Toronto and start the first paper mill in Upper Canada. They left Niagara Falls in June of that year. This mill was located about three miles from the city, up the River Don, a beautiful clear stream of water, well supplied with trout and other kinds of fish in abundance. The country round about was a vast wilderness of heavy timber, mostly pine, with here and there a little clearing with log cabin homes of the early pioneers.

"Eastwood and Skinner, brothers-in-law, two enterprising Englishmen, built the first mill and received a cash premium from the Canadian Government. In connection with the paper mill there was a grist mill, a brewery and distillery, owned by the Helliwell Brothers, and the place was named Don Mills.

"My father made a sojourn of seven years, during which time he started a second paper mill on the Don River, two miles above the first mill. We moved to Hamburg, west of Buffalo, about 1848. In the year 1851 Albert H. Porter sold the paper mill on Bath Island, and my father, by this change, secured his old position as superintendent of the upper Don paper mills. Then he moved back to Toronto in 1851, where he remained for many years, respected as the man who made the first sheet of paper in the upper province of Canada."

BLEACHING GROUND WOOD.

The yellowish color of ground wood fibres varies according to the quality of the wood and purity of water in mixture of reddish, brownish and gray shades; but these conditions were of small significance so long as ground wood was only used in small proportions with better stock, says "Sylvanus" in Der Papier Fabrikant.

An addition of a red or blue aniline color or a violet will present the impression of a white shade to the unexercised eye, while in fact the shade is really reddish or greenish. A comparison of news and mixed book stock with bleached writing or with white linen or cotton stock will readily tend to prove the great difference in the shade of snow white and ground wood white.

During late years advancing prices have caused a cut in the manufacturing profits and developed a natural desire to economize by introducing the cheaper grades of raw materials on a more extended scale for the making of the grades above news, such as the medium writing and printing qualities.

The yellow shade of the ground wood proved a disturbing feature, and there arose the necessity of overcoming the well known difficulties in the bleaching of ground wood. Many processes have been gradually "invented," but they proved costly, troublesome and without adequate result.

As a means for at least improving the shade of ground wood, sulphurous acid alone, in its diluted form or in bisulphite of sodium or bisulphurous sodium, has proved of economical usefulness.

The idea of imparting a white shade to ground wood was derived from the old process of bleaching straw pulp, known before wood pulp was ground. The bleaching process may be briefly described as follows: Sulphur is burned in an oven for producing a sulphurous gas, the SO_2, the same that is used in the boiling of sulphite pulp in the known digesters (in its combination with lime forming calcium bisulphite). The SO_2 gas is introduced through suitable channels into, or rather under, the lower part of a tank provided with a perforated bottom, and also with slowly moving agitator blades, that tend to keep the gradually introduced parts of loose ground wood moving over the perforated inlets for the gas. An aperture is provided to allow the agitator arms to discharge the product, which is collected in a pile or in bags, where its color gradually improves. Experience must teach the time required for producing the best results. Naturally the tank must be closed and provided with an outlet for the gas into the higher regions out of harm's reach.

In case the pulp is to be bleached in the shape of loose rolls, a well closed compartment, perfectly constructed of brick or stone, provided with openings for ingress and exit of hands, gas and ventilation, may be the most advisable. In order to prevent the effect of the noxious gases any small opening should be temporarily hermetically closed by pasting strips of paper over the same. The rolls of pulp should be placed separately on strips of wood to allow the passage of the gases between the surface of the web and to proceed upwardly into the open air.

Another process for bleaching wood pulp by the influence of sulphurous acid is performed by soaking the stuff with solutions of bisulphite of sodium in large tanks and also in this case the rolls should be separately placed on end to allow the solution to pass between the layers.

The quantity of bleach required depends largely on the quality, age and other conditions of the wood, and it is therefore advisable to make several trials in order to reach the desired object. Every contact of iron with the solution, producing a black discoloration, must be carefully avoided. The last described process is the more expensive and causes additional labor. The weight should be ascertained before bleaching. However, in the latter process the appearance of free acid is entirely avoided.

PULP NOTES.

The Chatham Pulp & Paper Company, Limited, of Lachute Mills, Que., has been incorporated.

The Paper Trade Journal says that Francis H. Clergue and other capitalists, some of whom are residents of Detroit, are planning to erect one of the biggest paper mills in the country a few miles below Sault Ste. Marie, Mich.

The Imperial Paper Mills Company, of Sturgeon Falls, Ont., are building a new wood room much larger than the one recently destroyed by fire. The boiler room has been enlarged to accommodate another horizontal tubular boiler.

The Newfoundland Timber Estates Company are announced to have disposed of their timber areas in Newfoundland to Sir Alfred Harmsworth, the well-known publisher of London, England. The price is given as $2,000,000.

Mr. Charles W. Rantoul, jr., formerly with the Imperial Paper Mills, of Sturgeon Falls, Ont., has opened an office at 41 Park Row, New York, under the name of the C. W. Rantoul Company, Incorporated. The company will act as a selling agency for paper mills.

The members of the survey party sent out by the Quatsino Power & Pulp Company, of Vancouver, B.C., have completed their work for the season. The party numbered thirty-six. The investigations made prove that the company have valuable timber areas. The water power available has been estimated by Mr. Colby, of Boston, at 14,000 horse power, which will permit the company to operate on a large scale. The pulp mill have been completed and plans for the paper mill are being prepared. The construction of pulp mill and a saw mill will be commenced in January next.

The Nassau Paper & Pulp Company, of East Peperell, Mass., are reported to have purchased the pulp mill at Chatham, N.B., formerly operated by the Maritime Sulphite Fibre Company, but which has recently been in the hands of the Bank of Montreal. The purchasers will manufacture sulphite pulp for their mill at East Peperell. Contracts are now being placed for the cutting of pulp wood during the coming winter and the citizens of Chatham are looking forward with anxiety to the time when the mill will resume operations.

Large quantities of spruce and poplar are being forwarded to American mills from points in the Pontiac and Gatineau districts above Ottawa. This season the firm of McFarlane Bros., of Campbell's Bay, shipped 2,000 cords. This winter they expect to contract with jobbers for the cutting of 7,000 cords, mostly poplar and basswood. Next year it is expected that the Canadian Pacific Railway Company will build an extension in the Pontiac country, which will make marketable large areas of poplar and basswood suitable for pulp making.

