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# THE CANADA LUMBERMAN

Wood-Workers', Manufacturers' and Millers' Gazette

TORONTO, CANADA, JUNE, 1902

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**EMERALD BRAND BELTING**



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THE BEST FOR MAIN DRIVES.  
MOST DURABLE  
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That will wear longer, need less repairs,  
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WIDTHS  $\frac{5}{8}$   $\frac{3}{4}$   $\frac{7}{8}$  IN  
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FINE GRADE OF VERY TOUGH SOLDER  
PER OUNCE IN 10 OZ LOTS 90¢ PER OZ  
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Axes, Moccasins, etc.

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*Strongest* **GUMATA**

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BEWARE OF  
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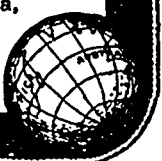
are the first, the only and the  
original beltings of this kind  
ever made, and are all stamped  
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ALWAYS UNIFORM IN EITHER WET OR DRY  
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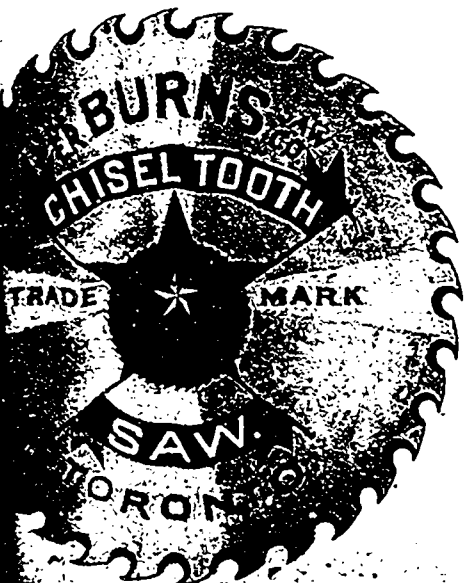
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**SHINGLE SAWS**

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**Designers and  
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**New and Modern Saw Mills and  
Machinery for same**



**WE ALSO BUILD**

Pulp Mill Machinery,  
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PETERBOROUGH, ONT.

# R. H. SMITH CO., LIMITED

## St. Catharines, Ont.

We are the Sole Manufacturers of Saws under the

### Simond's Process

in the Dominion of Canada.

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

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

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

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

Yours very truly, JAMES MCKINLAY.

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

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

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

Yours truly, KILGOUR SHIVES.

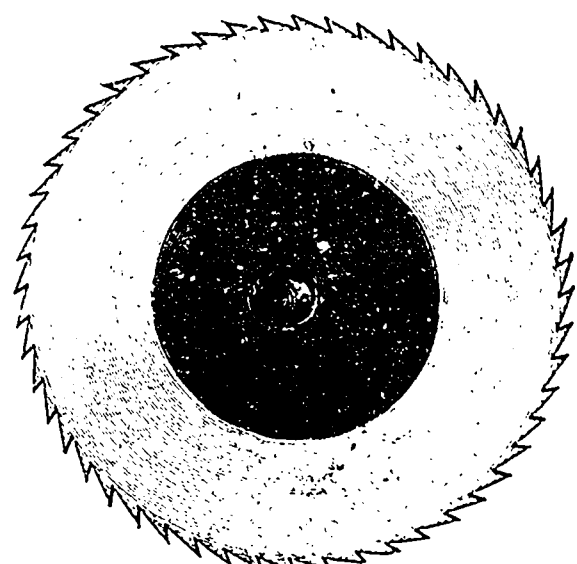
CLAVERING, ONT., May 3rd, 1897.

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

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

Yours truly, W. G. SIMMIE.

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



## THE "LEADER" CROSS-CUT SAW

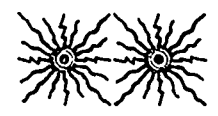
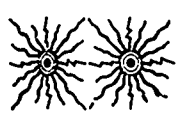


These Saws are made from the best DOUBLE REFINED SILVER STEEL, warranted four gauges thinner on back than front, and the only Saws on the market that are a perfect taper from the points of the teeth to the back, and require less Set than any other Cross-Cut Saw.

They are tempered by the Simonds' Patent Process, insuring a perfectly uniform temper throughout the plate, and stand without a rival as the BEST, EASIEST, AND EASIEST-CUTTING SAW KNOWN. A gauge to regulate the clearing teeth is furnished with each saw.

Directions for Setting and Filing are plainly Etched on every Saw. None genuine without our Registered Trade Mark as shown in cut.

## THE "LEADER" SAW SWAGE



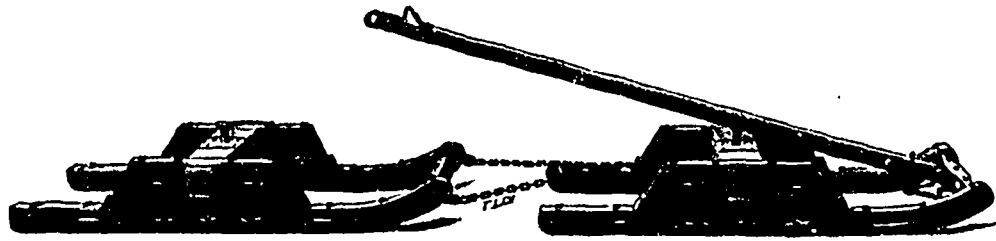
Made in 3 Sizes—\$2.00, \$2.50, \$3.00, etc.

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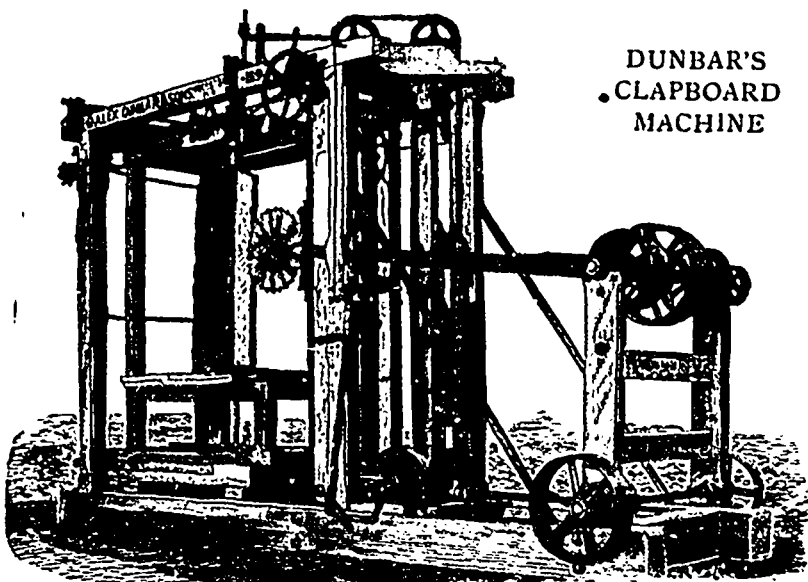
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Is a splendid Sleigh for the use of Lumbermen.



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MACHINE

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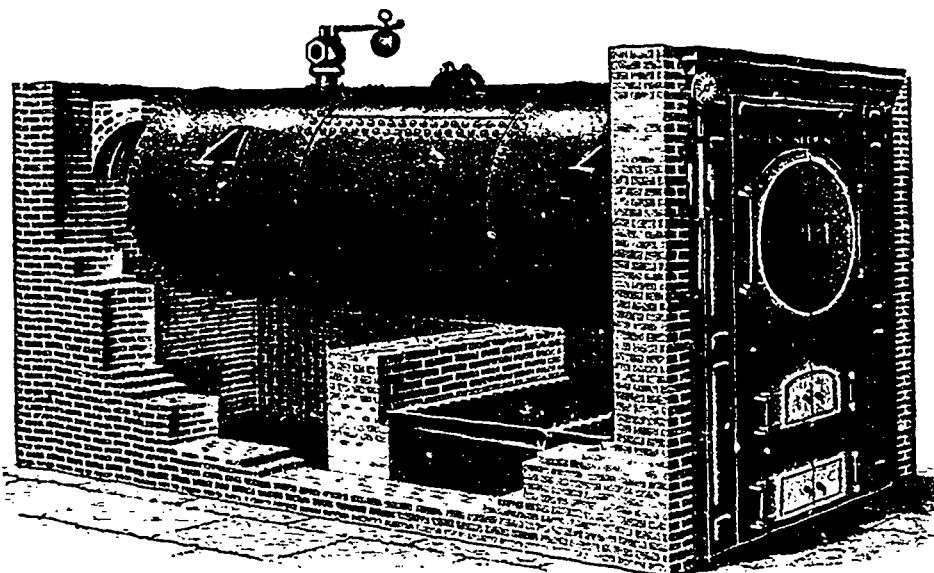
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# Boilers For Saw Mills



We have built a large number of standard return Tubular Boilers for Stationary Saw Mills in all parts of the Dominion.

We buy our material in large quantities, and as our shop is thoroughly equipped we are able to quote the very lowest prices.

Competent persons tell us that the quality of our boiler work cannot be surpassed.

**Robb Engineering Co., Limited, Amherst, N. S.**

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**XXX**

# The Saw Gummer and Sharpener

*Has no Rival*

**FOR VARIETY, CAPACITY OR QUALITY OF WORK**

OR FOR

**SIMPLICITY, DURABILITY, CHEAPNESS**

Will take saws from 6 inches to 6 feet diameter; sets the saw forward one tooth at a time automatically; sharpens any saw perfectly, giving the teeth any desired pitch, and making all the teeth exactly alike. Will sharpen 20 teeth in an ordinary saw mill in one minute, or 100 teeth in a shingle saw in four or five minutes. The cut shows outline of mill saw 54-inch diameter.

PEMBROKE, ONT.

Mr. F. J. DRAKE Belleville.

Dear Sir,—Re the conversation you had with our manager, I am instructed to inform you that the machine we purchased from you early last spring has proved to be a very useful piece of machinery. Our Mr. McCool, who uses it, is greatly pleased with it, and recommends it to any person who may require a Saw Filer. Wishing you every success with your Filer, we remain,

Yours truly,

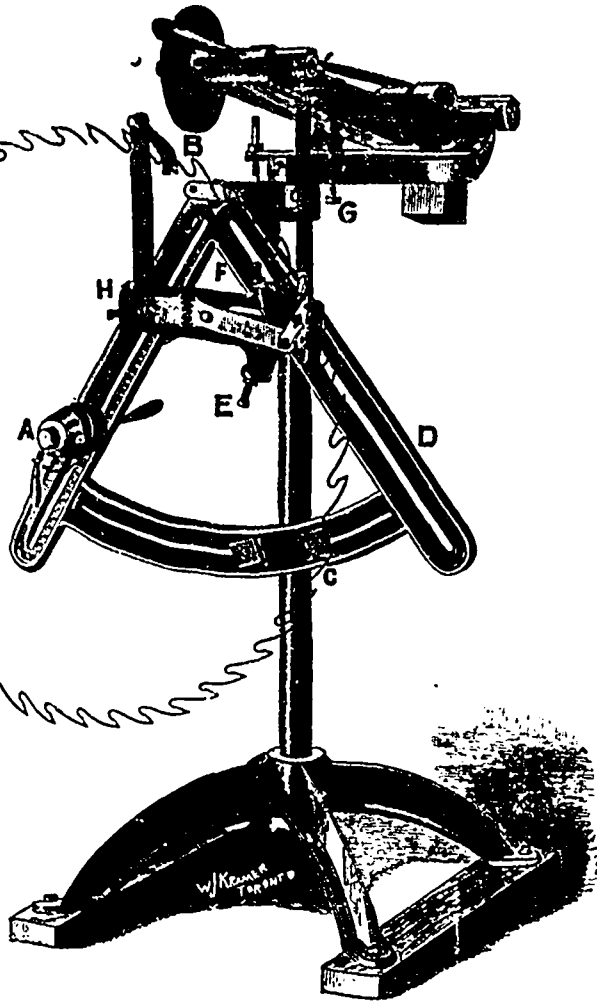
(signed) THE PEMBROKE LUMBER CO.  
Per W. H. Bromley.

SEND FOR CATALOGUE OF SAW MILL MACHINERY.

Manufactured Only by . . .

**. . . F. J. DRAKE,**

**BELLEVILLE. ONT.**



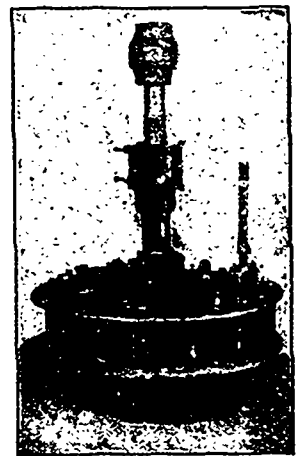
## THE LEFFEL AND VULCAN TURBINES

POSSESS DISTINCTIVE MERITS, which should have the attention of water power owners 1st—They are strongly and carefully built. 2nd—They are economical in their use of water. 3rd—They develop more power in proportion to the water used than

other Turbine built. Mr. J. D. Flavelle, of the Flavelle Milling Co., Lindsay, writes us under date of March 7th as follows:

"Referring to the two 74" water wheels (Leffels) purchased from you during the past year. As far as we have had an opportunity of testing, they have done their work excellently, in fact are doing more than you guaranteed them for. We took a test of the power they were developing with a head of water of 3 ft. 10 in., and they developed very close to 100 h. p. We are thoroughly satisfied with same."

**This letter is but one of many such.**



The Lane Saw Mill, Four Styles of Shingle Machines, Lath Machine Edgers, Trimmers, Pulleys, Hangers, Boxes, Etc.

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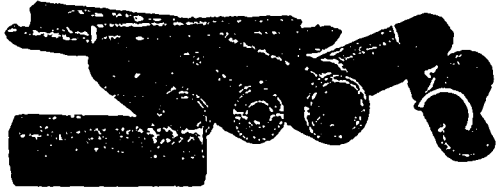
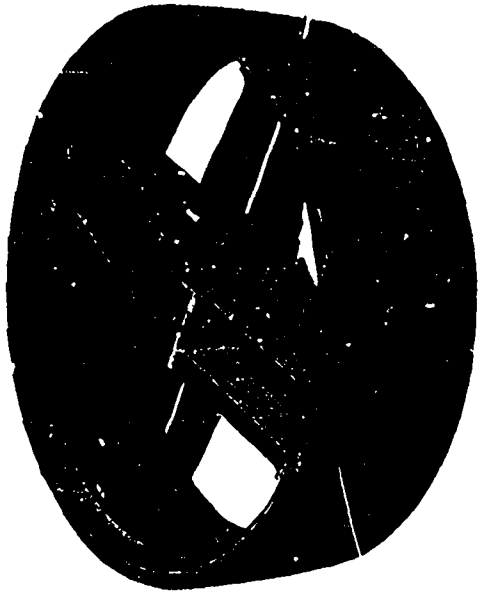
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Dodge Patent Independence Wood Split Pulley  
with Patent Standardized Bush-  
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CAPACITY 300 PULLEYS PER DAY.

