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THE


# CANADA LUMBERMAN

Wood-Workers', Manufacturers' and Millers' Gazette

TORONTO, CANADA, NOVEMBER, 1901

(TERMS, \$1.00 PER YEAR  
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Manager.

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That will wear longer, need less repairs, is cut out of better stock, or better able to stand hard work on high speed machinery than the belts made by . . . . .

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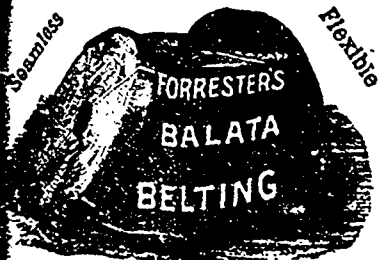
are the first, the only and the original beltings of this kind ever made, and are all stamped with the trade mark, Dick's Original. . . . .

ALWAYS UNIFORM IN EITHER WET OR DRY WORK. STRONGEST BELT MADE.

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151 Hospital Street,  
MONTREAL.

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Be modern and get the latest and best.  
Full stock on hand.

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Manufacturers of  
**LUMBERMEN'S BLANKETS**

\$1.50 to \$2.50 per pair  
No Shoddy Used

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## HIGH GRADE CIRCULAR AND LONG SAWS

Sole Makers of

**E. R. Burns Patent Handle**



THE  
**WM. HAMILTON MFG. CO., LIMITED,**  
PETERBOROUGH, ONTARIO.



**Designers and  
Builders....**

**of**

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



**WE ALSO BUILD**

Pulp Mill Machinery,

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Tools for the Care of Saws,

Shingle Machinery, Engines,

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PETERBOROUGH, ONT.

# R. H. SMITH CO., LIMITED

St. Catharines, Ont.

We are the Sole Manufacturers of Saws under the

## Simonds' Process

in the Dominion of Canada.

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

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

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

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

Yours very truly, JAMES MCKINLAY.

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

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

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

Yours truly, KILGOUR SHIVES.

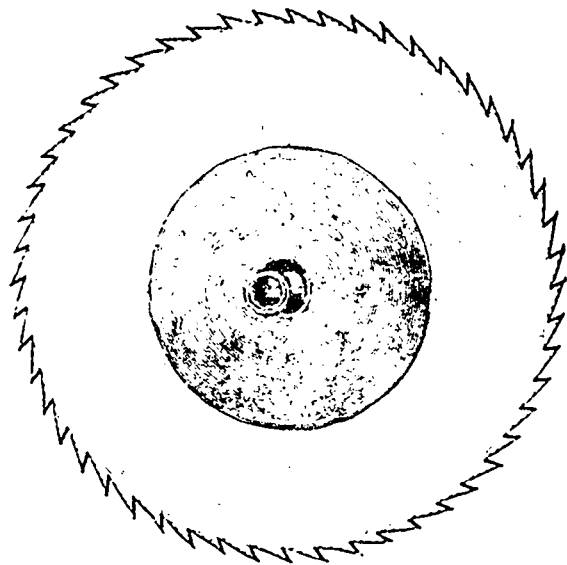
CLAVERING, ONT., May 3rd, 1897.

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

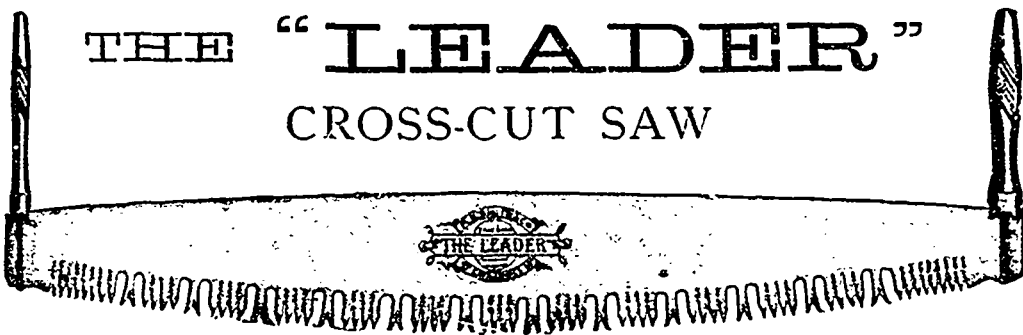
GENTS,—In reply to your letter asking me how I liked the 62" SIMONDS Saw, I must say in all my experience I never had a saw stand up to its work like the one purchased from you last month. Having used saws for the last 22 years, and tried different makes, I can fully say it is the best saw I have ever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

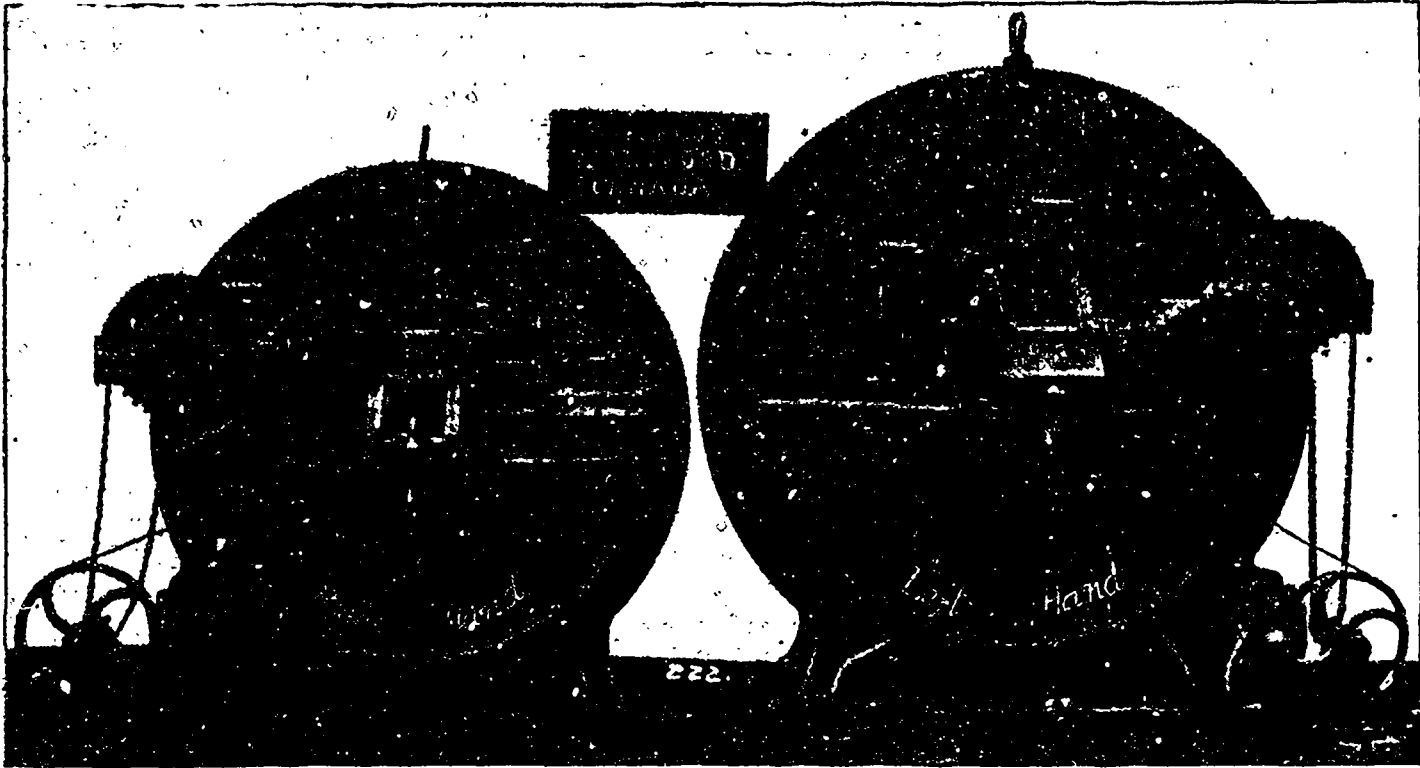


Made in 3 Sizes—\$2.00, \$2.50, \$3.00, etc.

OUR PRICES ARE RIGHT. KINDLY ALLOW US TO QUOTE YOU BEFORE PURCHASING.

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

# PULP WOOD MACHINERY



Large range of  
**BARKERS**

52" Barks to  
Medium Diameter.  
60" Barks to  
Large Diameter  
96" Barks Slabs  
48" long

Cases faced, making perfect fit and tight joint—bottoms of bearings and brackets they hold to planed, making perfect alignment.

Runners, heavily banded.

Steel Blower Wings when desired.

Machines all very heavy, built for fast work.

Butterfield's Patent Turning Attachment fitted to these machines.—Our cutting up rig handles 100 to 125 cords per day, taking logs from the water and delivering them cut into 16 to 26 inches, or any length, to the barkers.—Only 2 men required to operate this outfit.

## PULP MAKING MACHINERY

### SUCCESS GRINDERS

(Like cut) with adjustable take-up to bearings

Little piping.

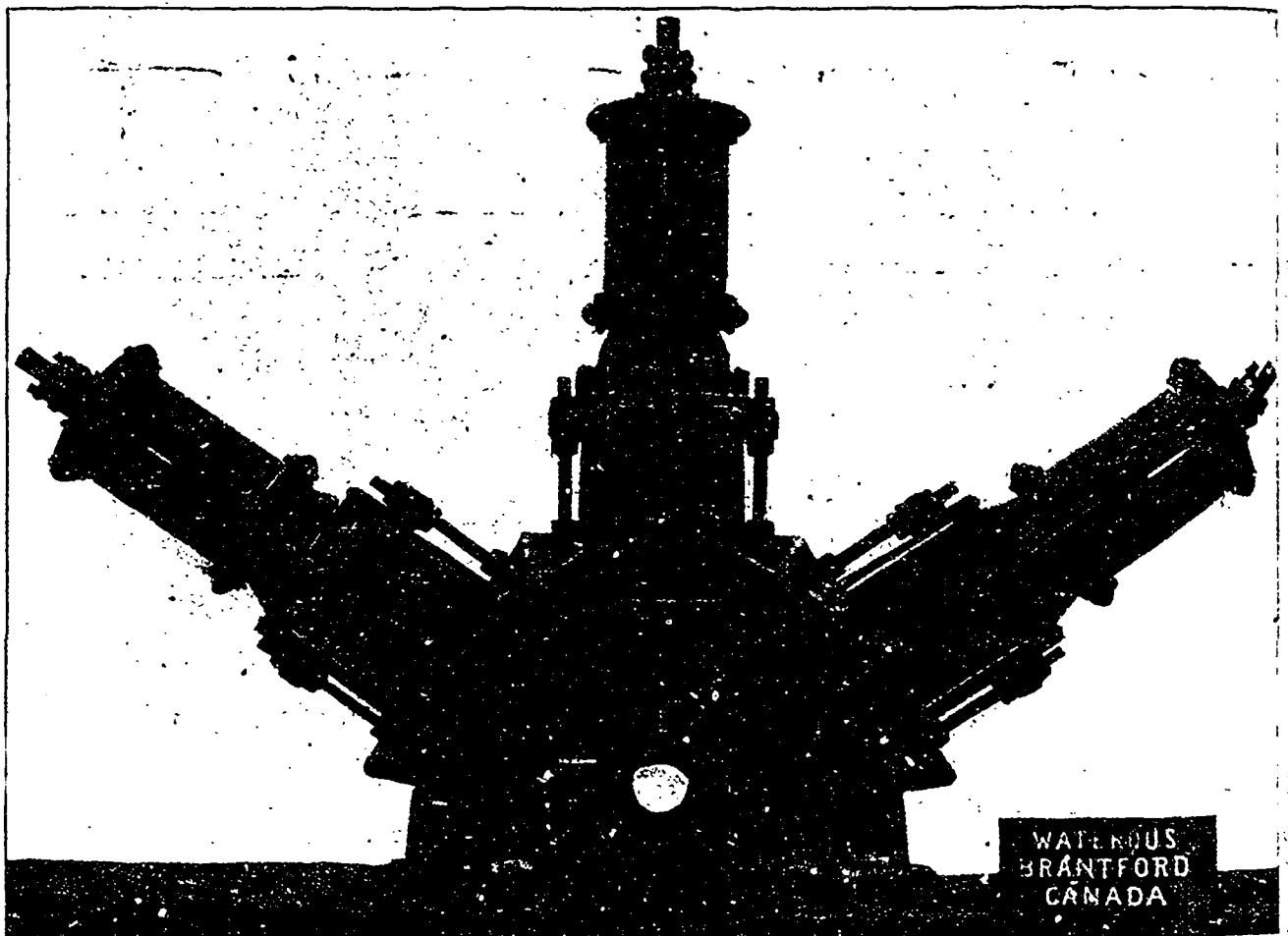
All waterways in cylinder.