F. H. Todd & Sons, of St. Stephen, N. B., are said to have completed arrangements with New York capitalists for the establishment of large pulp and paper mills on the St. Croix river. They have disposed of their timber holdings to the St. Croix Pulp & Paper Company, recently organized, with a capital of $2,500,000 and headquarters at Calais, Maine. Frank Todd is president of the new company, and I. B. Hosford vice-president and general manager. The company will require only the spruce growth upon their area, and Todd & Sons have secured the first option on the pine timber, a provision which will enable them to operate their saw mills as at present.

THE NEWS

ONTARIO.

—Alex. Mustard is rebuilding his saw mill at Bayfield, Ont.

—George Weaver is building a saw mill at Coldwater, Ont.

—Church & Bro., of New York, are starting a heading and stave mill at Orillia, Ont.

—New planing mills have been built at New Hamburg, Ont., by J. J. Berger and J. Forle.

—Ford & Greer, whose saw mill at Stoneleigh, Ont., was burned down recently, are rebuilding.

—David Gordon intends installing a shingle mill in connection with his saw mill at Dayton, Ont.

—Leuck Bros. are building a saw mill on the 2nd concession of Holland Township, near Owen Sound, Ont.

—The Nipissing Lumber Company, Limited, have been authorized to increase their capital stock from $40,000 to $125,000.

—Mr. Wayper, of Hespeler, Ont., has purchased 400 acres of timber land near South River, and is building a large saw mill.

—The will of the late Alexander Lumsden, lumberman, of Ottawa, showed an estate of $935,042, all of which is bequeathed to Mrs. Lumsden.

—The Davidson Lumber Company are now engaged in the construction of their new saw mill and logging railway. The mill will be located at Springfield Lake, N. S.

—Philip Ament is rebuilding his planing mill at Brussels, Ont., utilizing the old foundation. The new building will be of cement, two stories, 50 x 75 feet, with a dry kiln 25 x 50 feet.

—The Edmund Hall Estate has paid $37,000 to the Ontario Government as succession dues. Mr. Hall owned saw mills at Sarnia, Ont., and had extensive timber limits on the Spanish river.

—P. Sawyers, of Guelph, Ont., has sold his stave mill and fifty acres of pine timber to George McAllister, of the Guelph Saw Mills. Mr. Sayers will confine his attention to the mill at Nassagaweya.

—Alfred Bordeau, an employe of Pincombe & Donaldson's saw mill at Strathroy, Ont., lost his left arm by having it caught between the chain and the pulley while engaged in hauling logs from the yard to the mill.

—Moses & Son, of Carp, intend building a mill at Farrelton for the manufacture of cheese and apple box veneer, in addition to the usual custom work. This will make four mills operated by this firm, the other three being located at Carp, Vernon and Osgoode.

—The Rider & Kitchener Company, of Lindsay, Ont., are installing a plant for the manufacture of brush handles, blocks, and turned goods. This will be operated in connection with their present veneer and excelsior business. The new plant is expected to be in operation about the middle of December.

—A reorganization of the Ontario Bureau of Forestry and Colonization has taken place. The provincial parks, which heretofore have been in charge of the Bureau of Mines, will hereafter be under the control of Mr. Thomas Southworth, as Chief of the Bureau of Colonization, Forestry and Parks.

—Incorporation has been granted to the Leeds Lumber & Power Company, Limited, of Brockville, Ont., the directors being J. G. Gardner, F. B. Cossitt, C. T. Wilkinson, A. G. Bowie and R. A. Bowie. It is proposed to acquire timber limits and conduct a general lumber business. The capital is $40,000.

—Robert Stewart, Limited, of Guelph, Ont., have recently installed a new Woods (Boston) flooring machine, which they say is giving good satisfaction. They contemplate enlarging their mill and installing another large dry kiln especially for hardwood flooring. This firm are handling large quantities of southern oak, cypress and yellow pine.

—A joint stock company has recently been formed under the name of the Muskoka Lakes Milling & Supply Company, Limited. They propose to purchase the saw mill property situated at Rosseau Falls, Muskoka, from P. Mutchenbacker, and expect to turn over a stock of two and one half million feet of pine and hemlock during the season of 1905, a considerable quantity of which will be manufactured into all kinds of dressed stuff.

—The Carney Lumber Company, who are about to build a saw mill in Owen Sound, Ont., advise us that it will be a two band and gang mill, with dry kilns in connection, and that they expect to have it in operation by July 1st, 1905. They will build docks for water shipping and will have considerable tramways in their yard where lumber will be piled for rail shipment. They are logging 15,000,000 feet this winter to be manufactured in Owen Sound next year. After next year they expect to manufacture about 20,000,000 feet each season and to employ 200 men.

THE EASTERN PROVINCES.

—Sayre & Holly have completed their new saw mill at Chipman, N. B.

—A. F. Bentley has sold his saw mill at Loggieville, N.B., to A. & R. Loggie.

—The lumber and produce firm of L. & F. Tufts, St. John, N. B., has been dissolved.

—Leblanc & Company have sold their sash and door factory at St. Leonard, Nicolet County, Que., to Ambrose Champagne.

—Hercule Dupre and Arthur E. Beaupre have registered as proprietors of the saw mill business of H. Dupre & Company, Portneuf, Que.

—The business of Adams, Burns & Company, of Bathurst, N.B., will hereafter be conducted by a joint stock company, under the name of the Adams, Burns Company, Limited. The capital is $175,000.

—The Rosebank Lumber Company, of Rosebank, N.B., has been incorporated, with a capital of $75,000, the promoters being O. W. Norden, Knup Norden, Axel. M. Sundon, Pedee C. Waern and Carl F. Neisson. It is the intention of the company to erect a large saw mill to manufacture articles not hitherto made on the Miramichi river.

—The East Templeton Lumber Company, Limited, of Brockville, Ont., has been incorporated, to acquire the business heretofore carried on at East Templeton, Que., and elsewhere by the late John MacLaren. The capital stock is $300,000 and the incorporators include W. C. MacLaren, of Brockville, Ont., and John E. Vallillee, of Buckingham, Que.

MANITOBA AND THE TERRITORIES.

—The Macoun Lumber & Hardware Company, Macoun, N.W.T., has been dissolved.

—The Great Northern Lumber Company, Limited, has been incorporated at Kamsack, N.W.T.

—The Calgary Lumber & Manufacturing Company, Limited, has been incorporated at Calgary N. W. T.

—The lumber business of James McDole, Cypress River, Man., has been purchased by Thomas Millard.