Most progressive mill men now purchase "DODGE" Pulleys!  
Too busy to make their own pulleys—more money  
in lumber—and get a better pulley.

A few of the good features about the Dodge Pulley which go to make it  
the best—

Arms and Hub of Sound Hard Maple.  
Bushings Turned and Bored from the Solid Square.  
Arms Anchor Bolted to Rims with good Bolt Iron and Malleable Nuts.  
Maple Rims turned all over.  
All bolts made of "Bolt" Iron, pointed and "Hex" Nuts only used  
Finish Absolutely Water-Proof.

*All Pulleys Guaranteed for Heavy Saw Mill Work.*

*Quick Shipments. Reasonable Prices.*

SOLE MAKERS . . . .

## DODGE MANUFACTURING CO.

TORONTO, ONT.

LARGE STOCK Special Crucible Steel PROMPT SHIPMENT

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W. H. C. MUSSEN & CO. - MONTREAL

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For Alligators, Hoisting and Haulage, Boom and Fall Ropes, Etc.

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Most Flexible Rope Ever Made—Wearing Surface of Hemp  
Strength of Wire—Unexcelled for Transmission Purposes.

THE DOMINION WIRE ROPE CO., LIMITED  
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Every Lumberman wants it **35 cents** buys it

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The Best Quality

HIGHEST AWARD BUFFALO EXPOSITION

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Manufacturers Cordage TORONTO

Everything for Power.

## WINNIPEG MACHINERY & SUPPLY COY.

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—WHOLESALE DEALERS IN—

Engines and Boilers, Complete Saw-Mill Outfits, Shingle, Lath  
and Edger Machinery, Wood-Working Machinery  
of every description.

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NEW AND SECOND-HAND.

# THE CANADA LUMBERMAN

TORONTO, CANADA, JUNE, 1902

TERMS, \$1.00 PER YEAR  
(Single Copies, 10 Cents)

## WILLIAM RICHARDS & COMPANY.

One of the pioneers of the lumbering industry in the Maritime Provinces is Mr. Wm. Richards. He commenced operations over forty years ago, and since that time his success, under able management, has steadily increased, until now it is one of the largest of its kind in the country.

In 1899 Mr. Richards decided to form a stock company, admitting members of his family and relatives into the business, which is now conducted under the name of Wm. Richards & Company, Limited. The head office of the firm is at Boiestown, N. B., and in addition to the mills at that place they also operate mills at Chatham and Campbellton, N. B.

The accompanying illustration shows the largest of the three mills, situated at Chatham, which is also the principal shipping point. The

equipment of this mill consists of gang and ordinary saws, patent lath machines, etc. The cutting capacity is 120,000 feet of lumber per day and six to seven thousand of lath. In connection with the mill there are lathes, and every equipment for a first-class machine shop, so that the repairing is done within the mill. There is also a first-class electric light system which permits operations being carried on night and day.

Mr. Richards has been fortunate in having associated with him men who would conscientiously labor in behalf of his interests. Mr. J. E. Rundle, his manager at Chatham, entered Mr. Richards' employ some ten years ago, and since that time he has had practically the entire oversight of his lumbering operations. Mr. Richards' millwright has been in his employ some years. He is thoroughly acquainted with millwright work in this department and has proven his ability beyond a doubt in the construction of the mill. There are employed constantly between one hundred and twenty-five and one hundred and thirty men at the Chatham mill.

The company do an extensive trade and manufacture principally spruce and pine deals, laths, scantling, and ends, all of which is exported to the British market, the lath being manufactured for the United States trade.

Two million cedar poles were used in the States for general electrical construction.

## SHINGLE CONDITIONS IN BRITISH COLUMBIA.

[Special Correspondence.]

The demand for B. C. shingles is heavy and the mills are all behind in getting out their orders. This is occasioned to a considerable extent by the great scarcity of labor, both in the woods for getting out the raw material and for millmen. This scarcity of labor applies to Chinamen and Japanese, as well as white men. In view of the constant agitation which has been going on here for a long time against the employment of Chinese and Japs, it seems a curious situation that not nearly enough of this kind of labor can be obtained either for the woods or for the mills, and I am sure that there is no shingle manufacturer who would not be very glad to get any kind of labor at the present time, regardless of the color or nationality.

business has in fact during the last few weeks developed into a kind of a boom.

So far as the present outlook for the shingle business is concerned here it largely depends on the prices in the United States. If they were to drop to such an extent that the B. C. mills could not get into that market and pay the duty, it would certainly mean the closing down of a great many of the mills in British Columbia for all or part of the time, for when the present mills in the course of construction are finished and have a full supply of timber, the output will be enormously in excess of the Canadian demand.

Thomas Kirkpatrick's mill in Vancouver was burned down a couple of weeks ago. He has sold his site to E. H. Heaps & Company and has bought the mill in New Westminster erected by A. R. Welsh.

Notwithstanding the increased cost of timber, prices on red cedar shingles are 15 cents a thousand lower in Ontario than they were last year.

The prohibition of the export of logs from this Province is giving eminent satisfaction among the millmen. S.H.

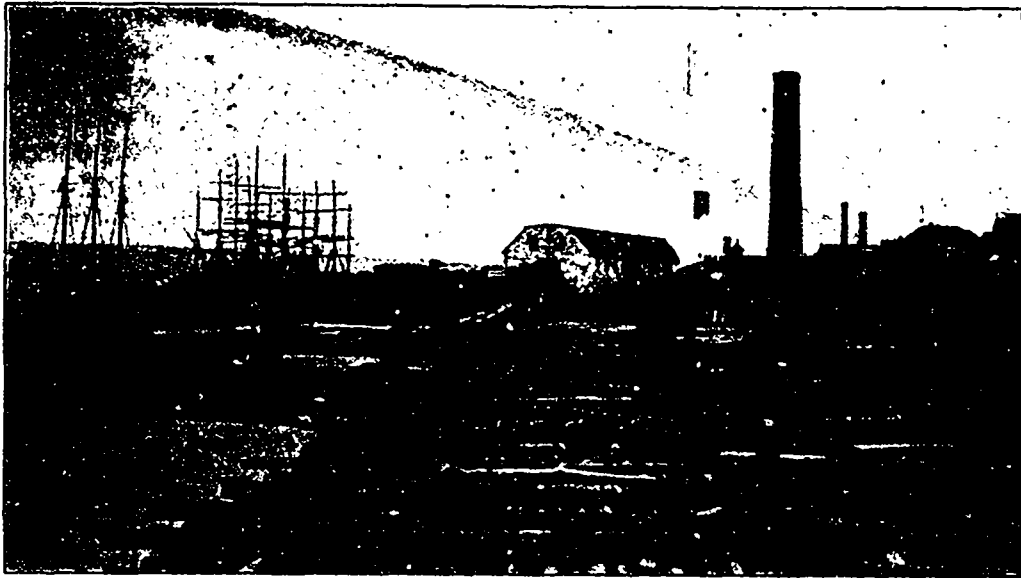
## THE ST. JOHN LOG DRIVING COMPANY.

The annual meeting of the St. John Log Driving Company was held at Fredericton, N. B., on May 7th. Consider-

able dissatisfaction was expressed with the manner in which the driving was done last season. A balance of \$2,600 was withheld from the contractors for the corporation drive, and it was agreed that this balance should be paid in full to Mr. Morrison, who has bought out the share in the contract held by the late Mr. Noble. It was decided to employ an inspector of driving this season, to be appointed by the directors. The company drove about 100,000,000 feet of logs last season, all of which was rafted at Fredericton and Springhill. The expense of driving was about \$15,000.

Officers and directors were elected as follows: President, A. H. F. Randolph; secretary-treasurer, J. F. Gregory; directors, F. H. Hale, E. H. Murchie, R. A. Estey, Donald Fraser, jr.

Mr. J. L. Richardson, who has been representing D. K. McLaren, of Montreal, in the province of Ontario, has accepted a position as salesman for The Durham Rubber Company, of Bowmanville.



SAW MILL OF WM. RICHARDS & COMPANY, CHATHAM, N. B.

The scarcity of labor has already entailed a heavy loss upon most of the mills here, as a good deal of the business they otherwise would have got, especially for the New England states and Ontario, has been going to the manufacturers of pine and white cedar shingles.

At the present time there is no timber of any kind in the water on the B. C. Coast, neither in the form of logs or shingle bolts, and unless the labor market very materially improves in the near future, the rainy season will be upon us here again next fall and find all the mills without any stock of raw material on hand.

Another feature in connection with the shingle business here of late has been the speculation in staking off timber limits, under the special License Act. I understand that a great many loggers have quit work and have gone into the business of cruising for timber limits for speculators, who advertise them and procure a license, with the expectation of selling them to the mills at a large profit. This



### FORESTRY IN THE PHILIPPINES.

Capt. Geo. P. Ahern, Director of the Forestry Bureau at Manila, recently spent several months in the United States studying forestry conditions. He visited the forest schools of Cornell, Yale, and Baltimore, and conferred

The work at this laboratory will include the investigation of all native woods, methods of preservation, and economic uses. During the first year or two the effects of the Bureau will be concentrated on learning what we have in the way of forest products, the uses

present Bureau only 26 per cent. of the revenues goes for service and materials. Spain on average issued 1,000 licenses per year, while the United States has about 500 licenses operating.

As to the question of markets, at present every stick of timber cut is sold in Manila. People in other provinces are unable to buy timber owing to the high prices paid by consumers in Manila; but in a year or two people in other provinces will begin to build and when they are somewhat satisfied, builders in Hong Kong and other Oriental ports may secure a few cargoes. Engineers at Hong Kong were informed last December that it would be three years before they could receive any timber from the Philippines.

The United States will receive only a few of the high grade cabinet woods which can be delivered at San Francisco, at a figure to compete favorably with the hardwoods of Central and South America. In, say, from five to ten years the Philippines will be able to supply the entire demand of the archipelago and a great deal of Oriental trade, especially at Hong Kong and other Chinese ports. China will certainly be the best market.

A great deal of building is going on in Manila, and better houses are being erected since the arrival of the Americans. Many towns were burned during the war, and the people have been unable to rebuild them owing to lack of material.

Present methods of lumbering are entirely too primitive. The Spaniards and Filipinos do the bulk of the cutting, very few Americans being engaged. The natives are poor lumbermen and in comparison with the Americans



FIG. 1.—MEASURING LOGS IN RAFT ON TONDO BEACH, MANILA. THIS PICTURE SHOWS METHOD OF MAKING A RAFT BY TYING LOGS WITH BAMBOO STRIPS.

with the professors, graduates, and students of those institutions. To the editor of the Forester, from which the accompanying illustrations are reproduced, he gave the following particulars regarding the forests and forestry work in the Philippines:

"I consider the Philippines the most interesting field in the world for the practice of scientific forestry. There are more than 50,000,000 acres of public woodland in the archipelago. Up to date 665 species of trees have been classified and it is the opinion of botanists that a close examination will bring the total up to fully 1,000. In several large districts of the southern islands of the archipelago, more than 50 varieties of rubber trees are found. The true gutta percha (*Isonandra gutta*) is found there. Hardwoods make up the bulk of the timber found, a number of these being especially valuable for ship-building.

The forest service in the Philippines will grow, and more men will be needed from time to time. The Bureau of Forestry of the United States Department of Agriculture has been made an agent for the Forestry Bureau of the Philippines in securing men for the service there. Only men who have had some training in forestry will be considered, and all applicants will be required to take the Civil Service examination. Arrangements are being made with the forest schools of the United States looking to the establishment of courses in the study of gutta percha and rubber. At present there is no official in the Philippines competent to take charge of the large rubber and gutta percha districts.

A timber testing laboratory is to be established at Manila, and will be in charge of Mr. S. T. Neely, who conducted the timber testing for the Division of Forestry a few years ago.

of the woods, and looking up markets.

The Forestry Bureau of the Philippines during its first fiscal year produced in revenue over \$199,000 (Mexican), solely from forest products, and it may be stated that the receipts were quite poor during the early months, thus showing a remarkable gain as the year ad-



FIG. 2.—HAULING LOGS IN TARLAC PROVINCE, LUZON, P. I. THE WAGON WHEELS ARE SOLID WOOD

vanced. At present the revenues are almost \$30,000 (Mexican) per month.

The Spanish administration in its best years never collected over \$12,500 per month (Mexican) from the sale of forest products, and there is this interesting difference to be noted: Spain charged more than 90 per cent. of the revenue receipts for service and materials. Under the

workmen are greatly outclassed, one American being as useful as half a dozen Filipinos.

In lumbering operations in the Philippines the question of transportation is the most serious one. Wagon roads are poor, there is only one railroad, and the rivers are not in good condition for log driving; though there are many streams that with a little cleaning

JUNE, 1902

do very well for log driving. At present the only mode of transportation is the water buffalo or caribou, an animal much weaker than the ox used in American lumbering. There are also the Filipino ponies, which are small and lack strength, but there are no

are constructed on the slide principle, on which the saw rests while being sharpened or gummed. These rests are of various lengths, from 1 to 14 inches. As a filer, writes E. L. Haskins in the Wood-Worker, I prefer one of about 10 inches. The length of rest is not of

ably would be so small as to hardly be perceptible to the eye. To test the back of saw thoroughly for these short crooks and bends, use a 20-inch straightedge. Unless you have heretofore tried this way of testing you may be somewhat surprised at the number of high and low places you will find when the saw is not uniformly curved, or straight either for that matter.

Now, this is where principle and practice do not join hands, for these small imperfections, as well as the large, are all reproduced on tooth edge of saw by the sharpening machine, when the back of saw is passing over the slide rest. Besides this trouble, and as a direct result of these high and low places on back of saw, you will quickly discover that the teeth on saw are becoming very irregular as to spacing, and with these conditions existing we can hardly expect to obtain good results on fast feed, that is, if you want to saw a million a month with a 6-inch band resaw.