Many valuable improvements.

Best grinder made.

Success Wet Machines

Success Screens



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CANADA

Save your Spruce Slabs—Bark them on our 8-foot Barker, when they make perfect pulp wood—Equally as valuable as the round.

We manufacture up-to-date Saw Mill Machinery.

**Waterous Engine Works Co.**  
Brantford, Canada

NEW BRUNSWICK FOUNDRY AND MACHINE SHOPS  
FREDERICTON, N. B.

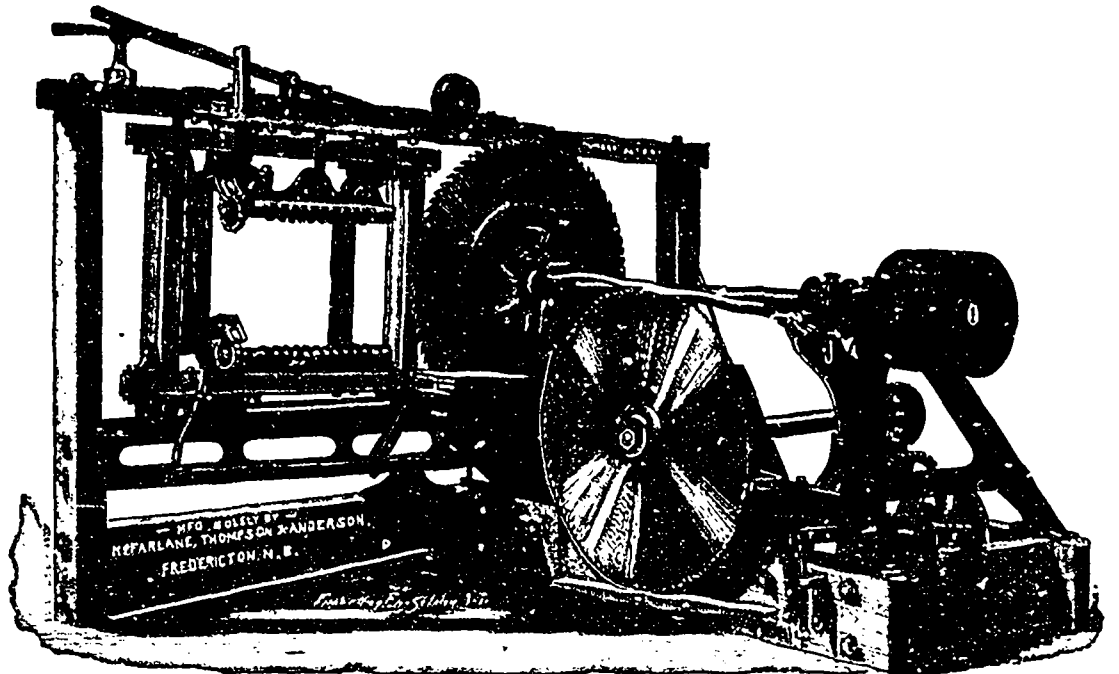
McFarlane, Thompson & Anderson

Manufacturers of the only original

PATENTED DUNBAR SHINGLE MACHINES

And Sole Proprietors of the said patent

Universally admitted  
as being the best  
machine on the  
market from the  
Atlantic to the  
Pacific.



PATENT DUNBAR SHINGLE MACHINE.

The following well known firms are a few of the many who are using the celebrated Dunbar Shingle Machine:—Metis Lumber Co., Quebec, 15 machines; John A. Morrison, Fredericton, N.B., 16 machines; Gibson, R'y. & Manufacturing Co., Marysville, N.B., 10 machines; Hastings Shingle & Manufacturing Co., Vancouver, B.C., 16 machines.

The McFarlane, Thompson & Anderson Dunbar Shingle Machine a record breaker in the west—(New Whatcom Blade, Washington State). The following may be of interest to mill operatives and others; it is we believe the best six day record ever made on this class of machine—a Dunbar Shingle Machine. The bolts were taken as they came from the woods, without selection, and were a good average quality. This remarkable run was accomplished last week at the George A. Cooper mill, Chuckanut siding: Total cut for six days, 2 shifts of 10 hours each per day, 394,000 eighteen inch shingles. In the day shift, Harry A. Edison, sawyer, cut 218,000, an average cut of 36½ thousand, and the night shift, Levi Loaf, sawyer cut 176,000, an average of 29½ thousand of eighteen inch shingles per day.

CAMPBELLTON, N.B., February, 13th, 1896.

RIVER CHARLO, N.B., Feb. 13th, 1896.

MESSERS. MCFARLANE, THOMPSON & ANDERSON,

GENTLEMEN, I have been from home and only received yours of the 8th this morning. My opinion of the Dunbar Machine is as follows. I have been using the Dunbar Shingle Machine of your manufacture for the past ten years, and have found them most satisfactory machines, in regard to quality of work, quantity of shingles that can be sawn, and freedom from repairs. I have compared your machine with other makes and prefer yours to any others. All experienced shingle sawyers prefer your machine to work on, to those of other makes. I have received to-day a letter from Allston Cushing, asking my opinion of your machine, and shall write to him and strongly advise him to take your machine, (he writes in re Sumner Co. Mill).

Yours truly, KILGOUR SHIVES.

MCFARLANE, THOMPSON & ANDERSON, Fredericton,

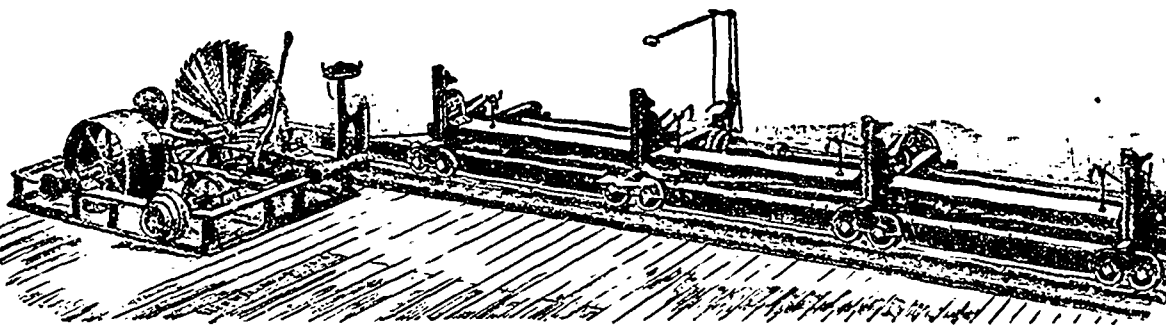
GENTLEMEN,—Your favor received. We have six Dunbar Shingle Machines which we have run seven years, and in that time have never had to put any repairs on them and they are still running in good order. We pronounce them to be the best machines we have ever seen for cutting shingles.

Yours truly,

GRAY & LAWRENCE BROS. CO

We have since sold Sumner Co. the four machines referred to above.—McF. T. & A.

Write these firms now and get their opinion of our Dunbar 1901.



ROTARY SAW MILL, MANUFACTURED BY MCFARLANE, THOMPSON & ANDERSON.

We manufacture a complete line of IMPROVED ROTARY SAW MILLS, BUCK-EYE AUTOMATIC CUT-OFF ENGINES and all kinds of MILL MACHINERY.

Our prices are right.

Kindly allow us to quote before purchasing.

For further particulars address

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Anderson

Fredericton, N.B.

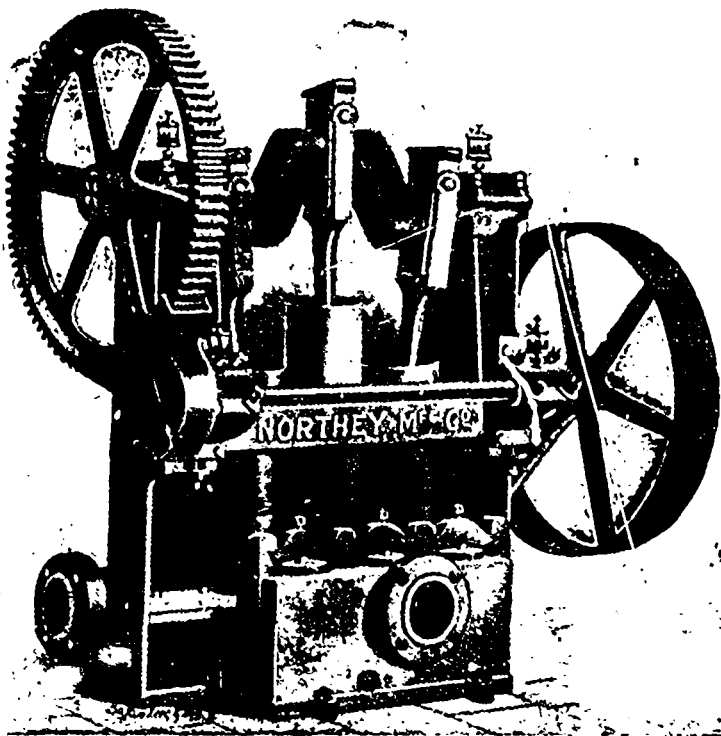
latest Bulletin from the seat of war, October 17th, 1901—From the Metis Lumber Co., Price, Que., in reference to the 15 Shingle Machines sold them this season.

Replying to your enquiry as to the running of the Shingle machines you sold us, would say that they have given entire satisfaction, and have run very successfully so far. We have sawn 30 million shingles in 70 days to date, and count on sawing 10 million more this season."

THE METIS LUMBER COMPANY.

# Northey Vertical Triplex Stuff Pump

For handling Stuff in Pulp Mills



We illustrate here a high grade stuff pump embracing the most advanced ideas and improvements in the manufacture of this class of pump. The three cranks are placed 120 degrees apart, giving a practically constant unvarying flow. Can be conveniently operated by electricity, water power or by belt from engine. Different styles and sizes to suit various duties.

We manufacture every style and type of steam and power pump for stationary, marine and mine duties. Our products are standard in Canada. Catalogues and specifications sent on request.

We also make the Northey Gas and Gasoline Engine, the handiest, quickest-applied power in the market. Any boy can manage it. Built in all sizes.

The **NORTHEY COMPANY**  
 Limited, **TORONTO**  
 969 KING ST., SUBWAY

Write us for Gasoline Engine Booklet, Free

Scrap Iron and Steel.  
 Use Phospherine Babbitt.

**SYRACUSE SMELTING WORKS**

American Works, Syracuse, N.Y.  
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Most Flexible Rope Ever Made  
 Wearing Surface of Hemp  
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UNEXCELLED FOR TRANSMISSION PURPOSES  
 ALSO

**WIRE ROPE**

FOR  
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THE DOMINION WIRE ROPE CO., LIMITED MONTREAL

Every Lumberman wants it 35 cents buys it

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 Address - THE CANADA LUMBERMAN Toronto

Dodge Patent Independence Wood Split Pulley with Patent Standardized Bushing System.

**Dodge Pulleys**

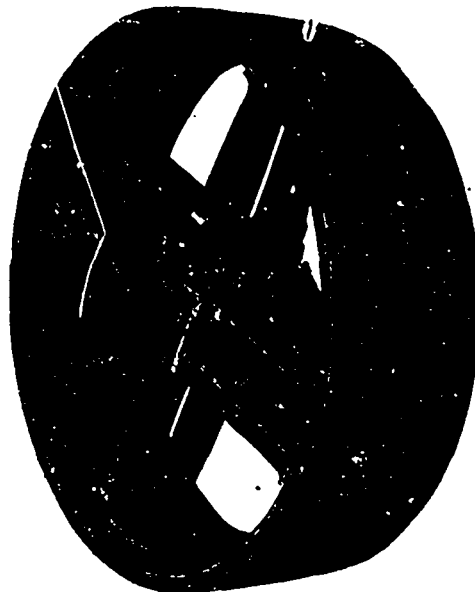
are now the recognized 'STANDARD' the world over.

We make them for Saw Mill Work.