—R. J. Arbuthnot, lumber and hardware merchant, Minto, Man., is closing out his business and moving to Winnipeg.

—The Rat Portage Lumber Company are now at work on the erection of their sash and door factory at Norwood, Winnipeg.

—Lawrie & Williams, retail lumber, Moose Jaw, N.W.T., have dissolved, and a new company has been formed by J. A. Laurie.

—The Western Trading Company, of Abernethy, N. W. T., have sold their lumber business to the Gibson Lumber Company, Limited.

—The Cusson Lumber Company, of Winnipeg, have leased six acres of land near the the Seine river, where it proposed to establish a factory.

—The firm of Morkill & Bayly, wholesale lumber merchants, Winnipeg, Man., has been dissolved and the business will be continued by Mr. Bayly.

—J. A. McTaggart has started in the hardware and lumber business at St. Peter's and Humboldt, N.W.T., two towns on the Canadian Northern Railway.

—The Rushton Lumber, Grain & Supply Company, Limited, has been organized at Wetaskiwin, N. W. T., with the intention of opening branches in new towns on the branch railroad.

—The Regina Planing Mill & Supply Company, recently granted a bonus by the city of Regina, N.W.T., have commenced work on their planing mill, which will be a two-storey structure equipped with modern machinery.

—Christie & Company, Limited, have been incorporated as lumber merchants at Winnipeg, Man., with a capital of $40,000. The members include John A. Christie and John Dick, lumber merchants, of Winni-

peg, and William Cowan, lumber merchant, of Prince Albert, N.W.T.

BRITISH COLUMBIA.

—John Jackson, a well-known logger of Vancouver, B.C., was drowned at Malespina Inlet by the upsetting of a boat.

—C. F. Wilson has applied for a lease of property on False Creek, Vancouver, B. C., for the operation of a small saw mill.

—Small & Bucklin, a lumber firm formerly of Ithaca, N. Y., purpose building a saw and planing mill at New Westminster, B. C.

—The Elk Lumber & Manufacturing Company, of Fernie, B. C., purpose making improvements on the Elk river for logging purposes.

—Pearson & Jewel give notice of proposed improvements to Little Sand and McBayne creeks, East Kootenay, B. C., for logging purposes.

—The Fernie Lumber Company, of Fernie, B.C., have established a lumber yard at Calgary, N.W.T., which will be in charge of W. McKinnon.

—The Victoria Lumber & Manufacturing Company, of Victoria, B. C., intend making improvements to the Tsolum and Courtenay rivers for logging purposes.

—The British Columbia Manufacturing Company, of New Westminster, B. C., are turning out some fine qualities of veneer, for which they are finding a large demand.

—The McNab Lumber Company have established a mill at Fort Steele Junction, B.C., for the purpose of cutting some timber which was damaged by fire during the past summer.

—The Capilano Lumber Company, of Vancouver, B.C., are building a new saw mill, also a large flume from a point above the waterworks dam at the Inlet front, the latter to be used for the floating of logs to the mill.

—It is reported that, after a visit to British Columbia and an investigation of lumbering conditions, the directors of the Ontario-Slocan Lumber Company have decided not to increase the producing capacity of their mill at Slocan, B.C., at the present time.

—The British Columbia Mills, Timber & Trading Company, of Vancouver, B.C., was awarded the first gold medal ever struck by the Royal Agricultural and Industrial Society of New Westminster, B.C. The prize was given for their display of "ready made" houses.

—The Cranbrook Sash & Door Company, Cranbrook, B.C., has been reorganized under the name of the Kimberley Milling & Manufacturing Company, the partnership now consisting of H. A. McCowan, Albert Slater, A. S. Nicholson, J. H. Spence and William Slater.

—The Barclay Sound Cedar Company, Limited, has been incorporated by the British Columbia Government, with a capital of $50,000, to carry on a general logging and lumbering business. The Windermere Lumber Company, Limited, has also been incorporated at Victoria, B. C., with a capital of $20,000.

—The Royal Lumber Company, which was recently incorporated by the British Columbia Government, is the name by which the McGoldrick Syndicate will hereafter be known. The company contemplate extensive operations in the Nelson district. The principal shareholders are J. P. McGoldrick, T. A. Lammers, and the Eastside Lumber Company, of Stillwater, Minn.

—The Elk Lumber & Manufacturing Company have placed contracts for the machinery for their new mill now under construction at Fernie, B.C. The mill will have a capacity of 125,000 feet in ten hours. The power will be furnished by six boilers and four engines and there will be a double cutting band mill. An electric light plant will also be installed, the intention being to make the new plant complete and modern in every respect.

—J. A. McArthur, Alfred Campbell and Michael Purtell, of Sussex, N.B., and James Smith and James W. McAfee, of Millstream, N.B., have formed a company to carry on lumbering operations in British Columbia. Mr. Purtell recently went to Cranbrook to survey 8,000 acres in that vicinity, on which there is said to be 60,000,000 feet of timber. It is understood that for the present operations will be conducted with a portable mill.

—E. F. Ferris, of Traverse City, Mich., has been in British Columbia recently for the purpose of looking into the lumber business. He claims to represent capitalists who are willing to invest about $300,000 in acquiring timber limits and building a saw mill. Surveyors on their behalf are now cruising 10,000 acres of timber lands on both sides of the North Thompson river, which consist principally of cedar. It is proposed to bring the logs 150 miles down the river to Kamloops, which is believed to be entirely feasible.

—The Kamloops Lumber Company are making good progress with the erection of a new saw mill at Kamloops, B.C., to replace the one destroyed by fire in December last. The main building will be 136 × 30 feet, with a planer shed on the west side 60 × 60 feet. It will be a frame structure with sheet iron roof. The Waterous Engine Works Company, of Brantford, Ont., will supply most of the equipment, which will include a steam log roller, steam nigger, automatic lumber transfers, a slash table having 16 saws, heavy lumber planer, moulder, sticker, flooring machine and resaw. There will be two 125 h.p. engines and a battery of three boilers. The plant will cost about $75,000 and the output will be 20,000,000 feet per annum, about double the capacity of the former plant. Manager George McCormick states that the mill will be completed by April next and that the monthly pay roll will be $10,000.

It is announced that Mr. Samuel McBride, a well-known wholesale lumber dealer, and one of the directors of the Toronto Industrial Exhibition, will be a candidate for Alderman in Ward 3 at the approaching elections.

PERSONAL.

We regret to learn of the death of Mr. Herman J. Kreinheder, of the Standard Lumber Company, Buffalo, which took place on October 29th.