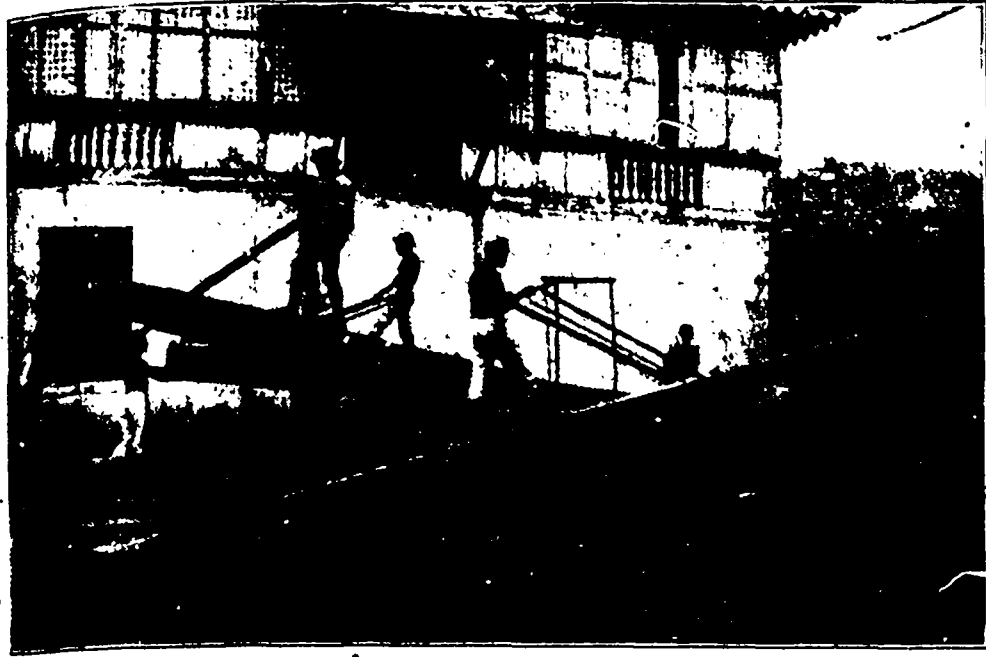


FIG. 3.—NATIVE METHOD OF SAWING TIMBER. THE NATIVES FIND THIS PRIMITIVE METHOD OF SAWING PROFITABLE EVEN WHEN COMPETING WITH A STEAM SAW MILL.

American horses in the Philippines except those belonging to the army. There has been some talk of importing elephants from India, but as attendants would have to be brought, and conditions are so different, the feasibility of the plan is doubted.

To show the extent of lumbering operations under present methods it is only necessary to state that the cut of the past year has been only 30,000,000 feet board measure.

Mr. Ribbentrop, lately retired Inspector General of the forests of India, has written to us, in reply to an invitation from our Bureau, offering his services for the purpose of devising a rational forest policy for the Philippines. We are much pleased at Mr. Ribbentrop's offer, and it is hoped that arrangements can be made to secure his services, as the forest problems of the Philippines are much the same as those the Indian foresters have had to contend with. We also hope to secure for a limited period the services of a few of the conservators of the Indian forests to help out in the inaugural work of the Philippines. These men would be especially valuable owing to their practical experience under very similar conditions that are to be met with in the Philippines."

**PRINCIPLE VS. PRACTICE.**

In many filing rooms the operators have managed to wander far from the path which the construction of a band saw sharpening machine should naturally lead them to take. Not because filers are inclined to go astray, but because the importance of adhering to these principles has not been thoroughly pointed out to them in a forcible manner.

Nearly all band saw sharpening machines

very much importance, provided the back of saw has been correctly fitted.

Most filers proceed somewhat after this fashion: In fitting the backs of band saws they use a straightedge from 4 to 7 feet long.

What is probably the biggest tree in the world has been discovered to belong to the cypress family, and was found in Mexico. Its circumference, we are told, 6 feet from the ground is 154 feet, 2 inches, and to see the top of it one must stand many yards away. It is near the famous ruins of Mitla, in the state of Oaxaca. It is called the "big tree of Yule," and its age is variously estimated at from 500 to 1,000 years.

The Telephone Company of Egypt, Limited, which operates a large telephone system in the land of the Pharaohs, is said to have met with a great deal of difficulty in securing poles which would withstand the effects of the climate. No timber suitable for the purpose grows in Egypt, and the timber so far imported



FIG. 4.—HAULING LOGS INTO TARLAC, LUZON, P. I. FOUR BUFFALOES AND THREE DRIVERS TO HAUL ONE MEDIUM SIZED LOG. TO HAUL ONE LARGE LOG AS MANY AS TWENTY-SIX BUFFALOES AND DRIVERS IN PROPORTION HAVE BEEN SEEN.

Some use one with a little concave, that leaves the back a little long. The long straightedge will give a good idea of the straightness or convexity of the saw, less this difference. If saws should have a high spot at ends and another high spot at or near middle of straightedge, then there would be no spring to saw or straightedge when pressed by hand, and prob-

ably soon destroyed by dry rot. The company have now given an order to a Michigan firm for 1,500 white cedar poles, which will be shipped to Alexandria and Cairo. It would seem to be worth while for Canadian lumbermen to watch the outcome of this experiment with Michigan timber. If it should prove capable of withstanding the climate of Egypt, Canadian grown timber would probably also meet the conditions, and a share of the orders might be obtained.

# THE Canada Lumberman

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ADVERTISING RATES ON APPLICATION.

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

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

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

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

## WESTERN CANADA EDITION.

THE July number of the CANADA LUMBERMAN will be designated a "Western Canada Edition." Some one has said that before many years Canadian lumbering will be confined to British Columbia. While this is an extreme view, the fact is apparent that the Province of British Columbia has already become a very important lumbering centre, and that her magnificent forests are daily attracting greater attention. This, in conjunction with the rapid growth of population throughout Manitoba and the Northwest Territories, demands that special attention should occasionally be given by this journal to the interests of the lumber manufacturers and dealers of Western Canada. In the July number it is hoped to introduce special features which will be of particular interest to them.

Throughout Manitoba and the Territories there are several hundred retail dealers. It is the purpose to place a copy of this number in the hands of each of these dealers, in addition, of course, to the saw mill owners, logging contractors and others identified with the lumbering industry. This number will offer an excellent opportunity to reach the lumbermen of the West—an opportunity of which advantage should be taken by all manufacturers and dealers in saw-mill machinery and supplies, as well as by lumber manufacturers seeking to secure a portion of the rapidly growing trade of Western Canada.

The lumber market of Manitoba and the

Territories is gradually being wrested from the hands of United States manufacturers. During the year 1901 the quantity of lumber imported from the United States was only 11,000,000 feet, as compared with 24,000,000 feet during the previous year. Canadian lumbermen should put forth every effort to totally prevent the importation of American lumber.

## TIMBER INVESTMENTS.

THE forests of Canada constitute one of the most promising fields for the investment of money. Whether in lumber or standing timber, opportunities are afforded for persons with capital to secure good returns on their investment. It is most necessary, however, that the character of the investment and the conditions existing at the time should be carefully considered.

It is contended by some persons that within the past three months there has been reckless buying of white pine lumber by certain concerns. Be that as it may, the present is, in our opinion, a time for caution and conservative adventure. There have been several years of prosperity in the white pine trade, and while the constant and extensive development of this country would seem to warrant a continuance of such conditions, it is well to remember that trade depression frequently comes so gradually as to almost conceal its existence until felt quite keenly. We are not pessimistic as to the future of white pine, which is certain, on account of the declining supply, to advance towards a higher value, but as all commodities are subject to periods of depression and inflation, so white pine lumber is likely to rule at a lower price temporarily, whether this year or five years hence. The dealer who exercises caution in the extent and character of his purchases, and the manufacturer who limits his production, reserves his timber, and reduces his holdings of lumber at favorable opportunities, will follow the safest course.

The investment of capital in timber limits is almost certain to prove profitable. Mistaken judgment and unexpected events have been responsible for a few losses in this direction in the past, but the person who invests in timber is likely to reap handsome profits in years to come. The one great risk in purchasing timber limits is destruction by fire. It is wisdom on the part of owners to employ an efficient staff of fire rangers. The number of fires extinguished each year by rangers, as reported by the different provincial governments, proves conclusively the economy of such service.

Investment in stock companies calls for the exercise of shrewd judgment. There are comparatively few lumber companies whose stock is offered to the public, as where such companies exist the stock is largely held by those identified with the business. The pulp industry has apparently presented a more attractive field for the flotation of stock companies. If timely advice should be given to the investing public, it is to discriminate between companies organized by Canadian capitalists and those controlled by United States capitalists, as the

former are almost invariably on a more solid footing. It is the custom of the United States press to belittle Canadian enterprise, but it is vastly more desirable to proceed conservatively than to encourage such a disaster as occurred recently to the North American Lumber and Pulp Company. This company, capitalized at \$2,500,000, acquired 200,000 acres of timber lands in Nova Scotia for the supposed purpose of manufacturing pulp and paper. The recent crash on Wall Street makes it extremely doubtful that the project will ever be undertaken, even if it were intended at one time that it should be.

## THE MEASUREMENT OF LUMBER.

Lumber exporters on this side of the Atlantic will learn with much satisfaction that at a recent meeting of the Timber Trades Federation of the United Kingdom a proposal was adopted that in future all American hardwood lumber should be measured by the board measure rule. The unanimous sentiment of Canadian shippers is doubtless voiced in the wish that the movement may not end here, but that the American method of measurement may become universally adopted in Great Britain. Eliminating, if possible, all prejudice in the matter, there seems no good reason why there should exist such a complicated system of measurement as is in vogue in the Mother Country, unless it be the well known and oft-times wise conservatism of the Britisher. What is known as the American system is simple, while at the same time accurate.

From the Atlantic to the Pacific coast, in Canada, lumber and logs are sold by the thousand feet, a foot being one inch thick, twelve inches wide and twelve inches long. The basis for square timber measurement is the cubic foot. In Great Britain numerous terms and systems of calculation are employed. In wholesale transactions deals and boards are usually sold by the St. Petersburg standard containing 1,980 feet board measure, but in some parts of Ireland the Irish standard of 3,240 feet is used. Thus, to an already complicated system is added the uncertainty, on the part of exporters, as to which standard is adopted in the particular port to which they may be shipping. When deals, boards and planks are sold by retail, the square or superficial foot is usually taken as the basis on which to fix the price. At public sales in England battens are usually sold by 144 feet run, mouldings and flooring by 100 feet run, palings by 100 pieces of four feet, laths by the bundle, lathwood by the fathom, and mahogany by the square foot one inch thick. The measurement applicable to square timber in England is the cubic foot, as in this country, but it is customary to make sales on the basis of a load of fifty cubic feet.

It is no easy task for Canadian shippers to acquaint themselves with the numerous terms as above indicated, and their consequent calculations. Business between the two countries would be greatly simplified by the adoption of the board rule as the standard of measurement. The time is opportune for such a change, inasmuch as the tendency is for the manufacturer and consumer to come closer together. In the past the manufacturer, being unfamiliar with the

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peculiar British customs and terms, but knowing them to exist, has been content to dispose of his product to a middleman, who, by means of a large annual turn-over, is enabled to establish a branch in Great Britain, and is likewise in touch with prevailing methods there. Importers who are seeking for direct shipments from Canadian mills may do much towards accomplishing this end by striving to have eliminated the old-fashioned and tedious British method and to obtain the adoption of the American board measure rule.

#### EDITORIAL NOTES.

THE question of wood paving for streets is being much discussed in England at the present time. It has been advocated that suitable Canadian woods could be obtained which would be much cheaper than jarran or red gum, which have been largely used in the past. A few years ago pavements of Canadian white pine were put down in Cardiff. These have, it is said, worn better than the more expensive hardwoods. Spruce has also been put forward as a suitable paving wood the supply of which would be abundant. As against this wood it is claimed that it will not take creosote, which is applied as a preservative. The Douglas fir of British Columbia has also been mentioned, and is likely to be experimented with by some municipalities. Now that it is a live question the opportunity should not be lost of proving the merits of Canadian timber for paving purposes.

We cannot but doubt the figures sometimes set forth in the prospectuses of pulp companies. While the cost of manufacturing pulp depends to some extent upon local conditions, there are certain fixed charges which keep the maximum and minimum cost within certain limits. That mechanical pulp can be manufactured at six dollars a ton, and sulphite pulp at sixteen dollars a ton, is, to our mind, extremely doubtful. Perhaps these estimates are intended to represent only the cost of wood and labor, without considering interest on plant investment, depreciation, insurance and other items which enter into the actual cost of turning out the manufactured product. If such figures are intended to represent the actual cost, the pulp companies of Canada are to be congratulated upon having reduced to a very low limit the cost of manufacture.

We are glad to observe that the establishment of departments of forestry in connection with our universities is being given consideration. Hon. Mr. Harcourt, Minister of Education, in a recent speech at Kingston, expressed the hope that in the new buildings now being built at Queen's University, accommodation would be provided for a forestry department. He also stated that the Government stood ready to assist in laying the foundation of such a department. The assistance thus promised is extremely timely. While we cannot hope in the immediate future to develop our forests along highly scientific lines as in Germany and some other countries of Europe, the time is coming when the services of scientific foresters will be required, and there seems no reason

why they should not be graduates of our own colleges. Lumbering is quite as important as agriculture and mining, and the question of the preservation of our forests should not be overlooked by those at the head of our educational interests.

THE railroads of this country have not as yet experienced any difficulty in obtaining a supply of ties at a reasonable figure, owing to the large quantity of hemlock timber to be found in our forests. The quantity of timber cut each year for railway ties is exceedingly large. While the figures for Canada are not obtainable, it is estimated that in the United States something like five billion feet are required annually. This requirement is gradually making inroads on the hemlock supply, and it is only a question of a short time when steps will have to be taken to preserve this timber, as has been done in the case of pine and spruce. It may be that the experiments which are being conducted to find a suitable substitute may eventually be successful, but the metal tie, owing to its excessive cost, is not likely to solve the problem. A few of the large railway corporations in the United States, anticipating the decline in the hemlock supply, are establishing forest reserves for the purpose of cultivating the growth of hemlock trees. The lesson from this is that manufacturers of ties should not sacrifice their timber, but should endeavor to obtain a price commensurate with its value, keeping in view the increasing demand and declining supply.

AN American engineer who recently built a pulp mill in Eastern Canada in which Canadian machinery was installed gives his opinion to the CANADA LUMBERMAN that our manufacturers should give greater attention to the finish of their machines. He states that in this respect alone do they compare unfavorably with machines manufactured in the United States. Another expert contends that the weakness of Canadian machinery is in the design. This, he claims, is due to the fact that in this country the English practice of building massively is followed. To use his own words, "English manufacturers build machines to last forty years, while the Americans build for five years only." His argument is that in about five years the machines of today will have become obsolete and be superseded by others more up-to-date. Much of the money which the English manufacturer expends in making his machine solid and massive is expended by the American manufacturer on design, with the object of securing the maximum efficiency of production at lowest cost. Perhaps there is some truth in this argument, and Canadian manufacturers may profit thereby.

#### PRIZES AT THE FAIRS.

The Massey-Harris Company, of Toronto, have donated the sum of \$1,000 as prizes at the Toronto, London and Ottawa Exhibitions. The prizes are given for the benefit of the agricultural and horticultural community, and most of the competitions are open to farmers and their sons and daughters only. The competitions for which prizes are given include natural history, photography, architecture, poultry, horses and grain.