Much handier, can be got quicker, and Cost Less than any other Pulley made.

Every Pulley Guaranteed.

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... SOLE MANUFACTURERS ...

**Dodge Manufacturing Co.**  
 of Toronto, Limited

WORKS: Toronto Junction. OFFICES: 74 York Street, Toronto, Ont.

# THE CANADA LUMBERMAN

TORONTO, CANADA, NOVEMBER, 1901

TERMS, \$1.00 PER YEAR  
Single Copies, 10 CENTS

## A REPRESENTATIVE EASTERN LUMBERMAN.

Frederick Moore, farmer, lumberman and mill owner, of Woodstock, N.B., is one of the most noticeable examples of a self-made man. He represents a type of lumberman of which a number are to be found in the eastern provinces, who in early life gained the practical experience necessary for the successful conduct of their chosen avocation.

Mr. Moore was born in Canterbury, York county, in 1839. When twenty-three years of age he entered the business world as a farmer and lumber operator, following the former vocation in summers and the latter in winters. From his farm, one of the best and most fertile of the town of Canterbury, he raised from \$500 to \$2,000 worth of beef annually, cut one hundred and fifty tons of hay, and raised from two to three thousand bushels of vegetables, and from one to two thousand bushels of oats each season, this being in addition to that of lumbering. From 1862 until 1884 he was one of the heaviest lumber operators in the Aroostook County, in Maine, his headquarters being at Houlton and Bridgewater, cutting from five to fifteen million feet of spruce timber yearly for the St. John market, and employing from 150 to 300 men with from sixteen to thirty pairs of horses and the accompanying rigging, according to the season or demand. In 1882 he built and operated one of the best planing and carding mills in the lower provinces on Eel river, the grist mill having a capacity of from 18,000 to 20,000 bushels of grain annually.

In 1884 Mr. Moore erected a saw mill upon the site of the Hale & Luxnakeag, and in connection with his sons, cut from three to seven million feet of lumber, the supply therefor coming from the Aroostook, which had formerly been sent to St. John. In 1886 he built a shingle mill near the saw mill, cutting from eight to ten million shingles in a season. Later he built a planing mill in addition, these three industries all being operated by steam and furnishing employment to from 100 to 125 hands. His mill was burned last year, but a new one is now in course of construction. In 1896 he built a handsome residence in Woodstock, where he is considered one of the town's most progressive public spirited citizens.

## SAW MILLS OF THE KLONDYKE.

At Dawson there are five saw mills in operation, says the Dawson Sun. They have a combined daily capacity of 85,000 feet. They employ 177 men. There are two shingle mills, each cutting 25,000 shingles a day, one lath mill, one sash and door factory, and some other wood-working plants.

The lumber industry in Dawson has always been good, so the saw mill men say, but it has been better this summer than any previous

thousand. Special prices are made where extra large orders are placed, but the figures given are the current market rates. The lumbermen who supply these mills with logs cut up the Yukon or Klondyke, receive \$38 per thousand delivered at the mill.

The supply of logs for the mills is obtained mainly from the banks of the Yukon, though one mill draws largely from the Stewart and another from a point 60 miles up the Klondyke, where a big camp has been established. In every case the timber limits are owned by the mill companies, as individuals not operating mills cannot hold such lands. In only two instances, however, do the companies cut their own logs, as the majority prefer to farm out the cutting privilege to logging contractors, who must take the risk of the river in getting their product safely delivered and tied up at Dawson.

The various mills, their capacity, pay roll, etc., are as follows:

The Klondyke Mill Co. is really owned and operated by the N. A. T. & T. Co., but Joseph A. Segbers has its local management. It is situated on the large island at the mouth of the Klondyke, and has the most pretentious plant in the country. It has a shingle mill, lath mill, planer and dry kilns.

The Yukon Saw Mill Co., of which J. F. Burke is general manager, has a large plant. It has a capacity of 15,000 feet per day, employs in its mill and machine shop seventy men, and expends in wages every month \$20,000. The equipment comprises a circular saw, two planers, an edge saw, matcher, moulder, and in fact all other kinds of up-to-date wood-working machinery. The annual output is 2,000,000 feet, and the company is in a highly prosperous condition.

W. H. B. Lyon is the superintendent in charge of the Ladue Mill Co., of which Elmer F. Botsford is general manager. The plant adjoins the Yukon mill and has a capacity of 20,000 feet per day of twenty-four hours. A force of thirty men is employed, the monthly pay roll amounting to \$4,000. More than a million feet of planed and dressed lumber is produced during the operating season.

The Canadian Yukon Lumber Co. is officered with J. Wilson Smith as president, C. V. Anthony general manager J. H. Holson secretary. It employs thirty men when operating night and day, as it has been doing



MR. FREDERICK MOORE, OF WOODSTOCK, N.B.

year, owing to the large amount of building that is being done. The new government buildings are using nearly 1,000,000 feet alone in their construction and the business blocks, private dwellings and sidewalks consume most of the balance. Many thousands of feet are also sent up the creeks every summer for flume building and the various other purposes to which lumber is put.

In price, lumber rules the same this year as it did last. Matched and the clearest quality obtained from native timber commands \$125 per thousand feet; planed lumber is quoted at \$115, and ordinary rough boards at \$90 per



this summer, and has a pay roll of \$46,000 per month. The mill capacity is 20,000 feet in twenty-four hours. The season's output is 1,500,000. A shingle mill is operated in connection, with a capacity of 15,000 per day.

O. W. Hobbs, a contractor, also operates a saw and planing mill on First avenue. His circular saw has a capacity of 10,000 feet per day.

#### A BAND RESAW-GANG.

A novel machine is being built by W. B. Mershon & Company, of Saginaw, Mich., for the Firstbrook Box Company, Limited, of Penetanguishene, Ont. It is described by the makers as a band resaw-gang, and is intended for resawing thick planks or slitches into



A BAND RESAW-GANG.

five boards of equal thickness, the machine having four blades. The saw mill in which it is to be installed manufactures exclusively box material from short logs, second growth pine, etc. The equipment in this saw mill is unique and consists of the following: What was originally a twin circular rig made by the Rodgers Iron Works, of Muskegon, Mich., the round logs being placed on a spiked chain and carried past the saws by said chain, the logs being prevented from turning by spiked press rolls resting on the top thereof. This machine is used, supplied with one circular saw only, thus delivering the logs flattened on one side. These are then placed upon a travelling bed and carried by a Saginaw style F pony band mill, the second side flattened, the cants resulting being 5 inches in thickness with two parallel planed faces. These flattened cants, as well as the slab remaining, are then fed through the band resaw-gang and the cants converted into five one-inch boards and the slabs and waney portions made into as

many boards as the thickness will yield. The band resaw-gang is very well suited for this work, and the following description may be of interest to our readers.

The band mills themselves are generally similar in design to the Mershon standard perfected band resaw. They are mounted on eye beams, as shown in the illustration, and each has a transverse adjustment by means of a screw; said adjustment is very easily operated and very accurate. This arrangement will admit of sawing flattened cants of any thickness into boards as thick or thin as desired. The feed works consist of a continuous fence, in which are mounted numerous driven feed rolls, thus removing all of the friction from said fence. The stock resawn is retained in position against said fence by the action of the yielding pressure rolls of large diameter, which are also powerfully driven. These press rolls will yield three inches or more without any adjustment whatever. They, however, are provided with suitable adjustments so they can be retained in position at any distance from the fence desired. Cants as thick as ten inches may be sawn on this machine. The machine may be built so as to comprise any number of saw mills desired, and where a gang can be used in a saw mill to advantage, a machine of this kind, having unlimited capacity, will add wonderfully to the output of the saw mill plant.

A band resaw-gang with five saws supplied with cants six inches in thickness and feeding at the rate of 80 feet per minute, would mean a steady stream of bunches of six boards travelling at 90 feet per minute, practically all day long. If the boards averaged but nine inches wide, this would mean 360 feet board measure per minute, or, if there be no lost time whatever, 216,000 feet board measure one inch boards per day. Allowing ample time for lost time, changing saws, etc., if the single band mill could keep it supplied with cants, 150,000 per day could be safely figured, and this removing a saw kerf of 1-16 inch. It has been supposed it was impossible to secure the greatest capacity with the least possible waste in saw kerf, so that the above would indicate that this machine actually accomplishes what is apparently impossible.

#### METHOD IN THE SHOP.

BY H. T. G., IN THE WOOD-WORKER.

We all have a natural antipathy to red tape, and justly so. Red tape is the bane of the factory man's existence; and yet we must have system in every well-conducted business, so that the manager may be manager in fact as well as in name, and in order that he may know how the various departments in his factory are being conducted, besides having a reasonably clear idea of the profits of such shop. The simpler the plan, the better for all concerned. It shall be my purpose to outline a simple system of conducting a wood-working establishment, so that costs may be figured and work indexed for reference.

1. We have found it of great advantage in our factory to number all orders consecutively, and every order ticket or shipping slip referring to said order bears the same number. The saw bills and the material also are numbered,

thus avoiding much confusion of orders, especially when there is more than one for the same customer. Another advantage is found in keeping the time and materials and in checking up invoices, the order number explaining what job the material is used on. It is very convenient to index the order book for reference to back orders, and the time thus employed is well spent.

2. Have all order slips returned to the office as soon as any piece of work is finished, so that shipping orders may be in the hands of the shipping clerk as soon as possible. This prevents delays and enables the one in charge to keep the work well under control. The shipping ticket, if marked so as to indicate by name of shop or the workman's initial, where the various articles may be found, will facilitate shipping and avoid numerous questions.

3. The shipper should each night return all slips for goods delivered during the day, and the orders be checked up and priced for billing the next day. Have a place on the slips where the name of teamster and date are filled in, so

|                      |           |                                       |  |
|----------------------|-----------|---------------------------------------|--|
| ORDER No. _____      |           | NAME _____                            |  |
| DATE _____           |           | UNION PLANING MILL                    |  |
| FACTORY TICKET       |           | TO BE RETURNED WHEN WORK IS COMPLETED |  |
| Ck.                  | QUANTITY. | SIZE AND KIND.                        |  |
|                      |           |                                       |  |
|                      |           |                                       |  |
|                      |           |                                       |  |
| DATE COMPLETED _____ |           | FILED BY _____                        |  |

#### SHOP ORDER SLIP.

that if any claim of shortage or error should come in there is a record of when the goods were sent and by whom. The driver also has a trip ticket, which he requires the consignee to receipt for his material; that is, when anybody is on the job to give receipt. These tickets are filed away as they are returned, to help to settle many a dispute.

4. It is well in consequence to assort and file all old factory and shipping tickets, and preserve for about a year, as there are often notations or sketches on them that are found in the order book, and they prove helpful in duplicating an order or investigating shipment. The advantages of slips over order books is evident in the method of filing, the returning of slips to the office, and the convenience of handling small orders; besides, it avoids confusion to have orders accompany the goods. In shipping house trim the shipper can check the goods from the factory ticket and avoid the possibility of part being forgotten.

The expense of such a system is light, as an elaborate style or quality of ticket is not needed. The time saved by obviating the waiting for running back and forth after order books, and the convenience of making out orders at any time without delaying any one, more than pays for the slight cost of the tickets. It is a question whether the cost of good order books would not equal that of the slips. After having used this system it would be hard to persuade one to go back to the books. Herewith is a copy of the order ticket, which is of tough manilla paper, about 7 inches long and 5 inches wide. Shipping slips are the same, but on white instead of buff paper to avoid confusion.



William Whistle, the 265-pound foreman of the W. C. Edwards Company, who responded for the shanty men at Ottawa in honor of Their Royal Highnesses, the Duke and Duchess of Cornwall, made a most amusing speech. Here is what I believe to be an almost correct version of his remarks. "Oh I cannot spik vat I want in English, but I will do de best I can. I commence on de shantee for M'sieu Edward many year ago, and in tam I had charge of de shanteen and I make some monee. He gave me pretty fair wages, but I notice M'sieu Edward make much more monee every year, and I say to myself I will tak up bisness myself, and I am going to make big monee too. Well, M'sieu Edwards he no object, and in tree year I mak big business, I mak \$17,000 debt (greatlaughter), and I lose all dat I have. I commence to look pretty sharp, less I lese my name (laughter), den I met M'sieu Edward, and he say to me. "Well, William, are you one?" I say to M'sieu Edward, "Yes; and I would like to go to work for your famlee again." So I start and go back to M'sieu Edward. But der was dat \$17,000 debt, and M'sieu Edward, he say to me: "Well, William, when you are in debt you have to pay." Well, dat bother me vare mouch, and I did not know what to do, so I went to de church to de mass, and I prayed de good Lor, and I say to Him. "God Almighty, I cannot pay dat debt, I want you to forgive me dat debt, I will give it to you." (Roars of laughter, as many, many year since I first worked in de shantee for M'sieu Edward. He give me good wage, and I am honorable enough to mak monee to-day for de king and de queen."