Mr. William N. Sawyer, of the firm of Wellman Sawyer & Morgan, Pittsburg, has been appointed general manager of the Consolidated Lake Superior Company, of Sault Ste Marie, Ont., as successor to the late Cornelius Shields.

The death is announced of Mr. E.B. Ketchum, manager of the Lawton Saw Works, St. John, N.B., at the age seventy-three. In his earlier life Mr. Ketchum was a master mariner, subsequently engaging in general business and becoming interested in mining and manufacturing.

Mr. Alexander Hamilton died at his residence, 659 Lansdowne Ave., Toronto, last month as a result of an accident. Mr. Hamilton entered the service of the C. P. R. as lumber inspector in 1888, a position from which he retired with a pension last summer. He was born in Peebles, Scotland, in 1836, and came to Canada fifty years, settling at Atwood, Perth county.

Mr. John Lummis, of Wyebridge, Ont., died last month as the result of injuries received by being thrown out of a buggy. Deceased was born in Yorkshire, England, coming to Canada with his parents when six years of age and settling in Quebec. He afterwards lived near Lindsay, Ont., and later removed to Wyebridge, where for years he has conducted a successful lumbering and flour milling business.

Some important changes on the Canadian division of the Pere Marquette Railway have been announced. General Superintendent William Woollatt, with headquarters at Walkerville, Ont., has resigned on account of ill-health and has been succeeded by J. S. Pyeatt, who has been assistant to General Manager Cotter at Detroit and also Superintendent of Telegraphs. H. O. Halstead, of Detroit, succeeds Mr. Pyeatt.

Mr. Charles F. MacGill, long and favorably known as mechanical superintendent of the Canadian General Electric Company at Peterboro and the Canada Foundry Company at Toronto, has accepted the position of general superintendent of Carrier, Laine & Company, Levis, Que. Mr. MacGill has been in Canada about six years, and previously was connected with some of the best concerns in the United States, notably the General Electric Company and the Westinghouse Company.

Mr. J. Remonda, of the firm of Remonda, Monseratt & Company, of Rosaria de Santa Fe, Argentine Republic, was a visitor to Canada last month. His firm are large importers of spruce lumber and the object of his visit was to investigate the lumber industry with reference to the methods of manufacture, extent of supply and shipping facilities. Mr. Remonda visited the white pine and spruce districts and is said to have purchased considerable lumber. He remarked that the Canadian lumbermen did not give as much attention to the details of manufacture as did the Norwegians and Swedes, with the result that their lumber was less perfectly manufactured.

BAND SAW CRACKS.

Having noticed inquiries as to the cause of both edge and center cracks, I will tell how I steer clear of them. Five years ago, where I am at present employed, edge and center cracks were an every day occurrence. The firm sent to New York City for an expert to locate the trouble. After looking the machine, saws and filing room equipment over, he told them what they wanted was a filer. When I came they had four saws, two of which had not been run for some time. They were full of center cracks from 1-8 inch to ¾-inch long, and saws not worn down ¼-inch yet. The other two saws were practically new, but there were two brazes in one saw and four in the other.

The first thing was to overhaul the machine and line up the wheels. I did not tip the upper wheel, as some filers do, but left it plumb with lower wheel. I think it bad practice to do so, and will try to make my reason clear. What is the sense of running a long-back saw and tipping upper wheel forward to take up the extra length in saw? There is nothing gained by that. You might better run a straight-back and leave the upper wheel alone. It takes some stretching to put the back in a saw, and if you tip upper wheel forward, the tooth edge of saw, while in the cut, will be the longer, which is the reverse of what you want to cut straight lumber. I always put up my saws with 1-8 inch back in 12 feet.

The next thing was the guide blocks. They were made of soft brass, and by the looks of the saws it seemed as if the sawyer had tried to hold the saws in the cut with the guides, as the saws were brass-plated where they run through the guides, and consequently crystallized. I substituted maple, not having lignum-vitæ on hand. I always have an extra set of guide blocks soaking in oil, and don't use dry end wood, as some filers do.

The next operation was to get the saws in shape to cut lumber. Looking them over, I found the saws with the center cracks had the least tension and the edge-cracked saws the most. Some filers blame all center cracks to too much tension. Admitting it, yet I have seen saws run with so much tension that when lying on the bench they were all wavy, yet they did not center crack. My opinion is that more saws are center cracked from rubbing on the guides and having cross lumps in them than from any other causes.

I prick-punched all the cracks I could find and fitted the saws up as explained in a previous number of The Wood-Worker, then took off 600 pounds of straining weight, and was ready to make a run. I started the machine and watched all boxes, letting machine run light for a few minutes. Everything seemed right except a little vibration of machine, as there was no foundation under it, no is there yet. There was about 10,000 feet of white pine to be resawed, and after I got started sawing there wasn't a man about the place that did not come in to rubber, as I was feeding 105 feet of 1x12 pine. Getting another man to help take away, I finished the run, then looked over the saw and found I had a few new center cracks, but I expected that, as a saw that is crystallized will keep on cracking; the only way to stop it is to send it back to the factory and have it retempered. I made those saws go until I got four new ones. Since then the machine has made its two runs every working day and I have had but two cracks, and those in the braze. I attribute my success to never slighting my work and keeping my saws as nearly perfect as it is possible to have them.

In conclusion would say, don't use metal guides, but use wood well soaked in oil. Don't try to make the guides make up for poor saw filing, as a saw that is poorly put up won't stay in the cut, no matter how close the guides may be. Have the tension as even as possible, as a little tension evenly distributed is better than a lot unevenly put in. See that there are no "round-corners" on the teeth. See that the box nearest lower wheel fits snugly, as any jump there will crack a saw every time. And, above all, don't have any cross-bars in your saws; they are easily found by wiping the saw with kerosene oil and drawing straight-edge from tooth edge to back edge; every one will be marked. Take them out with long-face hammer. Don't try how quickly you can put up a saw, but how well. Go over your saws often; don't wait until they begin to dodge.

Use little clearance; a saw with little set will stand up better, cut smoother and use less power. *Don't use the tilting device at all,* and if you use the crossline, be careful; when you use that you are running your saw in a twist, and that is something to be avoided. I use neither crossline nor tilt, but put up all my saws alike, and when they begin to crowd back, I sharpen again. There are lots of saws broken by trying to make them cut five hours, whereas three would be better. I have found that saws will become crystallized on the back edge by bearing on the sharpener rest while sharpening, but that can be removed by holding a piece of emery wheel at back of saw while running.—John Holland, in The Wood-Worker.