#### MAKING HARDWOOD FLOORING.

A writer in the Wood-Worker describes his method of making hardwood flooring as follows: First, the lumber is brought into the mill and ripped to even widths on a one-saw edging table, allowing  $\frac{3}{8}$ -inch for matching; that is, ripping  $\frac{3}{8}$ -inch wider than I want my flooring to show on the face. Then it is put through a single surfacer, the worst side up, thereby knocking off all humps and inequalities in thickness. Lastly, the material goes to the planer and matcher and is fed through with the dressed side down, the top cylinder taking a light cut off the face of the stock, the side heads cutting the tongue and groove, and the bottom cylinder at the tail of machine hollowing the back. After an experience of several years in getting out hardwood flooring, mostly oak, I have found this to be the best way for me with the machines mentioned. My top cylinder on planer and matcher carries only two knives, and I set them out from the lip of cylinder not to exceed  $\frac{1}{8}$ -inch, being very careful to get them as nearly alike as possible. My matching heads are of the expansive pattern and carry four bits to each head. I would not like to undertake to match hardwood flooring without the improved head with this expansive feature. They are much easier kept in order, more readily adjustable to the different kinds of matching and to the different kinds and conditions of material than anything of the kind I have ever used or seen.

#### LUMBER IN THE WEST INDIES.

TORONTO, May 7, 1902.

Editor CANADA LUMBERMAN:

Before leaving for the West Indies you asked for certain information regarding the lumber used in the West India Islands. In the year 1900 the importation was a little over forty-one million feet. Of this amount thirty million was provided by the United States and eight and one-half by Canada. These figures, however, do not represent the true proportion, as practically all the white pine that goes into the Islands is Canadian pine, and merchants in nearly all the Islands asked me why it was that they had to buy their Canadian lumber through New York houses.

Since returning I have made enquiries about this matter and find that our lumber exporters say that such are the facts. The reason is that the whole output of the mills is sold to one dealer in New York and is sorted by him.

The class of lumber that goes to the West Indies is the lowest grade, and all of the Canadian lumber which goes through New York is given credit in the Blue Book to the United States. At the present time the most of the lumber which goes direct from Canada is from the Maritime Provinces. A considerable portion of the above figures consists of pitch pine, which is taken to the Island in schooners from Florida.

As to freight rates, there is an agreement between Canadian and New York boats whereby the same prices for transportation are charged to the different Islands. This is about all the information I can give you with regard to freight rates, as considerable of the lumber is carried through by sailing vessels, which is, of course, a cheaper way.

Yours faithfully,

J. M. STEWART,

Asst. Secretary Canadian Manufacturers Association.

An authority on power transmission gives an estimate of 10 per cent. for the power necessary to run loose pulleys. That this amount of power is saved where the belts are run loose with a binder to start and stop the machines, is a logical conclusion, if the statement is true.

THE CANADA WOOD SPECIALTY COMPANY,  
LIMITED.



MR. CHAR. B. JANES

The history of the Canada Wood Specialty Company, Limited, of Orillia, Ont., as at present organized, covers only the brief period of two years, but the development accomplished would do credit to a much older institution. Two years ago the business of Messrs. Janes & Sons, proprietors of the Acme Veener Works, became amalgamated with that of the Wood Specialty Company. The latter company was under the management of Mr. Lavallee, now president of the Orillia Export Lumber Company. In October last Mr. Charles Janes became the manager, Mr. Lavallee's other interests demanding all his attention. Under the energetic and skilful direction of Mr. Janes, whose portrait accompanies this article, the business continues to prosper and rapidly expand, so much so that in the near future the present buildings and equipment, although of generous proportions, will require to be largely increased.

As its name implies, the company manufacture a variety of hardwood products, principal among which are flooring, broom handles, cornice poles and rings, cheese box hoops, butter dishes, berry boxes, etc. The timber, which consists of elm, maple, oak and birch, is all obtained in the neighborhood. There is said to exist an abundant supply, so that one of the most essential factors of the future continuance and success of the industry is assured.

The elm logs, previous to being cut into veneer for cheese box hoops, are cut into lengths of five feet and placed in vats of boiling water, where they become so thoroughly cooked as to render the removal of the bark and the slicing into veneer an easy process. Berry baskets, butter dishes and dowels are made from the refuse, and are afterwards passed through a dry kiln at the rate of 60,000 per day, which is about equal to the daily capacity of the factory. There is also a large hot air dry kiln in which the lumber is thoroughly seasoned before being manufactured into flooring. For this purpose, oak, maple beech and birch are employed. The product bears the mark of great care in the selection and preparation of the stock as well as in the manufacture. The company are supplying 115,000 feet for the new cereal factory at Peterborough. Among other orders on hand is one for 56,000 folding chair frames for Great Britain. The factory is capable of producing 8,000 tapered broom handles and 30,000 curtain rings per day.

The equipment, which is operated by a McEwen high speed engine manufactured by the Waterous Company of Brantford, consists almost entirely of special automatic machines, by which the largest possible output and perfection of manufacture is obtained.

It is a singular thing that almost every machine is of American manufacture. With the rapid growth of factories of this character de-

voted to the production of specialties and the utilization of almost every inch of the timber, it is surprising that the makers of wood working machinery in Canada are not prepared to meet the demand for the automatic machinery required for that purpose.

Within the last few months the Canada Wood Specialty Company have bought some very valuable hard-wood limits, mostly maple.

**COST OF TIMBER AND MANUFACTURE.**

Granting that any manufacturer has a right to a profit from the work he does and, more than that, owes it as a duty to himself and the country that he secure such a profit, it is of the first importance that cost be definitely determined. Yet in the lumber business this is one of the most difficult things to get at and there are comparatively few who have such an accounting system and who adopt such correct premises that they know with exactness what the cost of their product is, and consequently what their selling price should be.

The lumber business was very prosperous during the last year and large amounts of money were made in it, but if all operators should adopt a uniform and accurate basis of accounting many of them would discover that their profits were not as great as they thought, and not a few of them that they had no profit at all. Yellow pine producers are among the greatest sinners in this respect, and one of the greatest difficulties is in the methods of estimating stumpage values and charging the same to the manufacturing account.

What stumpage is worth as a speculative proposition is not easily determined. Some will say that it is the average value during the total life of an operation, discounted by as much as the date of computation is an advance of the average date. Thus if a mill has ten year's cut, its timber is now worth what it will be worth in five years from now less interest for five years. If a man believe that in five years from now his timber will be worth \$5 a thousand, on this basis of computation its present value is \$3.50, with interest at 6 per cent. Others go to the opposite extreme and charge stumpage at what it cost them to date. This same timber might have been bought at \$1.25 an acre, and so the cost might be figured at, say, 50 cents a thousand.

There is just one absolutely sure standard of value, and that is the price at which anything can be sold. Putting too high a price on the raw material has the merit of being safe, while putting too low a price on it is simply a method of self-deception, but neither is right. Cost of stumpage is only one element, to be sure, to which must be added a number of others about which there is not much uniformity of method. The result is that different concerns operating side by side under the same conditions will show a variance of 25 per cent. in cost. It is no wonder there is a lack of uniformity in prices.

The better class of concerns are coming somewhere near an agreement nowadays, but there still remain many that seem to have little conception of correct accounting. The result is that most absurd prices are occasionally made, and in certain classes of trade there is

an inconsistency which causes much loss. One of the weak spots in the yellow pine business is in the timber department. We believe it to be absolutely true that no concern owning its own timber can afford to manufacture long and large yellow pine timbers at a price that can be obtained for them. Short lengths and ordinary sizes may be profitable taken sometimes, but the long timbers never are. Every cost is underestimated from the woods to loading on cars.

The most serious objection to this class of business is that it makes a tremendous drain on the future value of timber holdings. A man with a few thousand acres of timber will take an order for 100,000 feet of timber ranging from 25 to 50 feet in length, and of various sizes up to 12 by 12 or 10 by 10 inches, and "tickled to death" at anything above \$12 thousand on board cars. He goes out into the timber and, at much more than ordinary logging expense, brings in his choicest trees, run through the mill into this cheap stuff, costs him more for logging, hauling, manufacture in the mill, dressing and handling than the regular run of stock, and yet because it takes only eight or twelve cuts on the carriage he thinks it is profitable stuff to make. The worst feature of it all is the detriment to the value of his timber. Let any man go through a yellow pine tract and pick out the best tree in every ten and he has knocked 25 per cent. off from the value of what remains. The damage is not only immediate, but permanent.

If these things were taken into consideration by the yellow pine industry it would be found that many of its members are not making as much money as they think. It is a crying shame the way the forests of Mississippi, Alabama, east Texas, Georgia and of other long leaf states have been slaughtered on behalf of the timber business.—American Lumberman.

**NEW BRUNSWICK CROWN LANDS.**

Hon. W. P. Flewelling, Deputy Surveyor General of the Province of New Brunswick supplies the following interesting statistics as to the quality and kind of lumber cut from Crown Lands during the year ending October 31, 1901: Spruce and pine logs, 83,449,100 superficial feet; spruce pulp wood, 176,800 s. ft.; cedar logs, 11,187,791 s. ft.; cedar shingles, 6,351 M.; hemlock logs, 1,907,800 s. ft.; hemlock bark, 2,013½ cords; hardwood logs, including spool wood, 3,560,741 s. ft.; hardwood timber, 102 16-40 tons; spruce timber, 40 tons; fir logs, 1,164,283 s. ft.; fir stave and pulp wood, 1,294 cords; rail ties, 94,719; telegraph poles, 195; cedar rails, 300; cedar posts, 400; boom poles, 790; brackets, 2,328; rafting pins, 50,000 knees, 895; weir stakes, 411; weir ribbands, 475; birch hubs, 180, and the total stumpage on the same was \$101,710.48.

Wilson Bros., of Collingwood, Ont., have secured a block of land alongside of the Grand Trunk Railway tracks and are about to build a large brick plant mill. It will be equipped with the most modern machinery, including dry kilns, exhaust fans, elevators, etc., and will be one of the most up-to-date plants in Ontario for the manufacture of all kinds of building supplies. It is understood that the orders for machinery have not yet been placed.



## BRITISH COLUMBIA LOG SCALING ACT.

Act to provide for the measurement of timber by official scalers has just been passed by the British Columbia Legislature. The act was first drafted by Mr. H. G. Ross, secretary of the British Columbia Loggers' Association, and was subsequently amended by the government and afterwards by a joint committee of loggers and mill men. The principal clauses of the law are given below.

The Lieutenant-Governor in Council may appoint for the remuneration of a Supervisor of Logging. It shall be the duty of the Supervisor to supervise the work of the Official Scalers appointed under this Act, and to perform such other duties as may be assigned to him by any rules or regulations, or may be directed by the Chief Commissioner of Lands and Works.

The Supervisor may act as arbitrator in any dispute that may arise between a vendor and a purchaser, or between them and the Official Scaler, as to the measurements and classification of any timber, and his decision shall be final and binding upon all parties without appeal. Whenever the Supervisor acts as arbitrator, he shall collect from the person requiring his services the following fees, in addition to all reasonable expenses incurred by him, viz:

For scaling logs and spars, 5 cents per 1,000 feet,

For measuring piles and poles, 5 cents per 200 lineal feet,

For measuring railway ties and cedar bolts, 5 cents per 100 cubic feet.

All fees shall immediately be transmitted to the office of the Timber Inspector for the Province, to be accounted for to the Provincial revenue.

The Chief Commissioner of Lands and Works may, from time to time, appoint Official Scalers, and fix the amount of fees to be paid to them as their remuneration. He shall constitute a lien upon the logs until paid. Official Scalers shall hold office during good behaviour. No person shall be appointed Official Scaler unless he is a British subject, and is duly qualified by experience and has paid to the Chief Commissioner of Lands and Works a license fee of twenty-five dollars. The Supervisor shall have the power to suspend any Official Scaler who, in his opinion, is not properly performing the duties of his office.

It shall be the duty of Official Scalers to measure and classify timber correctly, to the best of their skill, knowledge and ability, and to classify when so requested by the vendor and purchaser all timber on which there is any royalty due to the Crown, and enter in their books of record, for the purpose of return to the Supervisor, when they believe to be the proper contents and grades of the timber, noting the number of saw-logs or other pieces of timber rejected as worthless, commonly called "culls." They shall also deliver a copy of the scale to the vendor or owner upon demand, and upon payment of the fees.

It shall also be the duty of an Official Scaler, when called upon by a vendor or owner of timber on which there is no royalty due to the Crown, to measure and classify such timber as in the manner provided by the provisions of this Act, and to furnish such vendor or owner with a copy of scale and classification upon payment of his fees, and which shall be a lien upon such logs until paid.

Immediately after measuring any timber as aforesaid, the Official Scaler shall transmit to the Supervisor a copy of the record of said measurement, as entered in his book of record, and shall, when called upon to do so, submit said book of record to the Supervisor or other officer of the Department of Lands and Works, who shall give all information asked for, in his power to do so, and shall furnish any statement or copies of statements which the Supervisor or other officer of the said Department may from time to time require.

Should any Official Scaler neglect or refuse to carry out or obey the provisions of this Act, or any regulation made under it, the Chief Commissioner of Lands and Works may cancel his license, and such Official Scaler shall not thereafter be eligible to measure timber upon which there is any royalty due to the

If any Official Scaler wilfully undermeasures, or mis-measures, or wilfully culls and rejects any timber, or makes a false return, for the purpose of deceiving or defrauding, such Official Scaler's license shall be revoked, and he shall not thereafter be permitted to act as Official Scaler under this Act, and in addition he shall be subject to a penalty of not less than fifty dollars, or more than two hundred dollars, to be recovered, with costs, on summary conviction before any stipendiary Magistrate, Police Magistrate or Justice of the Peace, and in default of payment he shall be imprisoned for a period of not less than one month, nor more than three months.

No timber shall be sawn, or caused to be sawn, until the same has been scaled in accordance with the requirements of this Act, and every person violating this provision shall be liable to a penalty not exceeding five hundred dollars (\$500), to be recovered upon summary conviction before a Police Magistrate, Stipendiary Magistrate or Justice of the Peace, and to have such timber seized and forfeited wholly or in part to the Crown, as the Chief Commissioner of Lands and Works may direct.

Nothing in this Act shall debar any Official Scaler from being employed by a mill owner or logger who is the holder of a lease or license from the Provincial Government, but no Official Scaler so employed shall exact fees from a vendor or purchaser or be allowed any compensation as such for services rendered in his capacity as Official Scaler.

In the event of a vendor objecting to the Official Scaler employed by a purchaser, or to his scaling, then on application to the Supervisor, another Official Scaler may be selected to scale the boom in question, and in such case the party requiring such services must pay such remunerations as is fixed under the provisions of section 5 of this Act.

The "British Columbia Log Scale" shall be used for the measurement of all timber on which there is any royalty due to the Crown.

The following is the classification of fir logs for scaling purposes as agreed upon by the Loggers' Association and Lumter and Shingie Manufacturers' Association:

Grade A or First Class—Logs suitable for flooring, and decking planks; reasonably straight; not less than 20 feet long; 30 inches in diameter; clean and free from visible knots.

Grade B., or Second Class—First class merchantable, sound lumber, reasonably straight, free from unsound limb knots; not less than 16 inches in diameter, and if longer than 40 feet of greater diameter in proportion to the length; with half clear timber.

Grade C., or Third Class—Second class merchantable timber, sound, reasonably straight, and free from rotten knots, but too rough to pass as first class.

Culls—All timber not coming up to the standard of second class merchantable.