I met in Toronto last month Mr. J. Pearson, Director of Beecroft & Wightman, Limited, timber merchants, of Hull and Bradford, England. Mr. Pearson was on his first visit to Canada to investigate the possibilities of securing a timber supply direct from the mills. It is surprising how many timber merchants and consumers of England have visited Canada for the first time within the past two years. It will likely result in bringing the manufacturer and consumer closer together, as is the desire of the people on the other side. Mr. Pearson, I would say, is an excellent representative of his firm, active, energetic and especially desirous of getting all the knowledge possible of lumber matters. He remarks on the absence in this country of a uniform system of grading, adding that it made it much more difficult to transact business. Mr. Pearson's timber requirements included spruce box timbers. He said they had been importing them through the Quebec shippers, but wished to have a connection with responsible mill men. Lumber stock in red pine was also wanted, being used very largely in England. His mill also used a large quantity of casings for telegraphic wires. For this purpose poplar had

been employed, but he thought it might be possible to obtain a suitable wood in Canada. They were also large buyers of Indiana oak, and Mr. Pearson made enquiries as to the quantity of oak to be obtained in this country. He thought it would be possible to arrange for small shipments, as during the past year there had been an increased trade with Canada in car load lots.

Searching for white pine limits is an avocation which is engaging the time of more persons than is generally believed. The country is constantly being scoured by anxious investors and timber estimators. Whenever a good limit in our pine belt is placed on the market, it is quickly picked up by the Ottawa valley and Georgian Bay mill men, who are always ready to increase their holdings. Messrs. S. S. Henderson and R. W. Schofield, of Henderson, Schofield & Company, Brookfield, Pennsylvania, stopped off in the Queen City a few days ago. They were en route to Algoma to inspect a timber limit on which an option had been given them. From Mr. Henderson I learned that they have been manufacturing Pennsylvania and Michigan pine, and that their timber supply will be exhausted in a year or two. They are considering the advisability of changing their base of operations to Canada if it is found possible to continue to supply the Philadelphia and adjacent markets. One difficulty, Mr. Henderson stated, might come up in connection with the duty. It would be necessary to dress a great deal of their lumber, and if it had to be done on this side the duty would be very high. As much of their lumber would not be shipped right through to Philadelphia, it would be necessary to make an arrangement for stop-over at Tonawanda or some such point near the border, to have the necessary dressing done, but he was not certain that this could be arranged. I am doubtful if lumber manufactured in the Algoma district can be placed on the Philadelphia market at a profit, notwithstanding Mr. Henderson tells me that Canadian pine is being marketed there.

QUARTER-SAWING.

In a previous issue of this journal a correspondent asked for information in regard to quarter sawing and direct running circular mills. I have had experience with all kinds of saw mills, says M. E. L., in The Wood-Worker, and might give some advice that would help the correspondent referred to if I knew the size of his mill. He writes as though quarter sawing would be the main work. For that class of work I prefer a good heavy arbor not likely to spring easily, 3½ or 4 inches diameter, or if he has already a mill husk and arbor, the engine crank must be fitted to it. The engine should be 10 x 12-inch cylinder, or 12 x 12, or 12 x 14-inch. The 10 x 12-inch engine would make good power and would be light and easy to move from place to place as timber was sawed out. It should run 500 revolutions per minute, and if strongly built would stand hard usage and do good, heavy work, running a saw on all the feed needed for hardwood, or 3 to 4-inch feed in 12-inch cuts, according to the kind of timber sawed.

If a small mill is wanted, working four to eight men, the engine should be a centre-crank, with pulley on outside or opposite saw arbor, from 2 to 3 feet in diameter, 7-inch face, to run a single-saw edger, known as a side edger. This saw should be filed so as to be used to cut the slabs for the boiler as well as to edge with, making a combined edger and cut-off. If a larger mill is wanted, to work from six to ten men, another engine, 8 x 12, should be added, to run a three-saw edger and cut-off. This kind of mill, with a 50-horse boiler, will saw lumber rapidly and is a cheap mill, with low running expenses.

The saw I like best for such a mill is R. Hoe & Co.'s chisel bit, 60 inches diameter, 8-gage, 48 teeth, or 12 teeth to an inch of greatest feed run. I think all rip saws should be chisel bit for small mills. They are easy to care for, need no gumming and not much swaging, so that they are quickly put in order and new teeth easily put in.

I once knew a direct-running mill with an engine 12 x 16-inch cylinder, but I thought it too large; it was slow and clumsy. I have quarter-sawed two ways. One way is to split the log through the middle, then split each half in center, then saw each quarter, with the bark side down, until the heart is reached, then turn and finish. The other way is to cut a heavy slab, varying according to size of log, but going to within about 4 inches of the heart, then turn and take another from opposite side same distance from the heart, then turn down and finish same as any cant, then put slab on blocks, round side down, and saw to heart, then turn and finish. This is by far the quickest way of sawing, but in some localities there is a difference in the price between these two ways.

LUMBER EXPORTS TO THE UNITED STATES.

Below is shown the quantity and value of lumber and shingles shipped from Canada to the United States for the past three years. It will be observed that while the quantity exported in the year ending June 30th last was nearly 200,000,000 feet less than in the previous year, there is not a corresponding difference in the value. This is due to the higher prices prevailing for white pine lumber. The figures given below are furnished by the Bureau of Statistics of the Treasury Department of the United States Government. They show that the duty on Canadian lumber has not restricted shipments to any extent:

| Years ending June 30. | Boards, planks, deals and other sawed lumber. |           | Other lumber | Shingles. |           |
|-----------------------|---|-----------|--------------|-----------|-----------|
|                       | M. feet                                       | Value.    |              | Value     | M.        |
| 1899                  | 423,705                                       | 4,186,515 | 971,310      | 471,594   | 827,886   |
| 1900                  | 680,069                                       | 7,464,208 | 1,285,673    | 541,040   | 1,011,234 |
| 1901                  | 490,400                                       | 6,342,050 | 1,217,260    | 555,853   | 1,028,184 |

The lumbermen of British Columbia are finding difficulty in securing men to work in the mills and logging camps, as a large number of laboring men are employed in railway work.

Hose for fire-fighting purposes about mills and yards should have an outside connection. If the connection is within the mill, the fire may be exactly the location to prevent the hose being used.

# THE Canada Lumberman

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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 trader in Canada information on 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 25 cents per line for each insertion. Announcements of this character will be subject to a discount of 25 per cent. if ordered for four successive issues or longer.

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

## THE BOX INDUSTRY.

The box industry of Canada is growing. Manufacturers are finding that the making of boxes is a profitable method of utilizing material which cannot be used advantageously for other purposes. Spruce and pine are excellent box timbers, and there is no reason why they should not be a very large development of the box industry within the next few years.

The local consumption being now well supplied, manufacturers must look for a market in other countries. It has already been shown that Great Britain is prepared to take large quantities of boxes and box shooks—probably we should say box shooks, or boards so prepared as to be readily put together for boxes, the carrying charges on manufactured boxes being too heavy to permit of their profitable export to any extent. Besides Great Britain, a market for shooks may be found in Australia, France, West Indies, Mexico and other countries.

Washington firms are exporting shooks to Australia with some success. There is a large demand there for fruit boxes, and it is said that the box furnished by the home manufacturer is a very crude affair, and that a better box would meet with ready sale. In the province of New South Wales 400,000 boxes for packing oranges are used annually. The standard box holds about 50 pounds. The sides, tops and bottoms are narrow strips one-fourth of an inch thick, and ends half an inch thick, the top being fastened by pieces of leather. For this box 30 cents is paid. The Island of Tasmania ships about 500,000 boxes of apples annually, half of them to London, besides large quantities of other fruits. A box very largely used is  $27\frac{1}{2} \times 12\frac{1}{2} \times 5\frac{1}{2}$  inches, end pieces  $\frac{3}{4}$  inch thick, which sells for 12 cents. There is doubtless a field for a good trade in box shooks in Australia, to secure which it is essential to send a represent-

ative to study the conditions and secure samples and information. It might be possible to secure some business through agents, but it would not likely be satisfactory.

An Ontario firm is pursuing the proper course in connection with the development of trade in Mexico. About one year ago, a representative was sent to that country to open an agency of their business, which is largely confined to boxes and box shooks. After spending about six months, he returned to Toronto. The business secured was found satisfactory, and he has returned to Mexico to further extend it. This is the policy which is likely to produce the best returns, and should be followed by all concerns who are in a position to do so.

## RECIPROCITY IN LUMBER.

The advent of a new president of the United States has aroused interest in the subject of reciprocity. The late president, as the author of the McKinley tariff, became recognized as a strong protectionist. It may be said by his political followers that he brought prosperity to American industries, and to none more than to the lumber trade. His remarks at Buffalo a few days prior to his demise showed that in his capacity as President his protectionist ideas had become modified. He pointed out that if the United States was to increase her foreign trade, it would be necessary to adopt a more liberal trade policy in dealing with other countries. What President Roosevelt will do is yet unknown, but his announcement that he would follow the policy suggested by his predecessor, has gained for him the confidence of the people.

Reciprocity with Canada will doubtless be considered at the coming session of Congress. Before long the Joint High Commission may resume its sittings and endeavor to arrive at a basis for a broad reciprocity treaty. In such case the lumber trade will be one of the pivotal points in the discussion. In certain respects the situation is different from what it was when the Commission was last in session. At that time the free export of logs would have been given in return for free lumber. We do not think that such a concession would now be made by the Dominion Government, even if it were possible to induce the Provincial Governments to acquiesce in the proposition.

The only legislation in existence at that time affecting the movement of timber from Canada to the United States was the Ontario law compelling the manufacture within the province of pine timber taken from Crown lands. This has since been extended to include pulp wood. A similar law has been put into effect by the Dominion Government in respect to the pine timber on Indian reserve lands, and the province of British Columbia has enacted legislation to prohibit the export of fir and cedar logs after next spring. The several provincial laws mentioned above will have to be reckoned with, and compensation given for their removal. The results of the existing laws are so satisfactory that they would not be abolished in return for free lumber, which is the only inducement that can be offered by the United States.

The lumber duty has been the means no

doubt of restricting in a small degree lumber shipments to the United States, but the figures for the past two years show that the falling off has been inconsiderable, while many benefits have accrued from home manufacture.

## THE EXTENT AND SERVICE OF OUR RAILWAYS.

Whatever complaints may be made concerning operation, it must be admitted that railway building in Canada has made rapid progress particularly within the last thirty years. The railway facilities provided places the Dominion far ahead in this respect of some of the older European nations.

There is in actual operation in Canada 17,824 miles of railway and 2,558 miles of sidings. The system is controlled by 86 companies, 24 of the Dominion Government, the latter operating the Invercolonial and the Prince Edward Island railways. The first road was built only six years ago, and comprised sixteen miles. There was no increase until twelve years later, in 1847, when thirty-eight miles were added. In 1866 the total was 2,278 miles, the Grand Trunk Railway having been built in the meantime. Between 1870 and 1880 4,231 miles were built, and in the following decade 6,000 miles, including the Canadian Pacific road. In the last ten years about 5,000 miles have been built. A large sum is expended annually in keeping these railways in repair. In 1900 the expenditure for maintenance of line and buildings was \$10,000,000, and for working and repairing of engines and cars over \$20,000,000. There is a large consumption of forest products by the railways, their demands chiefly for a class of timber which does not possess high marked value. During the next ten years the expansion in railway building is likely to be equally as great as in the past decade, as the public are fully alive to the advantages of railway facilities.