PUBLICATIONS.

Cowan & Company, of Galt, Ont., have issued a very complete and interesting new catalogue of wood-working machinery.

A small booklet from R. Hoe & Company, New York City, tells how the Hoe chisel tooth saw is made and how it should be taken care of.

"Tangible Results" is the title of a booklet issued by the W . as Engine Works Company, of Brantford, Ont., the main purpose of which is to show the economy and advantages of band saws.

Messrs. Graham, Morton & Company, engineers and contractors, Leeds, England, have issued a very attractive catalogue, No. 940, devoted to conveying plant for the handling of all classes of materials.

Mr. H. R. A. Baughman, of Indianapolis, Ind., has issued the seventh edition of "Baughman's Buyer and Seller," which has been enlarged and improved. The lumber tables show nearly nine thousand different sizes and lengths, and the number of feet in any number of pieces can be determined at a glance. The cost and interest tables are also a valuable feature of the book.

A. F. Bartlett & Company, of Saginaw, Mich., have issued a catalogue devoted to special saw mill machinery, including Bartlett-Corliss engines, deck hoists, twin engine rope feeds, saw mill hogs or edging grinders, etc. This company have a reputation for supplying the best machinery, their works being splendidly equipped for that purpose. They are prepared to make estimates on mills of any capacity.

Mr. D. Boyce Sprague, of the Sprague Lumber Company, Winnipeg, Man., has been appointed Hoo-Hoo Vicegerent for the Central District of Canada.

VARIETY TURNING AND BORING LATHE.

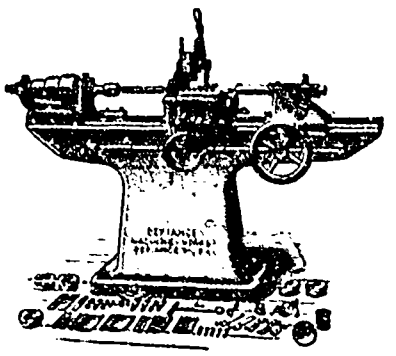
The illustration herewith represents the No. o Variety turning and boring lathe manufactured by the Defiance Machine Works, of Defiance, Ohio, for producing turned articles from wood. It is arranged to meet the most exacting requirements and will produce turned work sharp, clean and smooth, in either plain or beaded turning, and do the work so that no hand labor is required after leaving the machine. The material from which the work is turned is placed into the machine in short or long pieces, and is converted into the finished article, bored, turned, polished and cut off complete ready for use.

The frame of this machine is cast in one piece with cored centre and a broad floor base to stand firm. The top is accurately planed and scraped to bearing for the working parts.

The head spindle, of steel, runs in large bronze self-lubricating bearings, and it is driven by a three-step cone pulley, giving three changes of speed for small or large work. The front end of the spindle is fitted with a screw chuck to hold one end of material to be turned, the other end turning in the roughing head bush.

The cutterhead carriage is thoroughly gibbed to the top of the frame of the machine, and is provided with a horizontal movement by hand-wheel to move the cutters to where the turning shall begin. It also has a right angular movement by hand lever, to move the finishing knife to the work.

The roughing cutter is attached to the carriage immediately in advance of the finishing knife. It reduces the square material to the smallest diameter to which it will nicely finish. The cut-off attachment is also fitted to the carriage and travels with it. It stands in a vertical plane and is brought down to its work by a convenient hand-lever.



NO. O VARIETY TURNING AND BORING LATHE.

The tail stock is gibbed and accurately fitted to the top of the frame, central with the head spindle. It is fitted with a large spindle to carry a boring bit to bore holes of different sizes. When work is intended to be bored, the boring is performed before the turning is accomplished, leaving the boring bit in the hole while turning, it acting as a steady rest. For doing work that requires no boring, a cup center is used in place of the bit. The tail spindle is brought up to or from its work by a convenient hand-wheel.

In operating this machine, the square material to be turned is placed into the chuck while the machine is in motion. No stoppage is necessary either to place in the rough material, or to take out the finished product. The material is first roughed by sliding the carriage forward in a horizontal plane a sufficient distance to suit the length of the article to be turned. The boring is then performed, after which the finishing knife is brought up to the work, which is shaped complete at one movement. The cut-off knife is then brought down by hand lever and the finished product is discharged from the machine, and so the work is continued until the material in the lathe is entirely consumed.

The capacity of this machine is sufficient to produce from 5,000 to 8,000 pieces per day, depending upon the size and shape of work and the quickness of the operator. It will turn irregular work eight inches long and shorter, but plain round work, such as rollers, pins, etc., can be turned up to 36" long, and from ⅛" to 3" diameter.

If you have a saw mill in connection with your plant and you use the slabs as fuel, they can be dried easier or quicker if piled with the round or bark side down. Moisture follows the grain of the wood and drains out at once when piled this way. A gum slab piled round side down will rot out in a short time, even under cover, as the moisture is retained in the slab, the ends drying and closing the pores of the wood. On the other hand, when firing slabs under a boiler, they should be placed on the fire with the round side down, as they burn better in this position and offer less resistance to the flames.

Pitch-pine was introduced into France about the year 1869, and did not gain popularity so rapidly in that country as in England. Now, however, enormous quantities of this timber are used in France, and, owing to increased demand, the price for this wood is rising proportionately. The resin in pitch-pine is prevented from oozing out by smoking the trees immediately after felling, which hardens the resin and causes it to crystallize in the woody fibres.

Uncle Sam would not allow his battleships to be babbitted with inferior babbitt metal. New Battleship "Nebraska" is lined with Syracuse Babbitt. Always specify best. It is cheapest in long run.

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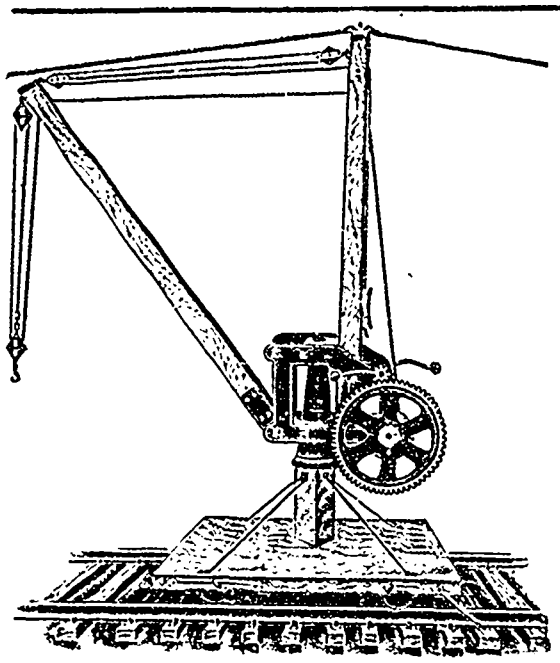

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Adjustable Log Siding Machine

is without a peer.