## CARE OF A BOILER.

A writer in the American Electrician cites a case which came under his observation where the boilers of a certain plant were nearly ruined in a short time because the drip from the oil separator was led into the receiver instead of to the sewer, so that the oil passed into the receiver even more directly than it would have done had there been no separator present. Defects are almost certain to appear in the boiler when heavy lubricating oils, or oils of any sort that leave a considerable residue upon evaporation, find admission to a boiler.

The commonest way for oil to get into a boiler is, according to the writer, by being pumped into it together with the drips from a system where exhaust steam is used for heating, and the water of condensation is returned to a receiver. In all systems of this kind an oil separator should be used, and the drip from this should be carried to a sewer. In some cases the exhaust pipe from the engine may be provided with a separator, and yet the receiver may receive the returns from one or more pumps, each of which contributes a certain amount of oil.

Oil also gets into the feed water in connection with condensing engines, when the condenser water taken from the hot well is used as part of the feed. It is impossible to prevent oil from getting into the boiler

when feed water is taken from this source. The importance of excluding oil from boilers can hardly be understood by those who have not seen the damaging effects that may result from the admission of even a small quantity of it.

Pitting in boilers or piping is usually observed where the water is kept for a considerable time at a temperature somewhat between 212°. The boilers that are mostly affected by this sort of trouble are those that are used for heating, and in these it is observed chiefly in the fall and spring, when the boilers are used only a part of the time. At such times pitting is likely to be very marked, and it is nothing unusual to see a set of tubes used up in two or three years.

In one instance a new boiler was put into service, for power, in the month of December, being used in connection with five others. Business becoming slack at this factory about the time the new boiler was installed, only three of the available six boilers were needed at any one time. The practise was to use three of the boilers for two weeks and then to allow these three to stand idle for two weeks without emptying them. In the following August three of the tubes in the new boiler gave way. Upon examination it was found that the tubes in this boiler were all badly pitted. The three that had given out were replaced with new tubes, and the boiler was thoroughly boiled with soda ash. Two more tubes gave way during this process and were replaced.

The battery was then put in use again under the same conditions as before, except that every boiler was now emptied when not in service. This occurred eight years ago, and the tubes are still in good condition. The tubes in the older boilers were not affected, as they were covered with a film of scale which protected them. To protect boilers in which pitting takes place, about ten pounds of lime should be slacked and put in each boiler. This will cause the formation of a thin lime scale which will prevent pitting for a time. When this thin protective coating is dissolved the operation should be repeated. Of course, this treatment is not recommended for a boiler in which there is already a plentiful supply of scale. This would naturally be understood, because it is not in these boilers that pitting occurs. Still, it may be as well to speak of this point explicitly, in order to avoid misunderstanding.

The difficulty attending the stopping up of tubes that may be leaking in a water tube boiler without taking it out of commission, has been overcome, it is reported, by the invention of an engineer in the French navy of a self-acting plug for burst water pipes.

This plug is described as consisting of a hemispherical bulb, about half again as large as the bore of the tube. One of these plugs is located at each end of each tube. The stem is inserted into the end of the tube, allowing the plug to hang down outside, just clear of the opening. These plugs are kept from falling out of the tube entirely by a rod which extends across the ends of the tubes horizontally.

The action of the device is very simple. When a tube bursts the water naturally rushes into the damaged tube at a high velocity. The plugs lying at the end of the tube are picked up by the current, and, guided by the stem, are jammed into the end of the tube and held there by the unbalanced pressure exerted on them.

The body of the plug is made of iron or steel solid with the stem and is coated with a soft layer of lead. When the plug is driven into the tube by the rush of water this lead makes a tight joint between the tube and plug and effectually blocks the opening. In sectional boilers, where the tubes are arranged in separate series, it may be sufficient to put a plug at the end of each series, only instead of at the ends of each tube.

This device has been tried on a torpedo boat boiler and was found to act admirably. The bursting of a tube gave no trouble at all, and the vessel continued her trip, putting to sea again next day unrepaid, the damaged tube being completely closed by these automatic plugs.

These have been in use, it is said, on tugs and other vessels for many months and have been found to act very satisfactorily. They are made of such shape and proportion and so placed that they cannot block the tubes during the ordinary working of the boiler, and their arrangement can be changed to suit different types of water tube boilers.

## THE NEWS

—A new planing mill has been built by James Brown at Midland, Ont.

—Lupien & Lupien is the name of a new saw mill firm at West Wickham, Que.

—The Rathbun Company have built an addition to their saw mill at Bancroft, Ont.

—It is said that James Smith is preparing to build a shingle mill on Burrard Inlet, B.C.

—T. L. Arnett has bought the lumber and coal business of A. J. Hughes at Souris, Man.

—Jacob Cathers, of Dauphin, Man., is operating a portable saw mill in the Rainy River district.

—W. C. Irwin, of Dundalk, Ont., has purchased a site at Toronto Junction for a sash and door factory.

—Adolphe Fischer has retired from the saw mill firm of Blue, Fischer & Deschamps, Rossland, B. C.

—J. D. Carew, of Lindsay, Ont., has purchased the saw and shingle mill of W. Burgoyne at Fenelon Falls.

—Tenders were recently invited for the assets of the Shippe Manufacturing Company, Limited, of Clarksburg, Ont.

—John Walker has sold his lumber business at Grenfell, N. W. T., to the Grenfell Milling & Elevator Company.

—Morkill & Whitworth, lumber and implement dealers, Lowe Farm, Man., have been succeeded by E. McTavish.

—The Digby Woodworking Company are erecting a sash and door factory at Digby, N.S. A. H. Holdsmith is manager.

—It is understood that the Hanbury Manufacturing Company, of Brandon, Man., intend building a new sash and door factory.

—The shingle machines have been taken out of the Barlow mill at Bayswater, N.B., and it is probable that the mill will be dismantled.

—The Seaman-Kent Company, Toronto, has been incorporated, with a capital of \$100,000, to manufacture and deal in lumber and wood.

—The Hastings Shingle Manufacturing Company, of Vancouver, B.C., have established a branch at Winnipeg, in charge of S. Ashfield.

—G. B. Housser & Company, of Portage la Prairie, Man., have disposed of their branch lumber yard at Macdonald to Rodger & Glennie.

—G. B. Gordon has purchased the lumber business of the Northern Lumber Company at Gilbert Plains, Man., and will continue it in his own name.

—It is reported that the Prescott Lumber Company, of Dalhousie, N.B., are considering the building of a saw mill at the mouth of the Charlo river.

—The Blonde Lumber & Manufacturing Company, of Chatham, Ont., have established a hardware department in connection with their lumber business.

—The late James Scott, of Toronto, left an estate valued at over \$250,000, a large proportion of which was bequeathed by his will to charitable institutions.

—By a boiler explosion in a saw mill belonging to Walter Stayser at Parry Station, Ont., G. Deavo and J. Everett were killed and W. Gillian seriously injured.

—Frederick McGowan, of Fredericton, N. B., has been appointed by the St. John River Log Driving Company to inspect the driving operations this season.

—At a meeting of the directors of the Tobique Log Driving Company, held at Woodstock, N.B., last month, R. A. Estey, of Fredericton, was elected president.

—It is reported that the New Brunswick Railway Company have disposed of their property in the province of New Brunswick, amounting in all to 1,764,000 acres.

—The cylinder head blew out of the engine in R. O'Leary's saw mill at Richibucto, N.B., last month, the escaping steam scalding and killing a lad fifteen years of age.

—The St. Anthony Lumber Company are building a

railway from Whitney to Big Opeongo lake, a distance of fifteen miles. The work is in the hands of Thomas McLaughlin, contractor, of Ottawa.

—George H. White, of Sussex, Edmund A., Robert G., Samuel H., and Louise Flewelling, of Hamplon, N. B., are seeking incorporation as the Hammond River Lumber Company, with a capital of \$40,000.

—The Albion Iron Works, of Vancouver, B.C., have just completed the installation of machinery in the shingle mill of the Chilliwack Shingle Mill Company on Harrison river. There are five shingle machines.

—The Porto Rico Lumber Company has concluded to close its Rossland retail branch and will devote its energies to the wholesale trade of Manitoba and the North-West Territories. A. G. Lambert is manager of the company.

—The Cleveland Sarnia Saw Mills Company, of Sarnia, Ont., who have for some time past been drilling for salt on their premises on the bay shore, struck a solid bed of salt at a depth of 1,560 feet. The company will proceed at once with the erection of the necessary salt plant.

—H. L. Maddocks & Company, of St. Jacques, N. B., are doing a large trade in hardwood specialties, made chiefly of birch and maple. Recently a veneering machine was put in. St. Jacques is situated on the Madawaska river, some miles above Edmundston.

—Incorporation has been granted to the Standard Lumber Company, of Manitoba, with a capital of \$125,000. The members are Peter McArthur, A. D. McArthur, and George Barr, of Westbourne, G. O. Bellamy, of Winnipegosis, and J. G. Harvey, of Dauphin. A general lumbering business will be conducted.

—Work has been commenced on the large saw mill to be built at Vancouver, B. C., by the Pacific Coast Lumber Company, of which J. G. Scott is manager. The new shingle mill of this company has been completed. A battery of eight large boilers has been installed, only two of which will be required to operate the shingle mill. A store house of a capacity of 12,000,000 shingles has been built.

—Hon. H. T. Duffy, Provincial Treasurer of Quebec, referring to the remarks of Mr. Joly at the recent meeting of the Canadian Forestry Association, stated in Ottawa recently that it would be simply impossible to strip this province of its pulp wood, as enough wood remains to supply all wants for hundreds of years. He also stated that he had come to believe that there was a good deal more pulp wood in the United States than was supposed.

—The Jervis Inlet Cedar Lumber Company, the principal shareholders of which are W. G. Tretheway, L. D. Taylor, J. C. Williams, and H. W. Findlay, of Vancouver, are about to build a large saw and shingle mill up the coast, to be operated by water power. The company secured two hundred acres of timber limits, and with other available timber in the vicinity, it is estimated that 500,000,000 feet of cedar are obtainable. Three shingle machines will be installed in the new mill.

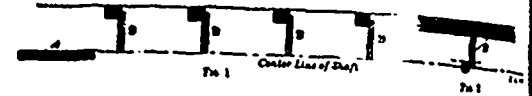
—George M. Mason is just completing a large addition to the Bayswater planing mill at Ottawa. The addition will provide floor space of 2,800 feet. A new dry kiln has been erected, with a capacity of 200,000 feet. Mr. Mason was formerly of the firm of William Mason & Sons, who were engaged in the saw mill business in Ottawa from 1868 until 1898. His present turn-over is nearly 4,000,000 feet annually, consisting of dressed lumber, flooring, moulding, sash, doors, etc.

A Pacific coast publication has the following to say in answer as to whether or not redwood will shrink endwise: "Redwood, as is known, is the most contrary wood in the world. It will sink like a stone; it will float like a cork. It is soft and will cut like cheese; it is hard, flinty and brittle. Boards twelve inches wide and ten feet long have been easily split, while other specimens were so crooked they could hardly lie still. Some redwood will defy rot for forty years, while some will decay in a few months. Some will lose three-fifths of its green weight in drying and some will not lose any weight. It is found straight grained or it may vie with rosewood, mahogany or French walnut for beauty of figure. Name any quality in redwood and its opposite can easily be found."

## LINING UP SHAFTING.

BY JOSEPH B. LEWIS

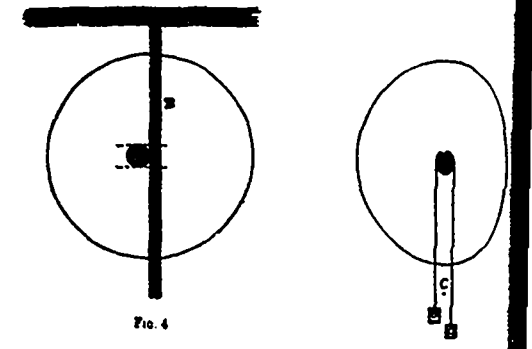
The following method of lining up shafting seems to be known by very few engineers: Referring to Fig. 1, A is a straight edge, which may be made from a piece of pine board about 12 feet long. It must be rigidly supported by uprights, or otherwise, as is most convenient at the height of the centre of the shaft. Bring the straightedge to the true horizontal position by the use of a spirit level and fix it securely in place. For short lines of shafting it may be located at one end, for long lines at the middle. On each rafter that supports a hanger, nail a short stick B, with one nail, so that it may be swung up out of the way when not in use as shown in Fig. 2. The bottom ends may all be brought into line



by sighting carefully along the straight edge. For long lines sight in both directions from the middle. The ends of these sticks will also lie in the same horizontal plane at the height of the center of the shaft.

The hangers may now be put up and the shaft placed in position and adjusted to the true level by testing each bearing. For this purpose the sticks B may be turned down as shown in Fig. 2, and the center of the shaft brought to the level at each bearing. This may easily be done by the eye. To test the result, a small spirit level may be laid across the top of the shaft and a line drawn on B as shown. The distance from the end of this line to the end of B should be just one-half of the diameter of the shaft. The sticks should be turned up out of the way and left where they are, so that the alignment may be tested at any time.

Having adjusted all of the bearings to the same horizontal plane, we may now test them on the vertical plane. This is easily accomplished, whether the pulleys are in position or not. We will suppose that they are, and that the shaft varies from 3" nominal, at the middle, to 1 1/4" at the ends. Take two pieces of string and tie a nut to each end of each piece. Throw one piece over the shaft near the bearing at one end and the other piece at the other end. See Fig. 3. Now stretch a stout cord C from one end to the other, low enough down to clear the pulleys. The end of the cord should be brought exactly central between the two ends of the



string hanging over the shaft. The weights may be kept from vibration by allowing them to hang in a pail of water. A small pail of oil is better yet, since its great viscosity more readily checks any motion. Having pulled the line C taut in the correct position, it is an easy matter to adjust each bearing by throwing the string with the nuts on the ends over the shaft at the bearing to be tested, and adjusting the set screws and the line C is exactly central between the two ends of the string. You will notice that variations in the size of shafting do not hinder this operation in the least, as is the case when a line is stretched at one side and attempts are made to measure in from it to the shaft; and, furthermore, the presence of the pulleys is no objection whatever. Any shaft may be tested in this manner, being the noon hour, except when the belts interfere with the line C. Where this is the case sufficient time must be allowed to remove such belts as are in the way.