The railroads are just now being sorely accounted of inability to supply cars to meet freight and for excessive charges, and are not out just reason. As regularly as the time comes around for the movement of grain, the Dominion has developed a car shortage. The lumbermen of Canada have suffered severely from this cause in past years, and the present fall is no exception. Orders have been cancelled on account of inability to make prompt shipment of stock, and the volume of trade has been greatly curtailed thereby. The railway officials claim that the period when the extra cars required is too short to warrant the expenditure incident to providing the necessary accommodation. This, however, is poor argument, it is incumbent upon every business to provide for the maximum demand. It is a satisfaction to know that similar conditions exist in the United States.

The railroad companies are no doubt to blame for the car shortage, as apparently they have not taken steps to provide for the advent of such seasons of rush traffic, although they have been known to occur each fall for years past. But some of the onus may be placed on the shoulders of shippers and receivers, as there is often too much delay in loading and unloading of cars. As a result it has been suggested that the Govern-

make a demurrage charge as a lien upon the lumber, and then charge the railroads a penalty of one dollar, to be collected out of the freight charge, for every day a car is in transit above certain maximum schedule. Thus an inducement would be held out for prompt unloading.

The second grievance is freight rates. It is certain that the business community of Canada is burdened with excessive charges for transportation. It should be equally certain that these will be remedied, but the fact that they have so long existed without official interference makes hope forlorn. It may be that the demand for a readjustment on a proper basis is stronger than ever before, and that something tangible will result from the present agitation. The appointment by the Dominion Government of a Commissioner to investigate railway rate grievances is a proper step, and should be followed by the appointment of a royal commission.

A committee of the Toronto Board of Trade are, at considerable trouble, collected statistics showing a comparison of the rates of freight throughout Canada with those that prevail on similar products in the United States. These figures have not been made public, but it is understood that they will strongly support the contention for lower rates in this country. The Winnipeg Board of Trade has furnished to the Commissioner a comparison between the rates applying on merchandise from New York to St. Paul via the Soo line (which for the greater distance passes over the C.P.R. and roads controlled by it), and the rates from Montreal to Winnipeg. The distance in each case is about equal, but the charges from Montreal to Winnipeg are nearly double those from New York to St. Paul. Why this should be is a question which the railway companies should and no doubt will be asked to explain.

#### EDITORIAL NOTES.

Canada tendered a right Royal welcome to the Duke and Duchess of Cornwall and York, who have just left our shores after a month spent in visiting all parts of the Dominion. It is to the credit of our future King and Queen that they would have undertaken a nine months' journey, traversing two-thirds of the earth's surface, with the object of acquainting themselves with the people and conditions existing in the various parts of the great British empire. The information which they have acquired will enable them to more capably discharge the duties of their high station. The people with whom they have come in contact feel that the bond of sympathy and loyalty which binds them to the Empire has been further strengthened. Great commercial advantage is also likely to accrue to Canada from the descriptions of the country and its resources and opportunities written by representatives of the visiting British and American papers who accompanied the Royal party.

Twenty dollars per thousand feet is stated by Schenck to be the price of pine stumpage in Germany and France. Many persons believe that the time will come within another century when a similar price will prevail on the American continent, as the white pine

territory in the United States and Canada is somewhat limited. It is little wonder, therefore, that pine timber limits are being sought out for investment by shrewd and far-seeing financiers.

The Consular reports to the United States Government have been the means of diffusing much information regarding the markets of different countries. These reports are usually accurate, but it is not to be expected that the persons acting as Consuls can be familiar with all branches of trade. This lack of knowledge sometimes results in the publication of misleading statements. As an illustration, a report from Consul Skinner, of Marseilles, France, states that the firms of Price & Pierce and Tagart, Beeton & Company, of London, are reported to be the actual importers of fully 80 per cent. of all the American lumber shipped to England and the Continent. It is well known that there are many importers of lumber besides the two firms named, and that their imports represent much more than 20 per cent. of the total. Mr. Skinner is quite correct when he states that it will require persistent and well directed effort to change the present course of business and bring the manufacturer and consumer together; and it is a question if lumber for export will not continue to pass through the hands of brokers.

#### TAXATION OF LOGS.

Some important questions were raised in the personal property tax case against the Rat Portage Lumber Company, which was decided by Judge Dibell in the district court at Duluth, Minn. Among other points that were raised by the company, one was that the logs were in transit between the United States and Canada, and were therefore under the interstate commerce act and beyond the jurisdiction of the state. Nevertheless the company accepted a reduction in its valuation, and paid its taxes to the amount for which judgment was entered.

The company cut some logs during the winter of 1899-1900 near the northern boundary of the county, and the logs were taxed in the United States. The assessors reckoned the amount at over 15,000,000 feet, and put a valuation of \$9 per 1,000 feet upon the lot, making a total valuation of \$141,300, on which a tax of \$1,127.04 was levied. The company claimed that it had only 13,165,200 feet there on May 1, and that logs in the harbor at Duluth were only assessed \$2.75 per 1,000 feet, in addition to the other points it raised. The company showed by the surveyor general that it only had the amount of logs it claimed.

The company also introduced proof that before May 1 all its logging drives were started, and on this the point that the logs were under interstate commerce rules was raised. A decision of the United States supreme court was quoted showing that where drives had been started, and the logs were bound for another state or outside the country, the state could not tax.

Another point was that there are only three places where property can be taxed: At the residence of the owner, at the residence of the agent, or at the point where the logs were manufactured. It was shown that in this case all of these points are in Canada.

Yet the company was willing to pay taxes and only asked that the valuation be made lower, and by stipulation it was agreed that the other logging property of the county was assessed at \$2.75 and that judgment should be entered on that basis. The valuation of \$9 per 1,000 feet was therefore cut down to \$2.75, and instead of over \$1,200 taxes, with interest added, the company paid only about \$200.

#### OPENING FOR A SASH AND DOOR FACTORY AT SHANGHAI.

Henry B Miller, United States Consul at Chungking, writes as follows:—There is an excellent opening for the establishment of a sash, door and wood-working establishment at Shanghai. A number of very large modern buildings are always in course of construction in this city, and I have been advised by architects that they are constantly in difficulties about interior finishings.

There is not a planer, moulding machine, or sawmill in China, so far as I have been able to learn. Logs are sawed into lumber by the whipsaw process, and in every city and throughout the country men are engaged in this business of sawing lumber by hand. Mouldings are made by hand work, and all lumber is dressed in the same way. There is not a lumber dry kiln in China, and the most difficult problem in the construction of buildings is to get well-seasoned material for interior finish.

A proper wood-working establishment at Shanghai would command the trade of the entire Yangtze Valley and probably of points along the coast to the north, such as Tsintau, Wei Hai Wei, Tientsin, and Port Arthur.

The most important feature of the plant would be a first class dry kiln of sufficient capacity to meet the demands for dry lumber. A good bandsaw for sawing native logs of small size and imported lumber up to 18 inches would be required. Moulding machines, planers, and sash and door machinery for making special work, turning lathes and general wood-working machines would complete the requirements. A plant for making stock doors and windows would not be advisable, as proper material is not to be had and the demand is not heavy. Most of the wood used for interior finish is hard wood, coming from countries south of here. All building contracts are carried on by Chinese, and the lumber yards are also in their hands.

The best man to undertake this business would be one of good education and address, familiar with the details of the business and capable of taking the management of the concern; he should have some capital and first class recommendations; he should spend at least three months here looking into the requirements before ordering his plant; he should get the Chinese contractors and perhaps the lumber dealers to join him in the enterprise.

The Chinese have plenty of capital to engage in such enterprises and do not hesitate to invest therein, if they are presented by good and capable men and show chances for reasonable profit.

The architects will be glad to do all they can to encourage the institution, for all recognize the necessity of it.

Experiments are being made in New York to produce saw dust in a commercial way. It is understood that if the scheme is successful, as now seems probable, the entire output of the Ottawa mills will be sent to New York.

## REMEDIES FOR BAND SAW TROUBLES.

BY S. C. MELLE.

The September issue of this journal contains a communication from a gentleman signing himself "C. T.," in which he asks for pointers regarding the care and treatment of band saws. He raises a number of important questions, and as he requests the writer to furnish replies, I shall endeavor so to do.

Our friend raises half a dozen questions concerning this instrument and then adds something very pertinent as to "Tom, Dick and Harry and three others in one particular place who have a whack at the band saw at every opportunity." This last point describes the situation in a great many places and of this feature I may say something farther on.

His first question is, "How shall I best prepare the saw for brazing?" To fit a saw for this should not become a very difficult act for a practical man who has a fair supply of mechanical ability and will be painstaking in doing the small amount of work necessary in fitting a saw for a good joint. The quality and not the quantity of the work is the important item.

To be safe, a man should provide himself with some device for holding the end of the saw in a perfectly stationary position for filing the lap or joint. For this purpose an iron bed with a smooth surface and a low flange at the back side, which can be fastened solidly to some well-lighted bench, forms a satisfactory device upon which the saw can be clamped firmly by whatever means may be best suited to the workman, and at his command. The right sort of a small cabinetmaker's bench clamp is often as convenient for this service as anything, but it is a good investment for a factory proprietor to own a vise intended especially for this work.

It is important that the filing for the joint should be nicely done; the person who can carry a file squarely over his work can produce a workmanlike job, but the other fellow can not, ordinarily. The jointed space of whatever the length, should be made perfectly straight from the end of the saw to the heel of the joint and never be allowed to stand oval or convex for brazing. Some have failed of satisfactory ends at this point. The length of a braze easily comes in for notice just here. On a saw with four points to the inch the use of two points space for a joint will usually be satisfactory, while on five or six points to the inch it may often be advisable to file back three points, especially so where the saw may be quite narrow.

Doubtless, if "C. T." follows up his interests in these lines and has an opportunity to converse with men of experience to any considerable extent, he will meet those who argue that a one-point is equal in endurance to those of two or three points, and then perhaps wonder why I advocate the latter. I allow that the short joint is a good one when properly and successfully brazed, and may, barring accidents, wear as well as the other, in careful hands, but I find a practical reason for advocating a longer joint, which reason it may be best to state. Both by experience and observation, I have found these long joints hold their position better than the short ones, being less liable to

kink or bend in the frequent coiling and uncoiling so common in any establishment where a variety of stocks are handled, hence if my advice is desired in the matter I would recommend a long lap. Further, I believe a beginner in this work will be less liable to a failure with a long braze than with a short one.

"The best method of brazing" is the second question in the list and naturally follows in this connection. Of this several things should be well understood. With a good, reliable iron brazing clamp in which to place the saw there can be no excuse for not obtaining a straight joint edgewise at least, unless there is carelessness in allowing something to remain on the clamping vise which will place the two sections out of parallel lines. Be sure and have it clean and free from all particles of dust. For a solder I either use silver or soft brass plate or chips of brass, each of which is easy to handle, although the brass acquires the heaviest fire to cause it to run freely in the joint. If I had to use a light blast on brazes I should want to confine myself to silver; if the forge is of sufficient size to melt the brass readily, brass is equally desirable and very much cheaper.

On the manner in which "C. T." treats the joint in preparing it for the heat I am disposed to mention several things just here. One thing I would emphasize, that of having the two ends of the lap press well together. It is well understood that powdered borax must be used in these brazes, but in my experience I do not find it necessary to use as much of it in the lap as is the custom with some. I've seen as much as  $\frac{1}{8}$ -inch thickness packed into the joint, which only produced the same results as a very small amount. In my practice I simply make a paste of borax and water sufficient to white-wash the surfaces to be joined, but on the top of the lap use it very freely so that the braze will be well flushed as it melts and flows with the solder.

For several years I practiced using the solder in the joint, between the lap, and am quite inclined to the belief that this is the prevailing custom, but for some time past, using brass chippings, I place all the solder on the top of the lap and cover it heavily with the borax powder. By this method I have derived the best of results. In connection with this plan I use a fine wire thread and tie the joint firmly together after pasting it with the borax.

Some may ask if the solder will flow freely into the joint. I well remember how this same question came up in my own mind before trying it, but after an extended use in this manner it has never failed to flush in freely with the borax. In using a bellows and blaze for heat it will be found beneficial to have a block of hard wood cut so as to form a fork-like piece that will enclose the braze on the top, back and bottom sides, into which the fire may be blown and thus concentrate the blast and flow the solder quicker. Such a block should be cut away so as to leave about a half inch space on each side. I may add that in using this I get the best results by driving the blast just under the joint rather than above it.