This machine will slab opposite sides of a log in one operation at the rate of two thousand logs in 10 hours.

A MONEY MAKER **A MONEY SAVER**

HUNDREDS OF LETTERS RECEIVED LIKE THIS :

Rock Island, Ill., Nov. 25, 1902.

RODGERS IRON MANUFACTURING CO., Muskegon, Mich.

Gentlemen :—Replying to yours of recent date and referring to your adjustable log siding machine, must say it has given us general satisfaction, and we have done good work with it. Any one desiring a machine of this style for the purpose of slabbing small logs, we would recommend yours.

Respectfully, WEYERHAUSER & DENKMAN.

For full particulars and literature, mention this paper and address :

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The Shimer Cutter Heads

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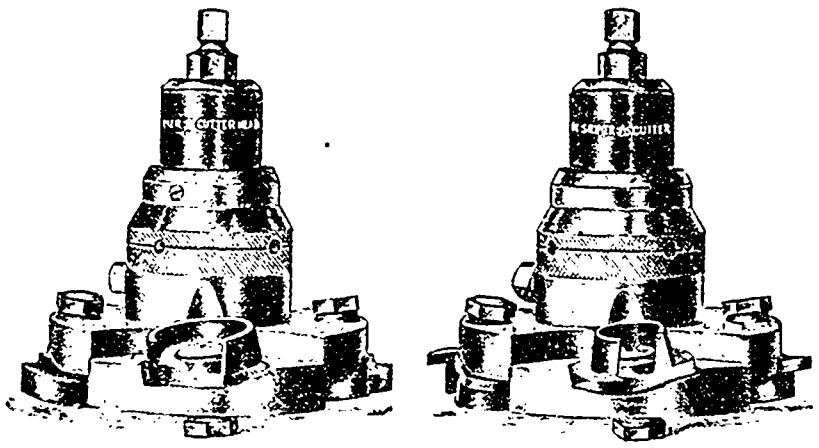
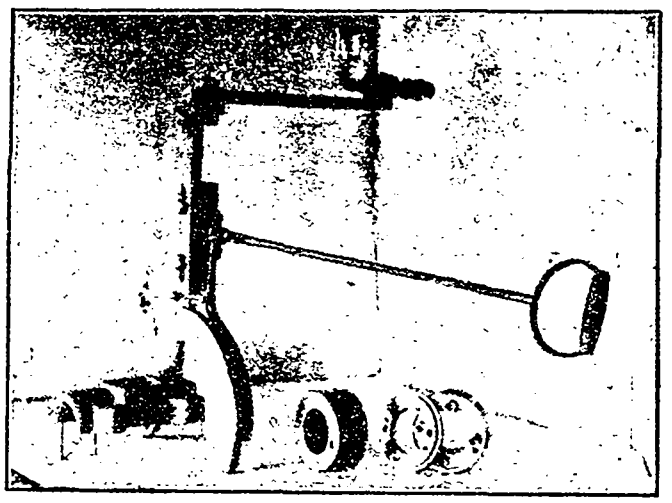


Are built from forgings of Steel and finished throughout in the solid metal. This insures accuracy, durability and perfect mechanical adjustments.

They are appreciated by the user because they hold up under the severest tests. They cut easily all kinds of hard, knotty and cross-grained lumber. If you make single tongue and groove Flooring, Ceiling and Wainscoting, buy THE SHIMER CUTTER HEADS and you will have no disappointment. Address

SAMUEL J. SHIMER & SONS
Milton, Pennsylvania



"KILLAM'S TANDEM CIRCULAR SAW MILL"

The attention of Manufacturers of Lumber is called to the above named latest and best method of sawing lumber.

The following advantages are obtained:

Lower cost of installation than any other method which will saw an equal number of superficial feet in a given length of time.

Smaller expense in operation thus producing lumber at a lower cost per thousand feet than any other method.

Requires no more help to operate it than any well equipped Circular Saw Mill.

Lumber has been sawn better and more accurately cut by this method than by any other now in use.

The Killam Tandem Circular Mill requires no more skilled men to operate it than is required to operate the ordinary Circular Mill.

If solid saws are used, the larger one, when worn down can be used for the smaller one thus saving expense for saws.

No difficulties in handling or setting by this machine and no delays.

No time is lost in setting for any thickness from the cut of stationary saw up to six inches.

This machine takes the place of a resaw in a mill and only requires a floor space of 6 ft. x 6 ft.

Also takes the place of a Twin Circular Mill that is now used for slabbing, and this machine will side as much lumber as any Twin Circular, thus saving the expense of a resaw and men to operate the same.

This machine is so cheap that any manufacturer of lumber can well afford to have one, both will pay for itself in a short time.

Will cut 50 per cent. more lumber an thet Circular Mills now in use.

MANUFACTURED BY OXFORD FOUNDRY & MACHINE COMPANY, OXFORD, N. S.

REFERENCE.

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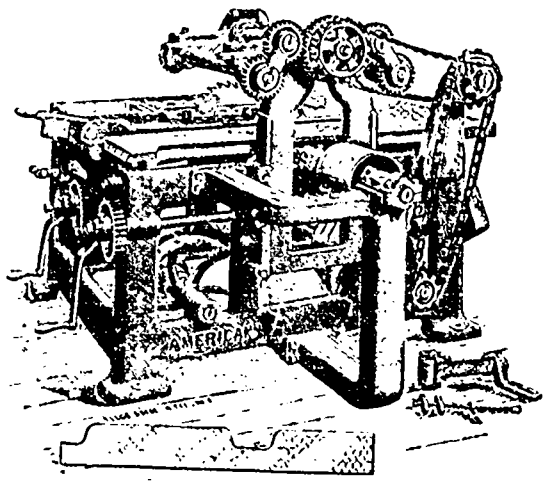
Dear Sir,—It gives us great pleasure to testify to the value of your Tandem Circular Saw Mill It has paid for itself twice over during the six months we have run it. It requires no more help to operate it and the lumber is more evenly sawn. It does all that you claim it will and we would recommend it to any manufacturer who wishes to make more and better lumber with the same help as with the Single Circular Mill. Wishing you success, we are Yours very truly,

Dec. 31, 1903. DICKIE & McGRATH Tusket, N. S

3 in. x 8 in. and up 30 00 35

American No. 2 Self-Feed Rip Saw Table



Opposite Side--May be Belted in Any Direction.