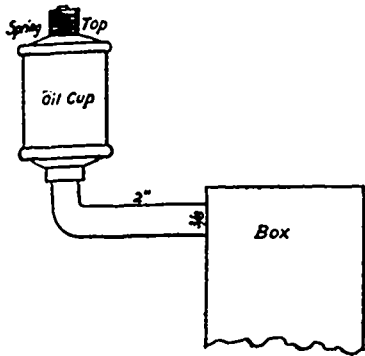
If the shafting was put up with sticks, as above explained, it may also be tested for the horizontal plane in a very few moments. If these sticks are not in pos-

tion, and it is desired to test the alignment of a shaft already up, it is possible to run the line below the pulleys in the manner shown by Fig. 1, the ends of the sticks B being brought down to this plane. Now, starting at any bearing the exact center of the shaft is marked on the stick. To be accurate a small spirit level may be used to mark across top and bottom, see Fig. 4, and the space thus marked off divided in half to get the exact center. Measure carefully the distance to the end of the stick from this center line and cut a measuring stick to just that length. Use this to make a similar line on each of the other sticks B. One of these sticks will be located at each bearing and the center of the shaft may be readily brought to the line. All of the sticks may now be sawed off the right length and swung up out of the way for future use.

One should be cautious about always relying upon them, however, and if it is suspected that any portion of the building has settled since they were put up, they should be discarded, and a new line run.—Science and Industry.

**A HANDY OILING DEVICE.**

No doubt many of your readers have had trouble with the side spindles of matching and moulding machines running warm. I used to, and here is how I stopped it on the top boxes of a planer and matcher.



I drilled a hole in the side of box at the top, tapped it out for 3/8-inch gas pipe, screwed in a piece 2 inches long, put on an elbow, then a good brass cup fitted with spring top, put a little waste in horizontal pipe, filled the cup with oil, and have never seen these boxes warm since. You don't have to stop machine to oil, neither do you have to oil often. Were I to buy a new machine without some such device as this I should put it on before starting the machine—see sketch. The expense is trivial and the annoyance saved very great.—C. C. H., in Wood-Worker.

**ROPE DRIVING FOR SAW MILLS.**

The transmission of power by means of ropes running in grooved wheels has made considerable progress of late years. The system is low in first cost, and is particularly useful in conveying power to various points from the same centre. The great drawback to their use arises from the difficulty of obtaining an equal tension on all the ropes, some being strained, whilst others are performing their fair share of work.

During the last few months the writer has been consulted by several firms who have introduced rope driving as to difficulties they have encountered from ropes flying off, &c., and in each case it has arisen from the system not being properly designed and arranged in the first instance, consequently, a few general remarks on rope driving may be of interest.

**DRIVING CENTRES.**—Ropes will transmit power much better when arranged to run at long centres, and in comparing ropes with flat leather belts for conveying power considerable distances the balance is undoubtedly in favor of ropes, but when shafts are near together, say, 20 ft. or under, and the pulleys less than 4 ft. diameter, the advantage is in favor of belt driving. Ropes have been worked up to between 300 and 400 ft. centres when supported by idler pulleys, but this is, of course, exceptional. The slip of ropes is about 0.33, and leather belts working under similar conditions 0.96.

**MATERIAL OF ROPES, &c.**—The driving ropes are usually made of cotton, manilla, hemp, leather, or wire. For most purposes cotton ropes are to be preferred; they should be of the best quality, and firmly and

solidly made. Pure Egyptian throstle yarn, without weighting material, can be recommended. The lower side of the ropes should be the driving side, and a moderate amount of "sag" should be allowed on them, and when first put on they should be stretched as equally as possible. Cotton ropes are more pliable than those made of hemp or manilla. In splicing a rope the splice should be about 60 times its diameter. Ropes should be as elastic as possible, but lubricant should be used very sparingly, or there will be an excess of "slip".

**DIAMETERS OF ROPES AND PULLEY.**—It is of the utmost importance to secure successful working that the diameters of the ropes are properly proportioned to the diameter of the pulleys. Ropes of a moderate diameter are to be preferred to larger, as the friction of working and from bending and unbending is reduced in proportion. For like reason the driving pulleys should be of as large a diameter as may be convenient, say, not less than 30 times the diameter of the driving rope. Combe adopted the following minimum diameters of pulleys for the various sizes of ropes:—1 1/4 in. diameter of rope, 3 ft. diameter pulley, ratio 1 to 28.8; 1 1/2 in. diameter of rope, 4 ft. diameter pulley, ratio 1 to 32.0; 1 3/4 in. diameter of rope, 5 ft. diameter of pulley, ratio 1 to 34.0; 2 in. diameter of rope, 6 ft. diameter pulley, ratio 1 to 36.0. The ratio of pulleys to each other should not be greater than 4 to 1, but 3 to 1 is better practice.

**SPEED OF ROPES.**—A good average speed for economically transmitting power is from 3,000 ft. to 5,000 ft. per minute. Ropes are often run faster than this, but we fail to see any corresponding advantage, as any gain in power is counteracted by increased wear to ropes and bearing, and the centrifugal action, or tendency of the ropes to fly off is also increased.

**ROPE GROOVES IN PULLEYS.**—Another very important matter in effective working is the proper construction of the grooves carrying the ropes. The general consensus of opinion is in favour of grooves formed with straight sides at an angle of about 40 to 45 degrees. The grooves should be of sufficient depth that the ropes cannot rest on the bottom. Grooves are sometimes made with curved sides, but these are not to be recommended, as the ropes cannot bed themselves properly, and have a tendency to roll round, and, consequently, more rapidly deteriorate. Grooved wheels made of wood largely increase the driving power of the ropes.

**SHAFTS CLOSE TOGETHER, &c.**—Although ropes do not give the best results for driving shafts which are close together, they are sometimes used. In this case a single continuous rope is often employed, the rope being laced backwards and forwards from one groove to the other, a tension pulley being employed for leading the rope from the last groove into the first. For keeping the ropes from flying off an idle grooved tension pulley is sometimes employed.

**CROSSED VERTICAL AND ANGULAR LINES.**—This form of driving should be avoided wherever possible, but if absolutely required special forms of grooves are necessary, and for right angle drives a pair of additional specially arranged horizontal guide pulleys are required. For successful vertical driving extra ropes are required, as the ropes have a tendency to fall out of the grooves. Ropes convey power best when worked horizontally, or at an angle of about 45 degrees.

**RENEWING ROPES.**—Ropes should be renewed, as far as possible, altogether, as it has been found in practice that if new ropes are put on to work with old ones that the new ropes brake the old ones till they are all rubbed down to the same size. To get over this difficulty, in America a single continuous rope is often employed.

**ROPES FLYING OFF DRIVING WHEELS.**—Some of the chief reasons for ropes flying off may be stated as follows:—(1) Improperly proportioned driving wheels and ropes, (2) excessive speed, (3) too short driving centres, (4) a suddenly applied load, (5) too powerful an engine for the work, (6) too early a cut-off, or too much "cushioning" in the engine. If an engine has a fairly full load, and other things being equal, the jumping of ropes is usually not much, but if the power of the engine is larger than is generally required, and the slide valve is set to cut off early, when the steam is turned on great stress is immediately put on the tight

side of the ropes, which causes the slack side to fly up suddenly.

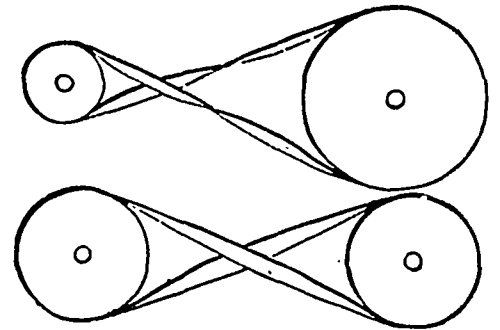
**TO FIND THE HORSE POWER TRANSMITTED BY ROPES.**—Rule. Multiply the sectional area of rope in square inches by 100 times the speed of the rope in feet per minute, and divide by 33,000, which will give the horse power (approximately) transmitted by each rope.

**TO FIND THE INDICATED HORSE POWER TRANSMITTED BY ROPES.**—Rule. Multiply eight times the square of the circumference of one rope by the number of ropes, and by the circumferential velocity of the driving pulley in feet per minute, and divide the product by 33,000.

**ADVANTAGES OF ROPE DRIVING.**—Amongst the advantages claimed for properly arranged rope driving may be mentioned low first cost and cheapness of repairs, and freedom from serious accidents. Power can be conveyed from the fly-wheel direct to various floors, and shafts that are not quite parallel may be readily driven.—M. Powis Bale, M. I. M. E., in the Timber Trades Journal.

**CROSS BELTS.**

What are usually known as cross belts are very common in driving machinery, and it is a well known fact that they run best when the two pulleys which they connect are somewhere near of one size. But sometimes it is almost necessary to use a cross belt on pulleys of very different diameters, and it does not seem to be generally known how this may be done and still have the belt run smoothly. If the belt connects two



CROSS BELTS.

horizontal shafts on the same level, and is given the ordinary single turn or twist, it will naturally stand in a vertical position at a point midway between the two shafts. Now, if the two pulleys are nearly of one size, this midway point is the natural crossing place for the two parts of the belt and all goes well. But if one pulley is much larger than the other, then the belt must cross at a point much nearer the small pulley than the larger one, and with the ordinary twist the two parts of the belt are apt to quarrel, so to speak, at this point. To remedy this, in many cases, it is only necessary to give the two parts of the belt an extra twist as they pass from one pulley to the other. The belt then will stand vertical at two points, making the thirds of the distance between the shafts, and if the pulleys are of such sizes that the belts cross at or near one of these points they will run smoothly again and with very little friction. The sketch shows the two positions.—J. C. Green, in American Machinist.

**OBITUARY.**

The death occurred at Fredericton, N.B., on April 22nd, of Robert A. Noble, a well known lumberman. Mr. Noble had suffered from lung trouble and about a fortnight before his death was seized with an attack of hemorrhage. He was fifty-three years old and had been identified with the lumber industry on the St. John River all his life. He was foreman for the late Robert Connors and afterwards employed in a similar capacity by Cyrus Dickie, of Fort Kent, Maine. Of late years he had taken logging contracts on the St. John headwaters for Cushing & Co., of St. John. Last year, in conjunction with John A. Morrison, he had charge of the corporation drive between Grand Falls and the boom limits.

The Hull and Ottawa district has lost one of the few survivors of the old By-town lumbermen in the person of Mr. Basile Tessier, who died at Hull last month. Deceased was only seventeen years of age when he began his career as a lumberman in the Ottawa valley. He was once engaged by the barge companies as ship-builder. Mr. Tessier retired from business eight years ago.



# WOOD PULP ~ DEPARTMENT

## QUEBEC PULP WOOD ASSOCIATION.

A meeting of those interested in pulp wood in the province of Quebec was held at Sherbrooke on April 22nd to consider the formation of an association of pulp wood dealers. There were present about twenty representatives from all parts of the province, and it was decided to form an association to be known as the Province of Quebec Pulp Wood Association. The object of the association is to protect generally the interests of those who are dealers in and shippers of pulp wood or in any way interested in pulp wood property.



MR. HERBERT M. PRICE,  
President of the Quebec Pulp Wood Association.

The pulp wood industry has grown from a small beginning to a very large trade, and it has become necessary to have some means of concerted action on several questions, such as over-production, uniform system of selling to the United States mills, facilities given by the railways and carriers by water, and the legislation affecting pulp wood limits. It has been the custom when shipping to the United States to sell the wood delivered at the mill, as a result of which shippers of pulp wood are more or less at the

mercy of the mills without any redress. The association will also assist in the direction of encouraging shippers to export only first-class material, so that the reputation of Canadian pulp wood may be kept up.

It was arranged at the organization meeting to subdivide the province into districts according to railways, to be looked after by eleven directors.

Mr. H. M. Price, of Quebec, was elected president, and Mr. E. C. Gatién, of Sherbrooke, secretary-treasurer. The directors for the different districts were chosen as follows:

H. M. Price, Quebec Division of Grand Trunk and Intercolonial Railways; E. W. Tobin, M.P., Richmond Division; F. N. McCrea, Sherbrooke, east on the G.T.R. and B. & M.; B. C. Howard, Quebec Central main line; O. C. Morissette, Megantic Division; C. H. St. Pierre, Cookshire Division; G. T. Smith, on the C.P.R. and North Shore of St. Lawrence, below Quebec; W. J. Augur, I.C.R., below Quebec; O. Brouillard, on the I.C.R., west of Aston; G. C. Poulin, Labelle Division.

Mr. H. M. Price, the president of the association, has just been unanimously elected as mayor of the newly-formed municipality of Montmorency.

Mr. W. G. Jones, managing director of the Acadia Pulp & Paper Mills, of Halifax, N.S., was in England last month in connection with the proposed increase of the capital stock of the company. Mr. Jones states that he has secured large contracts which will take the output of the mills for many years. The company operate three mills, one of seven grinders at Rapid Falls, Queen's county, another of four grinders at Morgan Falls, on the La Have river, and a third of three grinders at Cowie's Falls. The total output is about 140 tons per day. It is proposed to construct new dams and reservoirs which will prevent freshets such as occurred in the spring of 1901. When this and other improvements are completed it is expected that the earning capacity of the company will be greatly increased. Messrs. Becker & Company, of 64 Cannon street, London, E.C., are sole agents for the product of the company in Great Britain.

## MR. C. W. RANTOUL.

Mr. C. W. Rantoul, jr., whose portrait is presented herewith, has been appointed general manager of the Sturgeon Falls Pulp & Paper Company, of Sturgeon Falls, Ont., and assumed the duties of his new office on June 7th. Mr. Rantoul was previously sales manager for the Ticonderoga Pulp & Paper Company, of Ticonderoga, N. Y. He is a comparatively young man, having been born in Newburyport, Mass., in 1865. He has had a wide experience in the pulp and paper trade, and was for



MR. C. W. RANTOUL.

a time secretary of the American Paper & Pulp Association. The Sturgeon Falls plant will produce 140 tons of paper per day.

## PULP NOTES.

It is understood that McLaren & Company, of Buckingham, Que., intend erecting a paper mill in the near future.

It is reported that C. H. Vogel, consulting engineer, of Ottawa, has been engaged to build a pulp mill in the vicinity of Port Arthur, Ont.

The steamer Manchester Engineer has just taken on a cargo of mechanical wood pulp at Chicoutimi, Que., for shipment to Manchester. The cargo amounted to 6,300 tons.

E. G. Murphy, of New York, is said to have completed the purchase of the properties required by the St. George Pulp and Paper Company for the pulp mills to be built at St. George, N.B.

We have received from the Great Northern Railway Company, of Quebec, a folder on which is printed their time table and other information relating to their railway and other interests. This folder is printed on a sample of the first dry ground wood pulp manufactured by the Belgo-Canadian Pulp Company at Shawiniga

**JOSEPH H. WALLACE, C. E.**  
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Falls, Que. It is the best sample of ground pulp that we have ever seen, being entirely free from blemishes, and ought to satisfactorily meet the requirements of paper makers.

Messrs. H. Abbott, H. Shannon and Dr. Carroll, of Vancouver, are said to be interested in the proposed pulp mill to be established on Prince Royal Island, B.C. The company will be known as the Oriental Power and Pulp Company.

There has been only a small demand for mechanical pulp in Great Britain of late, and consequently prices show a downward tendency. Norwegian producers report stocks as small, and it is probable that the weakness of the market will be only temporary.