The depth and shape of the teeth must be regulated to suit the stock in hand. It is not easy to outline any particular style of tooth that

will be exactly suited to all conditions. A few points may be given. If I were to give any considerable quantity of pitchy or other material that was disposed to clog the throat of the teeth, I should straighten the saw, while on dry woods it has always been most satisfactory to give them a deep hook. It should be noted that the width of the saw and the number of points to the inch come into consideration if we attempt to lay down a specific rule. There is a possibility of providing too liberal hook on the teeth; this is done a saw may misbehave to the detriment of forcing ahead out of its legitimate course the wheels and create trouble. We hear that when a saw "jumps ahead" the wheel should be so adjusted as to correct this. Is this best? If you have hook enough to create this effect and tilt your wheel to overcome the difficulty, it simply compels the saw to travel hard on the back rest, which it may be, and a case-hardening process which soon deprives a saw of its best retaining qualities.

Removing kinks can be done by using a smooth, straight-faced block and a light hammer with a face slightly oveled to avoid denting the saw. The block should be quite soft and the face formed on the end of the grain. Placing the block against the concave side of the kink and tapping it lightly with a hammer, a mechanic will not find it difficult to remove a kink, but a blunderer, or the fellow who says that "anybody can handle a band saw," doubtless add two kinks to every one removed. When a saw shows up crooked in the wheel and the crook is edgewise, it must be reworked to bring it to a straight line, as it can not be remedied otherwise.

The last question, except of course, "Tom, Dick and Harry and three others," is of the nature of jointing saws and how this is best accomplished. There is no better appliance than a square block, some 6 inches high and an emery wheel of small dimensions, say from 4 to 8 inches in diameter, of any thickness. A most satisfactory jointing can be given by laying the emery wheel on the face of the block and then placing the flat side of the wheel to the saw, and the block and wheel at right angles to the face of the teeth. Men are not inclined to never use the flat of an emery, but rather the narrow edge of a wheel hard to the face until a slot shows in the emery, but this may produce a face-jointing they have not robbed the teeth in a measure, at the point, which should always be maintained in the act of jointing.

If anything further is desired of the nature of "Tom," etc., I have this to offer—do not be inclined to the practice of testing these instruments to the experimental of any and all who may happen to need work at this machine.—The Wood

The October number of The International Lumberman contains several contributions of unusual interest and power that deserve to be widely read.

Machinery insurance is a new thing which has been tried in Massachusetts, says an exchange paper, is to indemnify manufacturers against loss of machinery due to breaking or fire, except fire.

QUESTIONS AND ANSWERS.

Subscriber writes: "Can you give me a recipe for a cement which will cement leather to an iron pulley. I want to increase the diameter of it slightly?"

The following information may be of use to you in connection with the leather to be employed for cementing leather to iron surface: Clean the surface of the pulley with naphtha; roughen sand-paper the surface of the leather which is to be cemented to the pulley; apply a thin coat of the best rubber cement to the surface of the pulley and to the rough surface of the leather.

Allow the cement to dry (not in the sun for an hour or more, then repeat the coats of cement to dry as before; then repeat the cemented surface of the leather to the cemented surface of the pulley. Care must be taken to keep dust, moisture, and the leather from the cemented surfaces. The cement should be applied so as to prevent air from being enclosed between the cement coats; this can be done by rolling the leather onto the pulley.

When the leather is on the pulley, run it well with a hard roller, or pound the surface of the leather with a hammer or mallet. The ends of the leather should be scarfed and tapered so they will firmly unite together, and the lap in the leather should be made so that the revolving of the pulley will not start it, but, on the contrary, will press it down when the pulley or other device comes in contact with the leather.

A good quality of coach body varnish, and glue is frequently used to apply leather to the surface of iron pulleys. Coat the surface of the pulley and the rough surface of the leather to be applied to the pulley with the varnish, and apply the leather while the varnish and glue is in a soft state. The glue should be hot when applied. An excellent cement can be made of one (1) part best fine rubber, washed and well seasoned, three parts best purified gutta percha, dissolved in benzene. This is an expensive cement, and it takes some time to make it properly. Apply the cement as varnish or glue, that is, do not allow it to dry as in the case of rubber.

R. F.: What is the difference between priming and foaming?

Priming is the name given to that condition of the boiler when the water is picked up, in the form of spray, by the steam, and carried to the engine or other machinery in which the steam is being used. It is caused by too great a demand being made on the boiler for steam, or by the steam spaces and channels being too small for the amount of steam required to be passed through them, and may occur in a boiler supplied with the cleanest water, whereas foaming is due to dirty water which consists of a violent agitation of the water in the boiler, due to the presence of impurities, such as grease and salt. Both are dangerous conditions of the engine, because they are likely to result in water getting into the cylinders, with all its attendant disastrous results; and to the boiler because they are likely to result in low water level and overheating of the boiler plates.

W. J. Kelsey, of North Tonawanda, Y.N. recently purchased 1,000,000 ft. of white pine at Ashland,

JUST A FEW SHINGLE FIGURES.

How many lumbermen actually realize the enormous quantities of red cedar shingles that are annually shipped from the Pacific Coast into this and Eastern territory? asks the Mississippi Valley Lumberman. This is an age of large figures, and familiarity with newspaper reports of billion-dollar trusts and other undertakings on an unheard-of scale are apt to cause one to smile indulgently on an annual shipment of from 20,000 to 25,000 cars.

It is estimated by competent authorities that 30,000 cars of shingles will this year find a market east of the Rockies. Let us see what this means. Taking 170,000 as a basis for a carload, we have for 30,000 cars, 5,100,000,000 shingles. As each shingle is four inches wide, if laid side by side this mass would extend 20,400,000,000 inches, or 1,700,000,000 feet, or 321,969 miles; in other words, a pathway to the moon and one-third back could be made. Laid end to end, using sixteen inches as an average length, and many run as high as twenty-four inches, we would have a line of 1,287,876 miles, or five times the distance of the moon from the earth. Placed on the equator, it would circle the earth 5 1/2 times, or make a walk 17 feet wide and 25,000 miles long. Packed in bunches and piled one on another, we would have a column extending 17,000,000 feet into the air, or nearly 1,000 times higher than the highest mountain. At the present market prices these shingles would represent a value of about \$13,500,000.

A few figures will do wonders in awakening people to an appreciation of a thing of this kind. Thirty thousand cars can be expressed in three words and one is apt to estimate accordingly, but five minutes' work with a pencil will astonish him.

PRESERVATION OF RAILWAY SLEEPERS.

In years gone by, says Engineering, little attention was paid by railway engineers in the United States to the preservation of sleepers by creosoting, burnettising and the like. The small interest taken in the matter was in part due to the very ample supplies of cheap timber then available; but there were also other reasons. With the light rails then used the useful life of a sleeper was not closed by decay, but rather by the fact that serious abrasion under the rail-seats necessitated their replacement, even if comparatively sound as a whole. With the stiffer rails now in use but little abrasion takes place, and even when light rails are still used, the adoption of tie-plates has become general and protects the timber immediately under the rail, so that but few sleepers are now removed for any reason but general decay. In combination with the higher price of timber, this has led to greater attention being directed to the matter of preserving the sleepers, but creosoting seems still to be generally regarded as too expensive, particularly in the West, where the chloride of zinc process seems to be the most in favour. As western lines run, to a large extent, through somewhat arid country, this process seems to give satisfaction on the whole, in spite of the readiness with which the zinc salt can be washed out of the timber.

Mr. Robert Fulton, of the firm of Fulton Bros., saw millers, Fingal, Ont., died early last month.

NEW PROCESS OF REMOVING SCALE.

Patents have recently been granted to Mr. E. D. Hopcroft, Kidder Munster, England, for a process of removing scale from the interior surfaces of boilers, which lacks nothing in novelty, judged from a practical standpoint. The prevailing idea among engineers is that boiler scale must be removed by either solvents, oil or muscle and frequently by a judicious combination of the three, which idea may still continue uppermost in the minds of practical engineers for some time to come. The method referred to contemplates the removal of scale by subjecting the boiler to a very low temperature. The apparatus consists of a combined steam and belt driven ammonia compressor, of portable design, together with the usual form of condenser and expansion coils. The boiler is first emptied and the scale covered interior surfaces allowed to become thoroughly dry. The pipes conveying the expanding ammonia gas are then connected to the boiler and the temperature of the latter reduced to 20-25 degrees below the freezing point. The rapid contraction of the plates and tubes causes the scale, which has become extremely brittle under the low temperature, to flake off very rapidly, and the rise in the temperature which soon follows completes the operation, removing by the expansion of the plates the remainder of the scale. The operation is said to be quick and effective, which, if proved to be true by a more thorough trial of the process, offers an easy solution of the scale problem, especially for those operating ice and refrigerating machinery.

It is not unlikely that, should such a simple process fulfill the requirements from a practical standpoint, a new enterprise, that of professional boiler cleaning, will find a substantial backing and a lot of needy customers to cater to.

It must be noted, however, that expansion and contraction of the boiler plates have not proved specially beneficial, and it will be difficult to convince engineers that it is good practice to deliberately stimulate an operation that they have sought by every means to retard.

CEDAR POLE SPECIFICATIONS.

With the increased demand for and use of cedar poles in the erection of telegraph and telephone lines, there should be some uniform basis on which contracts could be made and inspections had of these poles. As the business is now conducted a contract for cedar poles, unless every dimension is specified, means the delivery of almost any old pole. T. E. Mitten, general superintendent of the International Traction Company, of Buffalo, suggests the following specifications for cedar poles:

All poles to be cut of white live cedar, peeled, sound at top and not more than 15 per cent. rot at butt; base area to taper gradually and be free from large knots; a crook of 3/4 inch to five feet in length will be allowed.

Poles must be free from wind twists and large cracks, and measure as follows:

| Length. | At Top | 6 feet from butt. |
|---------|--------|-------------------|
| 12 ft.  | 4 in.  | 8 in.             |
| 20 ft.  | 5 in.  | 8 in.             |
| 25 ft.  | 6 in.  | 10 in.            |
| 30 ft.  | 8 in.  | 14 in.            |
| 35 ft.  | 7 in.  | 14 in.            |
| 40 ft.  | 7 in.  | 15 in.            |
| 45 ft.  | 7 in.  | 16 in.            |
| 50 ft.  | 7 in.  | 17 in.            |
| 55 ft.  | 7 in.  | 18 in.            |
| 60 ft.  | 7 in.  | 20 in.            |
| 65 ft.  | 7 in.  | 20 in.            |
| 70 ft.  | 7 in.  | 21 in.            |

Mr. L. Sapery, of the Syracuse Smelting Works, Montreal, has recently returned from an extended trip to Europe.

Mr. H. Walcot, of London, Eng., expects to pay his annual visit to Canada as usual about the middle of November, to call on his different shippers at Quebec, Montreal and the west.

Mr. George Harris, who by the way is a Canadian, is the affable and energetic travelling representative of Messrs. Geo. T. Houston & Co., the well-known hardwood manufacturers and dealers of Chicago. Mr. Harris frequently takes a run through Canada, and has succeeded in working up quite a considerable trade in this country.

## CORRESPONDENCE

## DRIVING HARDWOOD LOGS.

TROUT CREEK, Oct. 21st, 1901.

Editor CANADA LUMBERMAN:

Dear Sir,—Noticing various ways described in your paper of handling hardwood logs in the water, I beg leave to add an account of my experience.

For twenty years we have driven hardwood logs and find it can be done without difficulty and small loss, if any. Soft, rock and grey elm, black and white ash, basswood and cherry, if sound, will float, but any log will sink if much shake or rot exists. Maple, beech and birch can be driven in the loose by cutting and skidding on rollways during summer months, then banking them on skids by the water's edge until May or June of the following spring, to allow them to dry well. When put in the water they should be driven with the least delay to the mill.

The ends of all hardwood logs should be painted when skidded to preserve the timber and especially before putting in water to prevent soaking.

Oak cannot be driven any distance successfully unless placed with alternating softwood logs. We have rafted them with pine, hemlock and cedar by the use of small iron or steel dogs—driven in the logs—in which a ring has been arranged through which to pass a line or rope, thereby securing them to each other. Drive two dogs in the top side of each log, say eight or ten feet apart, then pass two lines of half inch rope through the rings, beginning with a pine or other softwood, followed by two or three hardwood, then another softwood, and so on until the raft is complete. The stream would require to be fairly straight with no rough rapids to break the raft.