Designed for ripping hard or soft woods up to 25 inches in width and 6 inches thick.

The Arbor is extended so as to carry two or more saws. Extreme distance between saws 6½ inches. By placing the saw against outside collar 31 inches in width can be ripped.

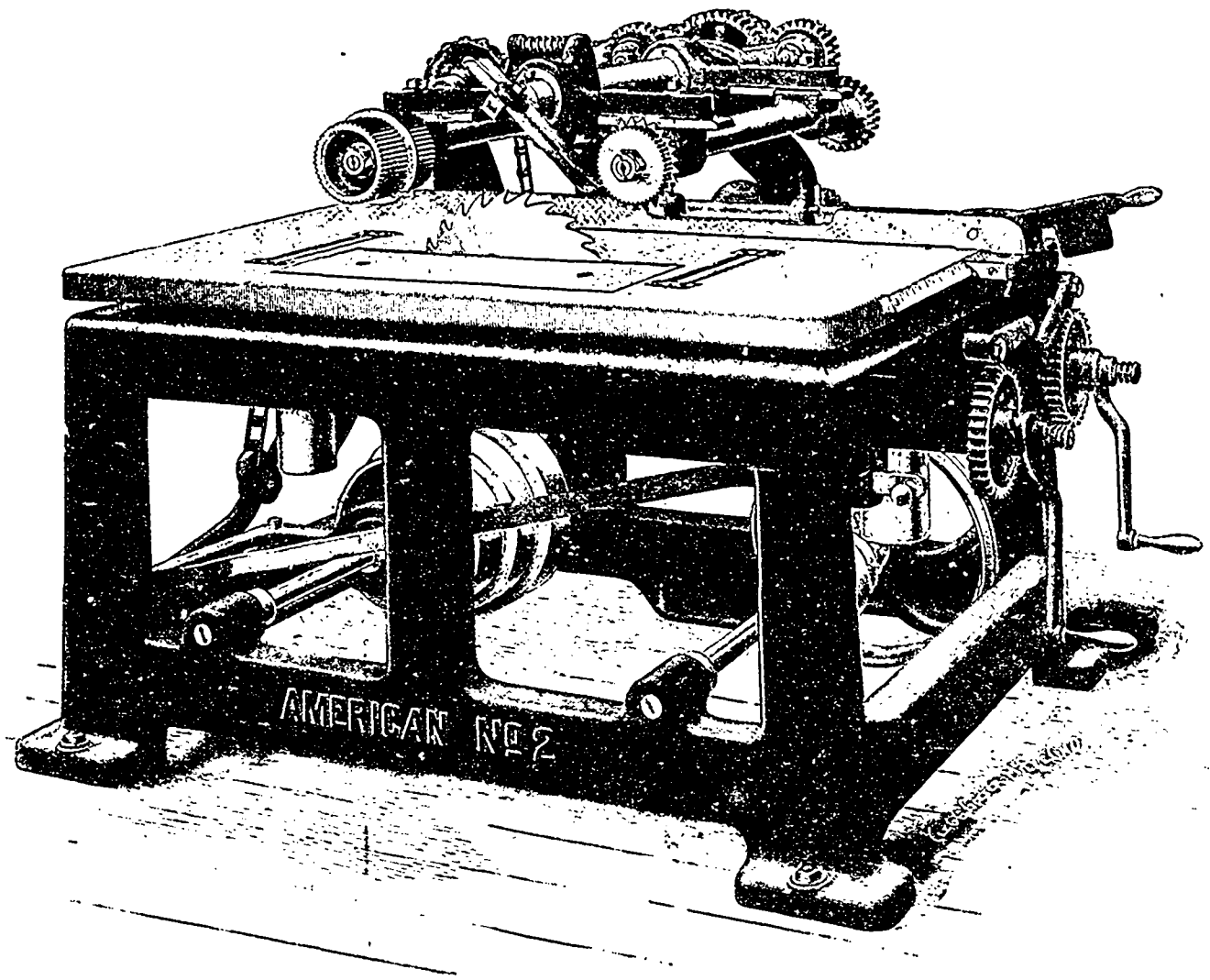
Table, 40 inches wide, by 55½ inches long, provided with two idler rolls and throat plate.

Feed, strong and positive; is adjustable so as to lay close to a 10 inch saw and expands to take in a 20 inch saw.

Our improved self-locking gauge is simple in construction, easy to operate and when set is perfectly rigid.

Workmanship the very best throughout.

Write for full particulars.



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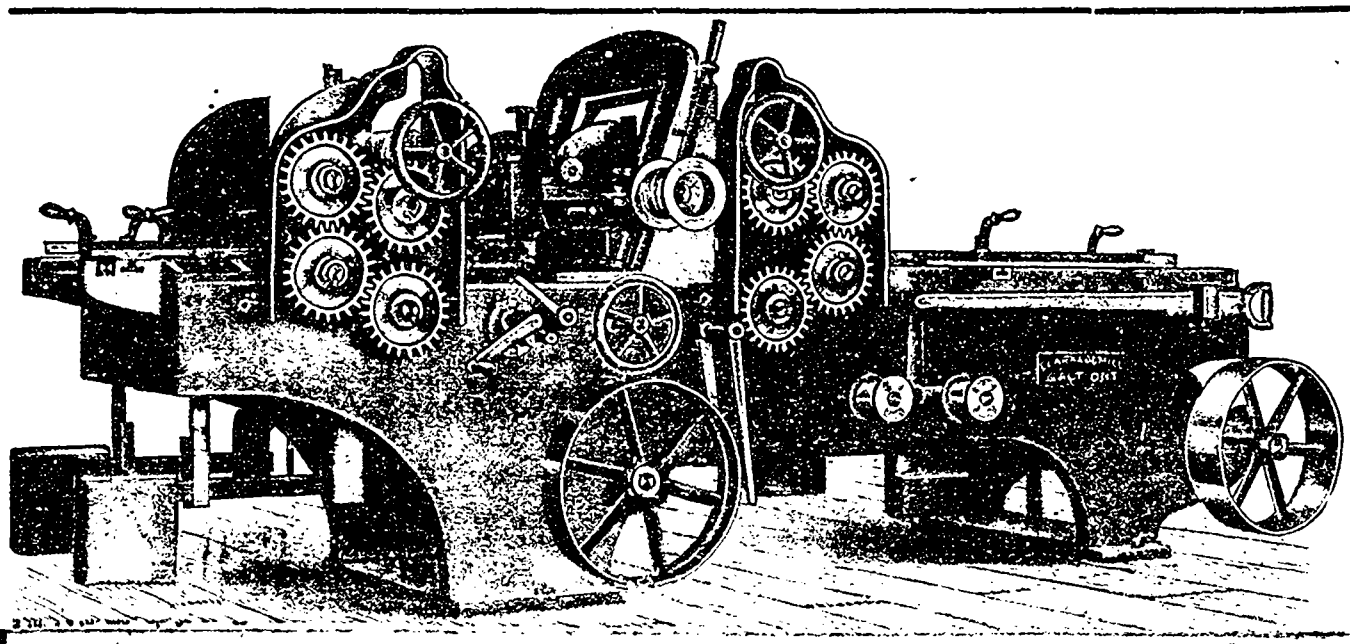