It is said that United States capitalists have submitted an offer for the pulp mills of the Maritime Sulphite Pulp Company at Chatham, N. B., provided they can acquire the timber limits under lease by the late company. The figure is understood to be \$550,000.

Mr. T. Obalski has been intrusted by the Minister of Public Instruction of France, and by the Natural

History Museum, with a scientific mission to Canada, the object of which is to make collections for the national museum and to report on the industries of the country. Mr. Obalski will give particular attention to pulp and paper making.

On May 20th fire was discovered in a large wooden structure at Sturgeon Falls, Ont., built and operated for two years as a pulp mill by the Sturgeon Falls Pulp Company. Owing to litigation over the property the mill was shut down and has not been operated for some time. The mill, together with tramways and a quantity of timber, was destroyed. The loss is estimated at \$40,000 and is covered by insurance.

The North Shore Timber Company, of Port Arthur, Ont., is the only company holding a Government license which permits the export of pulp wood from the province. This privilege was granted to the company by the predecessor of the present Commissioner of Crown Lands, as a result of which the company expended large sums of money which they claimed would be lost if their privilege to export pulp wood was cancelled. In consideration, an exemption for two years was granted.

Becker & Co., of 64 Cannon street, London, E. C., have just completed a seven years' contract with the owners of the steamship Norfolk. Beginning in the spring of next year the vessel will carry a cargo of 2,500 tons of wet pulp from Chicoutimi, Quebec, to Queenboro'. For the seven years she will carry four cargoes per season. The charter is undoubtedly the largest which has ever been made in the wood pulp trade. The owners of the Norfolk are Furness, Withy & Co., Ltd. From inquiries made we find that Becker & Co. have entered into other large contracts, including a charter of a steamer for seven years to run from Canada to Manchester, for over 100,000 tons, and another to Scandinavian ports.—British Paper Maker.

A Cincinnati paper says that the spruce forests are being cut down at an amazing rate because the wood pulp trust has been given a license "to charge and to chop." But it is not necessary to chop down spruce trees in this country to get pulp wood when it can be brought across the border from the spruce forests of Canada in unlimited quantities and with no import duty and a very small export charge.—American Lumberman.

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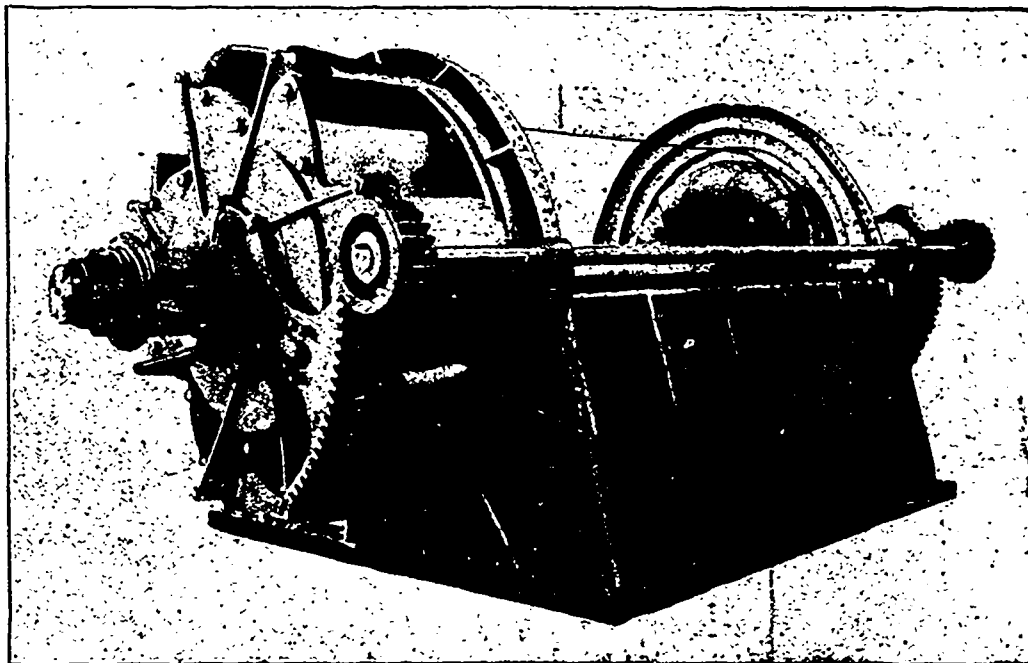
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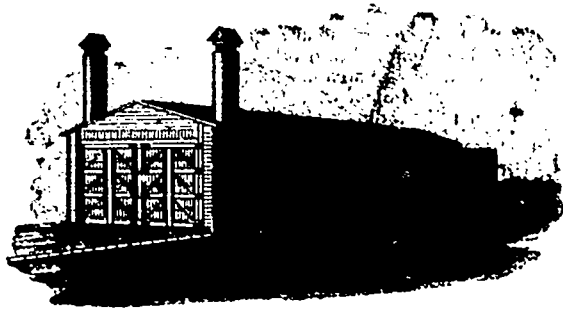
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**A MODERN DRY KILN.**

Dry kilns having become solidly established in the estimation of all progressive lumbermen and manufacturers, the problem of choice confronts those who are about to put in new kilns, or replace old and unsatisfactory ones. The following brief description of the Standard kiln is here given for the benefit of such as



THE "STANDARD" DRY KILN.

are not yet aware of the strong, practical features of the method employed in this kiln.

The makers of the Standard moist air dry kiln have

had full experience in the manufacture of other drying systems, and emphatically claim for their process many important advantages over the old types. They back up these statements by a rigid guarantee to all buyers, who thereby take no chances. The Standard is warranted to dry any and all woods without warming, checking or other kindred injuries; and to do this in less time than is possible in other kilns. It can be regulated to exactly fit the drying requirements of any lumber, and dries hardwoods and shingles equally well.

The appearance of the Standard kiln is shown in the accompanying illustration, but an explanation of the process will be interesting to dry kiln users. One of the good points of the Standard moist air system is the entire absence of engines and machinery complications, which at the start cuts off a large item of repair expense. Green lumber entering the receiving end of kiln is enveloped by hot moist air, the dampness of which prevents the stork from baking, warping, case-hardening, etc. On the contrary, it softens the surface of the wood and opens the pores. The heat penetrates at once to the heart of the product and begins the drying there. From centre to surface is the way the Standard does its work, and every lumberman knows this to be the only sure method of perfect drying.

The cars advance stage by stage through the kiln, constantly finding a higher temperature and less humid atmosphere. Once the kiln is filled, this process becomes simple and continuous and entails no more labor and attention than to merely load and discharge and keep up the steam supply. Outside atmospheric conditions, it is claimed, cannot affect the operation of the Standard, because the construction of the kiln makes impossible the entrance of drafts of cold air, except through the air duct where the inflow is regulated to maintain the desired circulation. It is a kiln that can be operated without halt day after day.

The equipment of the Standard is first-class in every particular. The heating apparatus is as nearly perfect as possible, the pipe being especially made for this purpose out of selected stock and carefully worked. It is heavier than regular pipe and each individual length is tested to a pressure of 600 pounds. Long, heavy couplings are furnished, and the heavy cast iron headers give four times as much metal for threads as is secured in the usual pipe header. The Standard system of piping affords extraordinary provision for expansion. From these facts it will be understood that leaky joints are almost an absolute impossibility in the Standard kiln. Nevertheless, all pipes and joints are

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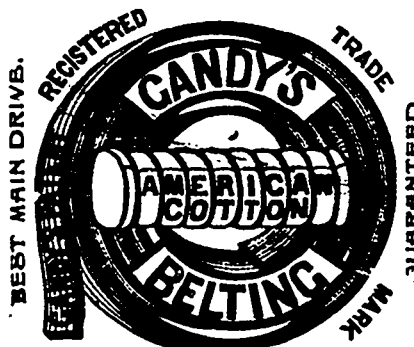


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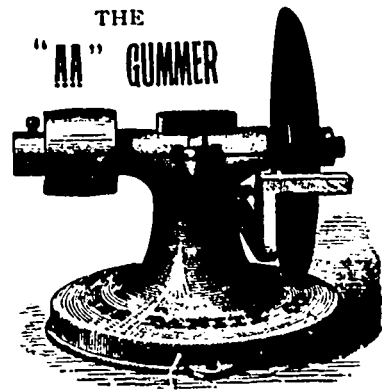
... easily accessible for inspection and should a leak occur, the pipe can be removed in five minutes. One of the latest improvements in this kiln is the introduction of steel foundations and the use of brick and concrete in the construction of building, thus adding permanency to the structure and reducing the fire risk from outside exposure to a minimum. The nature of the system renders the kiln of itself absolutely safe from fire, regardless of the construction of building. The entire construction of the Standard is strength and simplicity embodied, and no expense has been spared to make it the most useful and practical kiln on the market. The experience of its users shows that the Standard kiln is actually all it is represented to be. The Bodow Lumber Company, of Stamps, Ark., write that they have been using the Standard dry kilns for the past eight years. At present they have nine of them, all of which are giving perfect satisfaction. They consider "The Standard" the best manufactured.

The Standard dry kiln has been on the market fifteen years. It has been given the hardest tests possible and has never failed to do all that is claimed for it. When its makers say that it will dry any and all kinds of wood, they do so confidently and without fear of contradiction, because it is doing that every day, being in operation in almost every climatic section of the country. In their regular advertising space in this issue The Standard Dry Kiln Co. make mention of the "Standard" literature on lumber drying, which will be sent free to all interested in the subject.

Wilson Bros., of Collingwood, Ont., manufacturers of dressed lumber, propose to be right up-to-date, inasmuch that their product will in the future be dried by the Standard Moist Air System. This progressive firm is now putting in two of the latest improved type "Standard" dry kilns, which are to be constructed of brick, thus reducing the fire risk from outside exposure to a minimum. The nature of the Standard system renders the Kiln of itself absolutely safe from fire.

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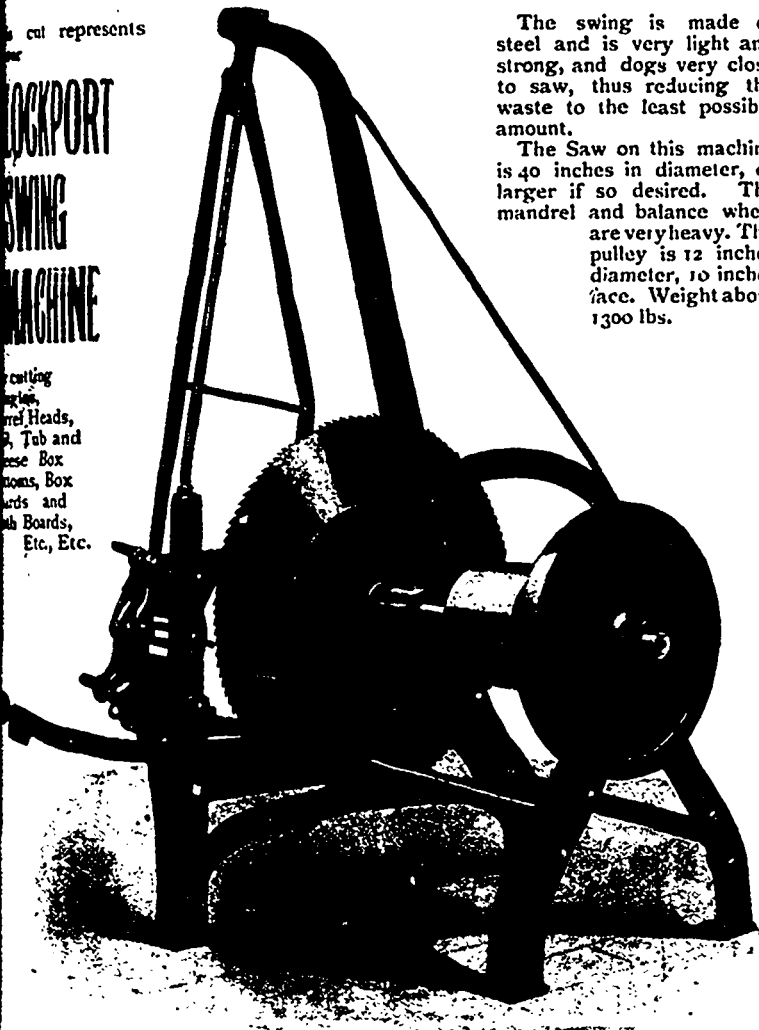
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**ELECTRICITY IN THE SAW MILL.**

The part electricity takes in the modern power plant for most any kind of service is becoming so general as to excite little comment, but saw mills generally seem to fail to appreciate that it is capable of a much wider range of usefulness than merely to furnish light. It is the purpose of this communication, writes S. S. Ingman, in the *Wood-Worker*, to briefly describe how it is employed in the plant of the Atlantic Coast Lumber Company, Georgetown, S. C., as an illustration along this line.

This company operates four band mills now, two single, one double with a resaw, and one double with gang, all double-cutting bands. The combined capacity of these mills is close around half a million feet of boards daily of what is known in the New England markets as "North Carolina pine," or what is termed here as sap or spruce pine. The electric plant consists of four 45 k. w. and two 400 k. w. 250-volt direct-current dynamos, the

four 45's being driven by a 225-horse power Reynolds-Corliss engine and the 400's each by a direct-connected Harrisburg "Ideal" engine of 150 horse-power each. The combined electrical horse-power at normal rating is over 300, and capable of 50 per cent. overload for long periods, or 100 per cent. overload for short periods.

Besides lighting the mills, machine shops, foundry, car shops, planing mill offices and store rooms immediately connected with the mills, the company lights an immense store, probably one of the largest in the state, a large hotel, and several buildings in which officials of the company reside, and drives by means of motors the machine shop, pattern shop, foundry, car shops, planing mills, etc., all the file room machinery and sorting rolls in the sorting sheds, also a device connected with the kilns for moving the cars in the kilns, and by means of four trolleys distributes all the product from the kilns to the sorting sheds and to the loading wharves, and disposes of

the refuse in excess of fuel requirements. These trolleys are immeasurably superior for this service to the steam locomotive, are quicker and easier handled, and I believe will do from 25 to 50 per cent. more work without the danger from sparks, the trouble and expense from petty repairs, and requires a great deal less skill to handle. The expense to install will compare favorably with mechanical appliances for these purposes, with operating expenses reduced in the majority of cases, if not all.