We have never tried the peeling of birch logs for driving, but think it would be rather an expensive proceeding. We have tried boring holes in the ends and plugging them, leaving space for air, but without success.

Yours truly,

C. W. BURNES.

## FROM ALGOMA.

DAY MILLS, Oct. 23rd, 1901.

Editor CANADA LUMBERMAN:

Dear Sir,—Lumbering is quite brisk in this part of Algoma. Wages are high for bush work. Teamsters and cant hook men are getting \$28 to \$32 per month, and other men \$20 to \$26. I think it would be to the interest of all lumbermen in Canada to stop rough timber from coming in to our country duty free. If this were stopped and a duty put on all undressed lumber and bill stuff coming from Uncle Sam, mill owners would not feel a dollar or two per month on extra wages. When at Sault Ste. Marie the other day I was shown by a lumber dealer there some nice hemlock all No. 1 and 2, 2 x 10 inch 18 feet long, that just cost the dealer \$9.50 per M, f.o.b. scow, Soo, Ont. This hemlock came from Uncle Sam's bush.

Jas. Harris has cut this season for the W. Doherty Company, of Clinton, 1,500,000 feet of lumber. W. G. Doherty, of Doherty & Company, made a business trip to Toronto and other points in the interest of his firm in October, and I understand disposed of some stock.

Jas. I. Harris made a business trip to the Soo October 21st.

R. Blutie, one of W. G. Doherty's employees, had a very close call to a watery grave a few days ago. Early in the morning, while out in a birch bark canoe on Mud Lake shooting duck, he lost control of the canoe and was capsized. His cries for help were heard just in time. W. J. Harris ran about 100 rods to the lake, got another birch canoe and paddled out to the drowning man and brought him safely to land. We think W. J. Harris should have a Victoria Cross for performing such a feat as this. He is fireman for the W. Doherty Company here.

Jas. First, of Iron Bridge, has a new shingle mill in operation at that place.

D. Gordon, of Thessalon, is moving his steam portable mill out to the C.P.R. track about four miles east of Thessalon. Mr. Gordon is putting in a siding for his own use.

"HEMLOCK."

## ANNOYANCE OF SMOKE FROM FACTORIES.

The following judgment, rendered in the Court of Appeal of Hamilton, is of much interest to manufacturers:

Whipple vs. Ontario Box Company.—Judgment on appeal by plaintiffs from judgment of Ferguson, J., dismissing action to restrain defendants from allowing smoke and sawdust to escape from their factory, No. 120 Main street, in the city of Hamilton, and fall upon the plaintiffs' dwelling-house opposite the factory, and known as number 119 Main street. The defendants allege that for more than 20 years they have enjoyed as of right, and without interruption, an easement or right to have the smoke and sawdust from their lands and premises escape and fall upon the plaintiffs' property. The trial judge held that owing to defendants' having to fill a contract for boxes for British troops in China, that the factory was working to its full capacity, and the separator got clogged, but that this lasted only a few days, when the nuisance was abated; that as to smoke the particles alleged to have been carried and deposited by it had not been shown to have come from defendants' factory, which is thoroughly modern in all its appliances, though it appeared that no smoke consumer had yet been devised which will apply to the consumption of fuel such as shavings and sawdust. Held, that in view of the conflicting evidence between the parties with respect to whether the smoke complained of came from the defendants' chimney, coupled with letter of Oct. 22nd, 1900, from plaintiffs' solicitors to defendants' solicitors, complaining of sawdust only, and also Plaintiff Whipple's statement to the inspector, this court is not disposed to disagree with the judge below in concluding that the plaintiff had failed to establish that the smoke came from the defendants' chimney. But on the question of sawdust, an entirely different conclusion must be formed. The great preponderance of evidence shows that quantities of sawdust have been blown from defendants' to plaintiffs' premises, which materially interfered with their comfort and enjoyment of their property, and constituted a substantial nuisance, to the abatement of which they were entitled when action brought, but having ceased before trial, an injunction need not be granted. If recommended, however, a fresh action may be brought. *Dinning v. Grosvenor Dairies, 1900, W.N., p. 265.* Judgment below reversed, and judgment directed to be entered for plaintiff for \$50 damages, and full costs throughout. Per Armour, C.J.O., the plaintiffs are entitled to an injunction as to the smoke and soot also, but should the nuisance be continued, a fresh action may be brought.

## AMERICAN REDUCTOIN IN LUMBER DUTIES.

(From a Washington Correspondent.)

While it may be that President Roosevelt will not follow up the example of the late Chief Magistrate of the Republic in advocating in his forthcoming message to Congress reciprocity with neighbouring nations, yet the signs of the times point to an early if not immediate reduction in lumber duties entering the United States and a total wiping out of the duties before the next presidential term. The imposition of the Dingley tariff on lumber was expected to favor the American lumberman and injure his Canadian competitor. The test of the Dingley Bill has proven that the American consumer pays the duty, and that never before have the Canadian lumbermen been so prosperous as since the imposition of what was thought on this side to be a fatal blow.

The bold stand taken by the government of the province of Ontario in proclaiming that far from accepting the blow from the Dingley Bill with meekness, that henceforth no more Ontario logs should leave her shores in an unmanufactured state, has opened the eyes of many of our people to the futility of trying to coerce a neighbouring nation of resolute men of our own stock. The Congress, and particu-

larly the Republican party, sees how the wind is blowing, and that the farmers of the treeless states and many of the best men in the east who have much influence in the party are desirous of taking off the lumber duties entirely. The growing scarcity of white pine and the increased demand for this matchless and indispensable wood is another reason why the Americans want to preserve the small remnants they have. Altogether, it would seem the outlook for the holders of Canadian white pine stumpage could not be more assuring, and as high as it is thought by some to be, it will probably become still higher.

## RIGHT TO DEADMAN'S ISLAND.

Readers of THE LUMBERMAN will remember the somewhat exciting incidents in connection with the proposed establishment of a saw mill on Deadman's Island, in Vancouver harbor, by Theodore Ludgate. Steps were taken by the citizens of Vancouver to prevent the building of the mill, and the proceedings brought up the question of the title of the island. Mr. Justice Martin has just given judgment, quashing Ludgate's claim to the island, and placing the ownership of the island in the province of British Columbia. The counsel for plaintiff sought to establish that the land in question being part of the military reserve of the province, became part of the Dominion. Their contention was that the reserve existed prior to the time of the survey made in 1863 by Corporal Turner, R. E. The defendant's counsel argued that the land in question should be regarded as lands under section 109 of the British North America Act. The judge, however, in his judgment said that he failed to see that section 109 of the British North America Act has any application in this connection, for the existence of no trust or interest has been shown, and there was nothing to show that the province should cease to be the owner if it had been. In concluding the judge says: "The result is that defendant's case fails, and the title to Deadman's island is hereby declared to be in His Majesty the King on behalf of the province of British Columbia, and a perpetual injunction is granted restraining the defendant Ludgate from felling trees or otherwise trespassing upon said lands to which the plaintiff is entitled to immediate possession."

## SOUTH AFRICA WANTS SHINGLES.

Consul General Stowe, of Cape Town, wants information from American manufacturers as to the efficiency, life, etc., of shingles as a roof covering. He explains that the De Beers Explosive Co., of Somerset West, Cape Colony, which has used shingles on all the isolated buildings of its explosive works, wishes to rid the company's residences with the same material. These houses will be erected at various cities, and the municipalities object to the use of shingles for roofing. A fine showing is expected to be made by western red cedars in the South African market, if the manufacturers make an effort to get the trade that is promised there. No supply point has the advantages that the west possesses in taking care of a shingle demand in South Africa, and it is quite possible that a cargo trade could be worked up that would do much to relieve the congested conditions caused by over-production. The cargo market has the advantage of not being dependent upon railroad rates for its existence.

## THE NEWS

Bucholtz. Mr. Bahnsen is an expert bookkeeper, having been with the Pembroke Lumber Company for fourteen years, while Mr. Bucholtz is an experienced man in the lumber business.

The Department of the Interior at Ottawa has asked Mr. Schenck, superintendent of the Vanderbilt Park at Biltmore, N.C., to report upon the forestry system of Canada. Next spring he will go to the Northwest and investigate the conditions under which tree planting has been carried on in the past, and will recommend a policy for the future.

A new mill has been built at Lower Stewiacke, N.S., by Alfred Dickie to replace the one destroyed by fire in July last. The patent edger and rotary were built by the Oxford Foundry and Machine Company, of Oxford, N.S., and the lath machine by the St. John Iron Works. The mill is fitted with electric lights. It was built under the direction of D. Gillis, the millwright being C. D. Smith.

In a tree felling contest at Tacoma, Wash., a log measuring 37 inches in diameter was placed on end just as it came from the forest. Three teams entered the contest, the winners cutting through the tree in the remarkable time of 4 minutes and 9 seconds. This beats the world's record. A new record was also established in the one man contest, a 33 inch log being cut through in 6 minutes and 22 seconds.

Among the few industrial establishments in Canada visited by the Duke and Duchess of Cornwall was the Hastings saw mill of the British Columbia Mills, Timber & Trading Company at Vancouver B.C. This mill is one of the largest of its kind in the Dominion, and is equipped with the latest appliances. The mill was in operation, and the process of manufacturing lumber was watched with intense interest by the Royal party. On leaving the mill each of the Royal guests was presented with a souvenir of the visit in the shape of a morocco case, containing veneer samples of various kinds of wood.

The employees of the Pembroke Lumber Company, of Pembroke, Ont., held their annual supper a fortnight ago. The decorations were more elaborate than usual in honor of the guest of the evening, Mr. B. B. Bahnsen, who has recently severed his connection with the company as secretary after 17 years of service. Mr. Bahnsen was presented with an address, which was read by Mr. W. H. Bromley. He was also made the recipient of a splendid typewriter. Mr. Bahnsen responded briefly, thanking his fellow employees for their kindly remembrances and expressing regret that he was about to sever his business relations with them.

Upon a recent visit of the Attorney-General to the Rainy River district, the question of timber dues was brought up at Beaver Mills. It was contended that Government officials had in some cases demanded dues. The Attorney-General replied that of course the bona-fide settlers were not liable to stumpage dues. These are charged only to lumbermen, pulp companies, etc., who buy merely the right to cut timber, but persons who hold the land itself on patents from the Government can use such timber upon it as is not reserved without paying any dues. He explained, however, that certain persons who held land patents when not real settlers came there with the purpose of remaining as annual producers, but they were merely plunderers of the timber, their land patent being merely a blind under which they stripped off all the good spruce, etc., and then left. These people, wherever possible, would be required to pay a stumpage tax.

An event of considerable interest at the recent exhibition in Victoria, B.C., was a wood cutting competition. To assist the management, E. C. Atkins & Company, saw manufacturers, sent two expert wood choppers to take part, their names being H. S. Dorman and Joseph Bode. Two Canadian lumbermen also entered, namely, James and Robert Mearns, of Koksnaat. A commencement was made with the cutting of a seventeen inch vertical log, Dorman using the axe first. He completed his work in 5 minutes and 30 seconds. The other results on logs of the same size were: R. J. Mearns, 5 mins., 25 secs.; Bode, 5 mins., 25½ secs.; and J. Mearns, 7 mins., 12 secs. In the same size log with axe horizontally—Dorman, 1 min., 12 secs.; R.

Mearns, 3 mins., 56½ secs.; Bode, 4 mins., 4 secs. Double sawing, horizontal 24 inch log—R. and J. Mearns, 55 secs.; Bode and Dorman, 40 secs. Sawing perpendicular log, same size—Bode and Dorman, 43 secs.; the Mearns brothers, 1 min., and 16 secs. One man back contest, 24 inch log—Dorman, 2 mins., 12½ secs.; J. Mearns, 2 mins., 41 secs.; R. Mearns, 2 mins., 36½ secs., and J. H. Bode, 2 mins., 10 secs. Bode and Dorman used one saw in all the contests, namely, the Atkins Pacifico. The Mearns Bros used the Simons and Canadian razor saws.

### THE NEW BRUNSWICK FOUNDRY AND MACHINE WORKS.

Attention is directed to the advertisement in this issue of Messrs. McFarlane, Thompson and Anderson, of Fredericton, N.B. This well-known firm have been established now over half a century, the business passing into the hands of the present firm in 1870, and under their able and energetic management has expanded, new lines have been added until to-day the products of the company find purchasers all over Canada. One of the most important specialties manufactured is their patent Dunbar shingle machine, for which they control the Canadian patent, secured in September, 1885. This machine is beyond question and universally admitted to be one of the best on the market. It is favorably known from the Atlantic to the Pacific. A large number of these machines are now in use. They have stood the test for years, and users claim that they give perfect satisfaction, and value them highly for their durability and excellent work.