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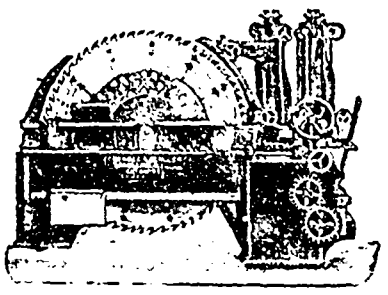
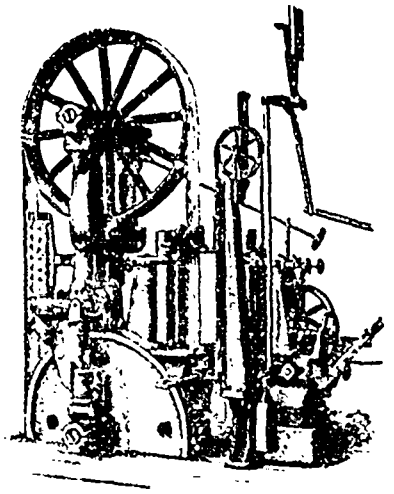


44 inch Circular Re-Saw.



60 inch Band Re-Saw

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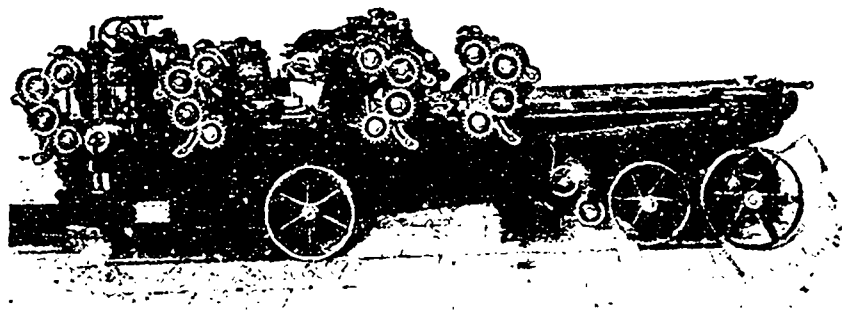

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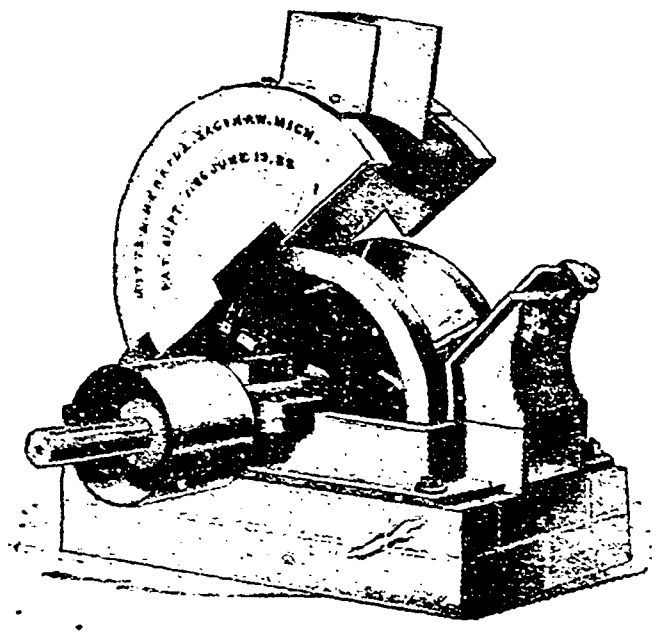

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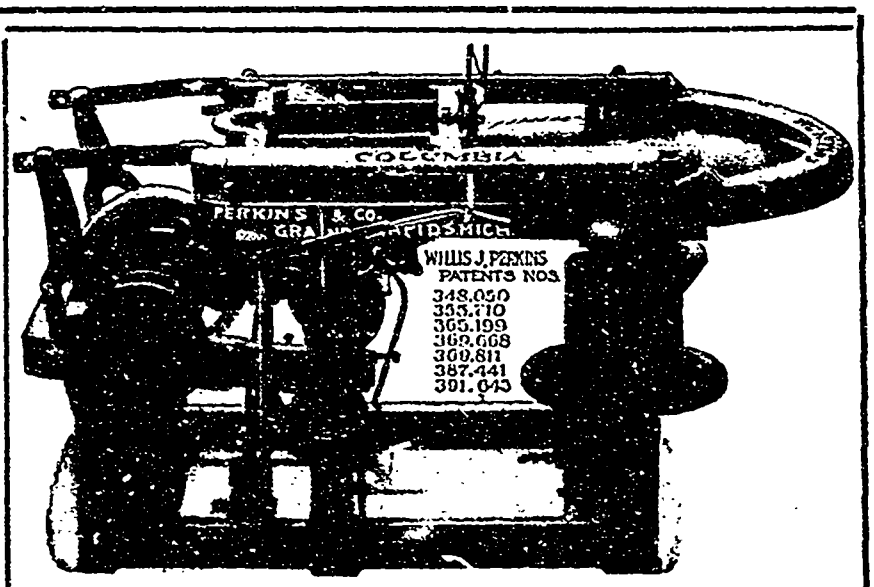

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