**THE STANDARD LOG.**

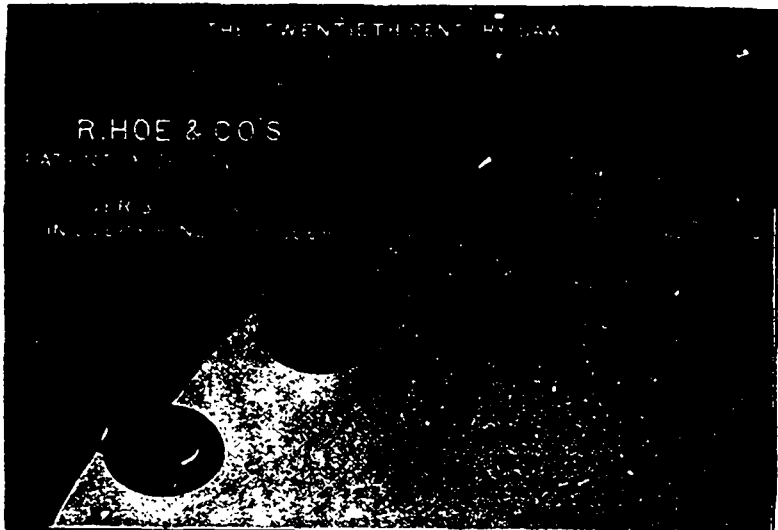
For the benefit of one of our subscribers, it may be explained that the standard referred to in last issue in connection with Mr. Booth's large load of logs is the "standard" log as known in the Ottawa valley. This log is 20 inches in diameter at the base, and the six logs on the load taken in the aggregate were equal to fourteen "standard" logs. There is no reference to the St. Petersburg standard of lumber measurement, fourteen of which would give a total of 27,720 feet B. M., instead of 17,720, as stated in the communication sent us.



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- 65 H.P. Tubular Boiler
- 50 H.P. Tubular Boiler
- 8 H.P. Vertical Boiler
- 10 H.P. Vertical Boiler
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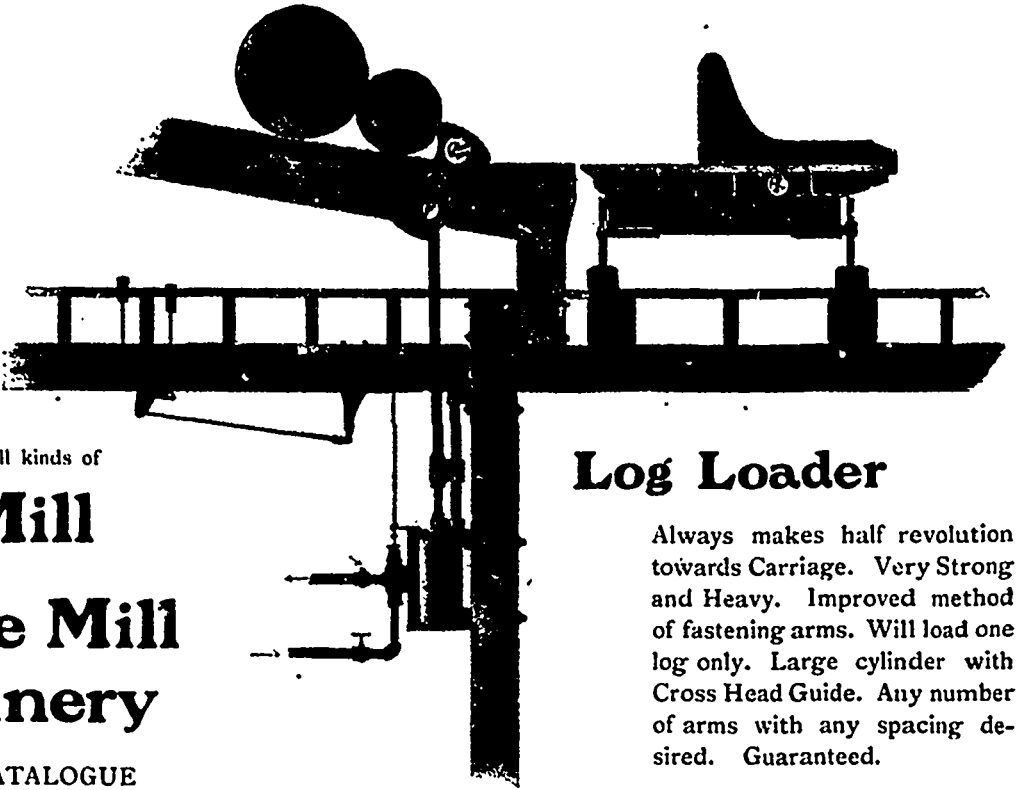
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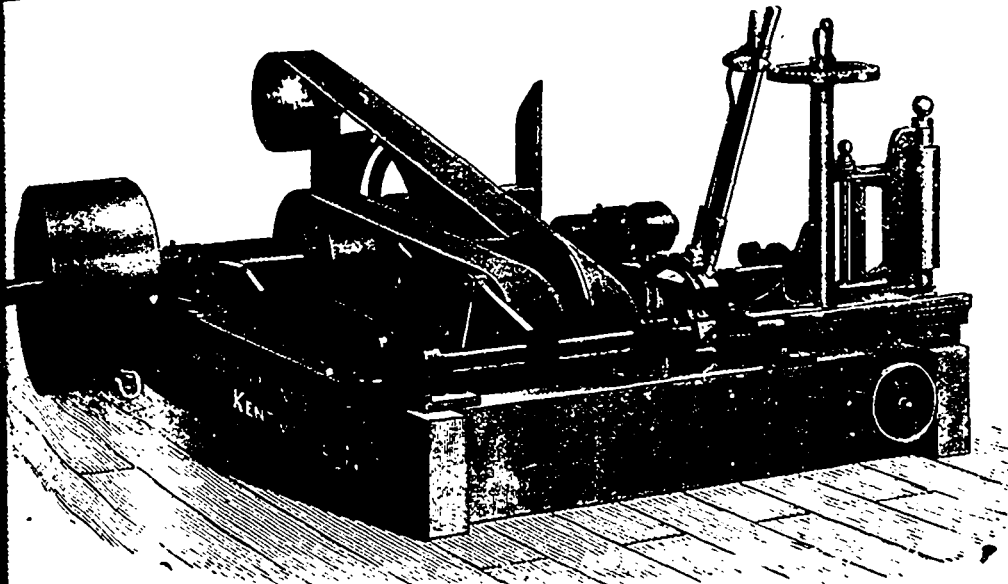
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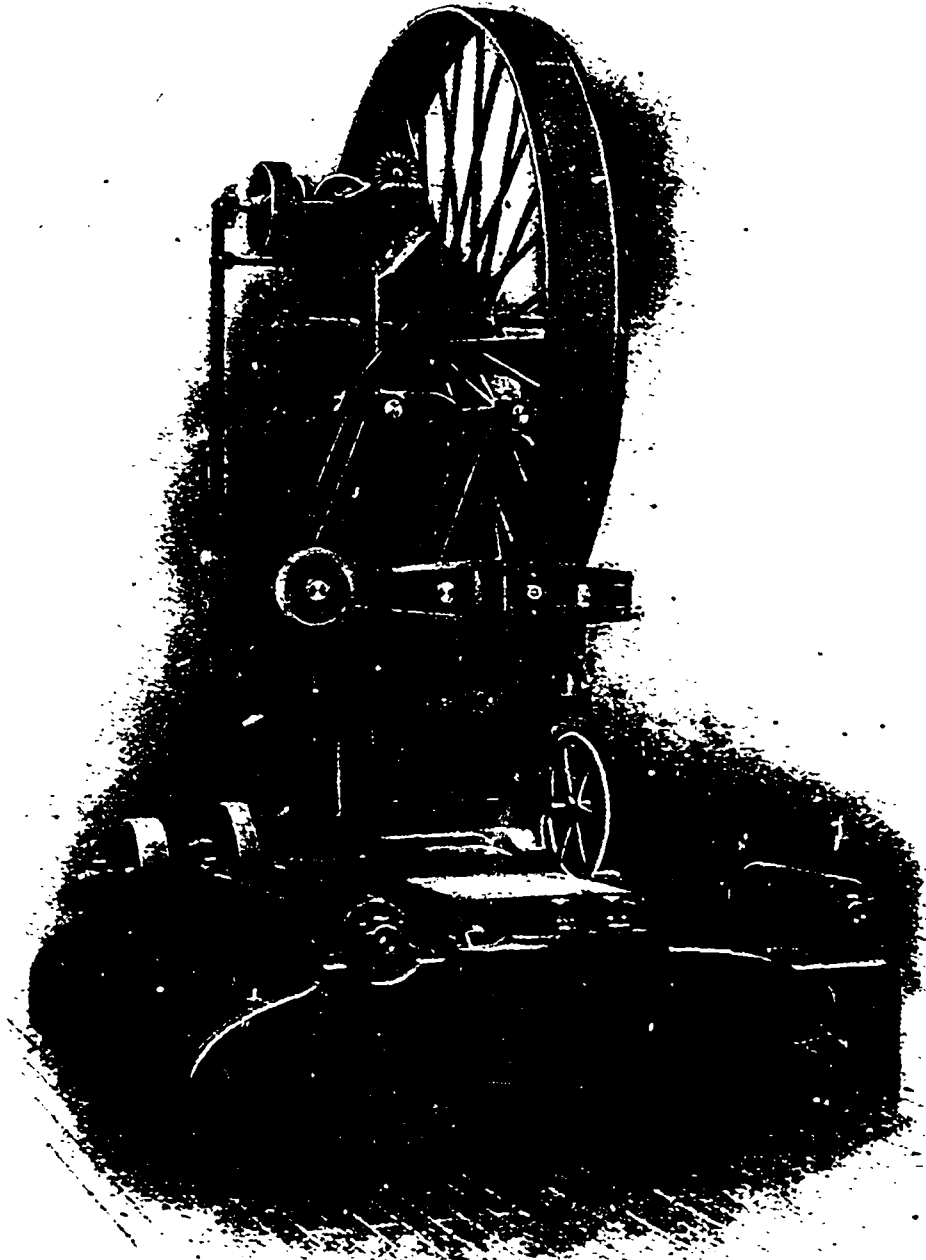
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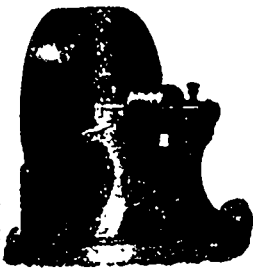
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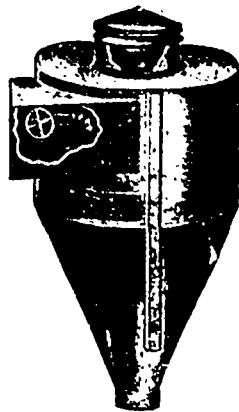


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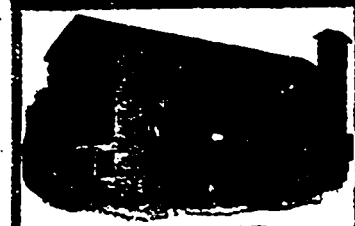
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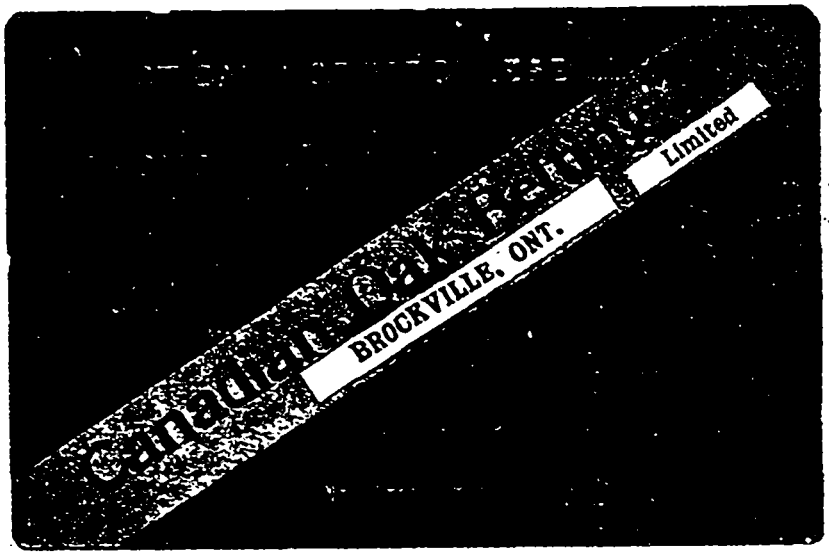
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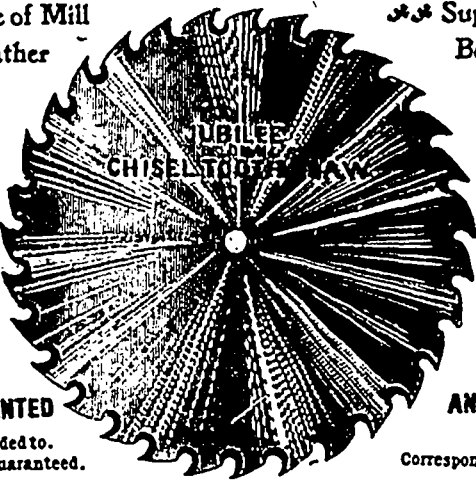
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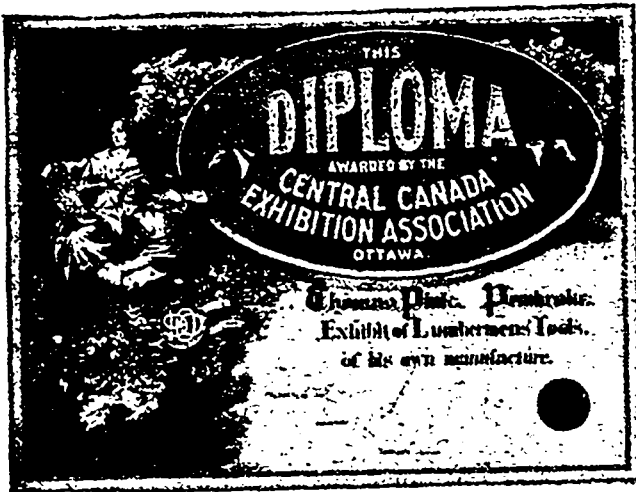
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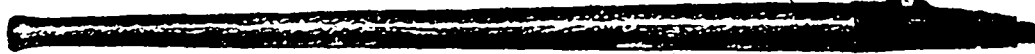
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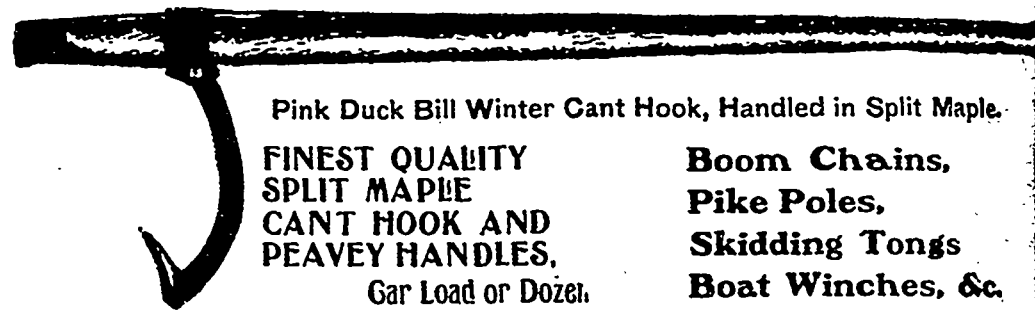
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