This firm also manufacture rotary saw mills, planers, band saws, wood working machinery, lathes, vertical drills and all kinds of mill machinery. Another specialty is their well-known Buckeye automatic engine manufactured from plans and specifications procured from the patentees in the United States. This engine is guaranteed to give as good results in machine power from the smallest quantity of fuel as any automatic engine in the world. The present members of the firm are Walter McFarlane, Hon. P. F. Thompson and Peter McFarlane. Mr. Anderson, one of the original members, died some years ago while on a visit to Scotland.

### PERSONAL.

Mr. W. A. Charlton, M.P.P., has been nominated by the Liberals of South Norfolk to contest that riding in the Provincial election to be held next spring.

Mr. H. Cargill, M.P., president of the Cargill Lumber Company, of Cargill, Ont., has returned from a three months' trip to Great Britain and the Continent.

Mr. A. G. McKenzie, of Stonewall, Man., died at his home in that place early in October. Deceased had recently been appointed to the position of forest fire ranger for the Dominion Government.

Mr. J. G. Scott, Mayor of New Westminster, B.C., and manager of the Pacific Coast Lumber Company, of that city, has announced that he will not be a candidate for the Mayoralty for a third term.

Mr. L. H. Shepard, of Shepard, Farmer & Company, wholesale lumber dealers, Boston, left early in October for British Columbia and the Puget Sound country. He will make an inspection of the mill of the Spicer Shingle Mill Company at Vancouver, B.C.

The death took place last month at St. John, N.B., of William Barnhill, who conducted a lumber business at Marble Cove, N.B., previous to 1881, when he retired from active business life. He was a director of the St. John Railway Company.

The bereavement which has fallen upon Mr. Thomas Conlon, of the lumber firm of J. & T. Conlon, Thorold, Ont., has elicited the deepest sympathy from his numerous friends and the citizens of that place. Mr. Conlon's youngest son Louie, 17 years of age, died at his home on the 14th ultimo as a result of a bicycle accident received some time previously. At the time of his death Mr. Conlon was absent at his mills at Little Current, and almost simultaneously with the death of his youngest son, the family received a telegram from him announcing the death of his third son, James, who was at Little Current, the cause being typhoid fever.

R. P. Young purposes building a saw mill at Rosseau, Ont.

Irons & Winnacott, of Huntsville, Ont., are building a new dry kiln.

Charles Boynton, of Georgeville, Que., is considering the erection of a new mill.

Charles Stuckey is moving his planing mill from Bay Mills to Sault Ste. Marie, Ont.

The planing mill of Gillespie & Grier at Parry Sound, Ont., is being offered for sale.

R. Holmes, of Ottawa, has made an offer to establish a planing mill at Fort Frances, Ont.

McArthur Bros., of Toronto, are carrying on extensive lumbering operations in Texas.

It is the intention of S. L. Kyle to build a wood-working factory on Bridge street, Ottawa.

James Thompson is rebuilding his saw mill at Terra-nora, Ont., which was burned recently.

John Charlton, M.P., is projecting a railway to run from Port Rowan to Collingwood, Ont.

The Swan River Lumber Company have bought the saw mill and timber rights of John Sinnott at Swan River, Man.

It is understood that the Parry Sound Lumber Company intends starting a box shoo factory at their mills in Parry Sound, Ont.

A company is seeking incorporation at Gananoque, Ont., to establish a factory for the manufacture of tables and other woodenware.

The Scotstown Lumber Company, of Scotstown, Que., closed down their mill about the middle of October, having exhausted their supply of logs.

The Michigan Land & Lumber Company will this winter overhaul their saw mill at Blind River, Ont., and substitute steam for water power.

Napoleon Payette has commenced the erection of a planing mill and sash and door factory at Penetanguishene, Ont. Mr. Payette is a large contractor.

A by-law was carried last month by the ratepayers of Scudridge, Ont., granting assistance to the Veneer & Box Company. No votes were cast against the by-law.

Fred. Moore, of Woodstock, N.B., is about to build a new mill, to contain rotary, two shingle mills, patent edger, claphoard and lath machines and other necessary appliances.

A dispatch from Vancouver, B.C., states that a Puget Sound lumberman has selected a site for a shingle mill to be built at Vancouver, and has purchased 613 acres of cedar limits.

The new mill of the Conger Lumber Company of Parry Sound, Ont., was put in operation about one month ago. The mill was built under the superintendence of Barney Wickett, and is first-class in every respect.

A special committee of the council of New Westminster, B.C., has recommended the lease of certain property to the Pacific Coast Lumber Company, which proposes erecting a large saw mill.

The third action against J. R. Booth, of Ottawa, for dumping sawdust into the Ottawa river, has been withdrawn, Mr. Booth promising to erect a burner at the close of the present season.

The Victoria Lumber & Manufacturing Company, of Chemainus, B.C., are making improvements to their plant. The mill has been extended about 80 feet and the yard is being rearranged and enlarged.

W. C. Edwards & Company, of Ottawa, are taking steps to prevent the spread of smallpox in the camps during the coming winter. A doctor has been engaged to make a regular inspection of the camps.

The largest saw mill in Maine has just been completed at Ashland, on the Aroostook river. It is 207x60 feet and equipped with double-cutting band mills. Platforms from which the lumber is loaded on cars are four in number, each 400 feet long.

A new lumber concern is that of Bahnsen & Bucholtz, of Pembroke, Ont., composed of B. B. Bahnsen and A.



# WOOD PULP DEPARTMENT

## PULP WOOD—TREATMENT OF THE RAW MATERIAL IN THE LOG AND ITS MEASUREMENT.\*

BY A CANADIAN PULPMAKER.

### CHAPTER I.—THE RAW MATERIAL.

Although the ordinary text-books on paper-making and the manufacture of wood pulp give mention of a large variety of woods for the production of fibre, yet in actual practice the number of woods used is very limited. Of recent years, however, the inevitable law of supply and demand has made itself felt, with the result that it is being found possible to utilize material that at one time manufacturers would not look at.

In the various reports of the Forestry Bureau of the United States Government we find the following woods mentioned as being suitable for pulp wood, viz: Spruce, Pine, Fir, Balsam, Hemlock, Poplar, Larch, Tamarac, Aspen, Cottonwood, Basswood, Birch, Maple, Cypress, Willow, Beech, Chestnut.

Now while it is true that a certain percentage of cellulose can be obtained from all these woods, and that the quantity of fibre producible from a given weight of raw material does not vary largely as between the several woods mentioned, yet there are important qualifications outside of the mere yield of cellulose which effect the suitability of any particular wood far more than the percentage yield.

It is this fact that limits the choice of wood, and so long as the supply of the wood giving the best results with least cost has been abundant, the pulpmaker has confined his attention to those woods which give a fibre of good colour and strength at a minimum expenditure of labour and material.

Until quite recently, therefore, pulpmakers have confined their attention almost exclusively to the use of spruce, because this wood has always proved to be the best for the production of pulp, either in the form of mechanical wood or as chemical pulp.

That spruce ranks first as a pulpwood more on account of its physical properties than for the chemical composition of the raw material may be judged from the following table, showing the proportion of cellulose in certain woods:—

| Wood.              | Cellulose % |
|--------------------|-------------|
| Poplar .. .. .     | 62.77       |
| Silver Fir .. .. . | 56.90       |
| Birch .. .. .      | 55.52       |
| Willow .. .. .     | 55.72       |
| Pine .. .. .       | 53.27       |
| Spruce .. .. .     | 53.00       |
| Chestnut .. .. .   | 52.64       |
| Beech .. .. .      | 45.47       |
| Ebony .. .. .      | 30.00       |

The woods which are mainly utilized either in conjunction with spruce or alone as pulp-woods are poplar and balsam. It is, however, worthy of notice that while spruce is equally suitable for mechanical pulp or for chemical, these other woods have only a limited application. Thus the use of poplar is almost entirely confined to the production of soda pulp, while balsam is generally worked in with spruce in the manufacture of ground wood.

In actual practice the rules followed, and the methods adopted, are so much a matter of local circumstances that it is not easy to describe, or define, under what conditions the best results are to be obtained.

For instance, some pulpmakers have a great objection to the use of balsam in the manufacture of ground wood. On the other hand, it will be found that in many mills balsam is used to the extent of 20 to 25 per cent. The chief difficulty experienced with balsam is that the wood grinds somewhat flaky and gives an irregular fibre. In the majority of mills using this wood the usual practice is to keep the proportion down to about 10 to 12 per cent., and in this way the inferior condition of the fibre does not seriously affect the pulp made.

It might be noticed in passing that the admixture of other woods with spruce in the manufacture of mechanical pulp will often account for irregular running on the paper machine, because the physical condition of the fibres from different woods is not the same. Every papermaker knows that some pulps work free while others act just the opposite on the machine. Sometimes it is necessary to run the pulp with a large proportion of water in order to get the stuff to felt properly, and for reasons of this kind the papermaker is apt to blame the quality of the pulp, and attribute the irregularity to the wrong causes.

A good deal might be done in this direction to determine the approximate effect of certain percentages

\*From Paper and Pulp.

of any particular wood added to spruce, say for instance the balsam, so that the maximum amount might be made known. For this it would be desirable to have a number of tests made with varying proportions of the added wood in which the conditions of manipulation and behaviour on the paper machine would be closely watched.

For the preparation of chemical pulp a greater number of woods are available, and it is easy to see that such would naturally be expected. By the process employed the non-cellulose matters are more or less eliminated, so that the resultant cellulose, or fibre proper, would not differ much as to its chemical composition, the difference being mainly those of a physical character. These are very varied, and then to such an extent that pulp prepared from one class of wood is not suitable for the uses to which pulp made from another wood can be applied.

Thus, while spruce makes a good strong white pulp, poplar will only produce a soft pliable pulp, which in its way is, however, as useful a material as spruce.

Of late years hemlock has been tried as a pulp wood with a moderate degree of success. The fibre obtained is somewhat dark colored, and of coarse quality, and is not suitable for anything but common paper. Another wood on which experiments have been made is tamarac, also known as larch. So far this wood has proved to be of little or no service for pulp. The cost of production is too high, as the amount of sulphite liquor required per ton of raw wood is greater than with spruce, and the complete removal of the resinous matters is a difficult operation. The subsequent process of bleaching is also an expensive one, and since the fibre produced without bleaching is poor the pulp cannot be used for good papers. It is claimed that the proportion of chips and shives in fibre prepared from tamarac is another serious objection to its use.

It is interesting to note in connection with the subject of spruce as the raw material for pulp that methods have been introduced to utilize the wood to the fullest extent, so as to obtain a high percentage yield. In some districts where the spruce is used for the manufacture of lumber as well as of pulp, an arrangement is made whereby the logs are converted into lumber and the smaller ones into pulp. In this way there is a material saving effected. When small logs are cut up into lumber a large proportion of the wood is wasted owing to the necessity of cutting the round log into a square piece of timber, whereas with a large log the amount is much less relatively speaking. For the manufacture of pulp the small logs are as equally serviceable as the large ones, while some claim that the former usually make the best pulp, so that the exchange is of advantage to all parties. Moreover, a machine has recently been introduced by means of which the slabs, as they are called, cut off from the large logs can be barked and eventually chipped up for conversion into chemical pulp. The economy effected is said to be considerable, though it is obvious that such a method of using all the wood can only pay when the cost of the raw material is fairly high, seeing that the expense attaching to the adoption of any such process as that described must be great, because of the labour required to handle the slabs produced.

Generally speaking it is certain that the utilization of woods other than spruce will only be achieved as circumstances demand, and it is hardly to be expected that pulp manufacturers will experiment with such woods until the supply of spruce runs a bit short so that the manipulation of them can be managed at a profit. The present price of pulp does not seem to warrant many attempts in this direction just now.

But at the same time the supply of good sound spruce in abundant quantities easily and cheaply got from the forests will not last for ever under existing conditions of lumbering, and steps ought to be taken to see that the supply is not unduly shortened.

### BRITISH WOOD PULP ASSOCIATION.

A committee meeting of this Association was held in London on August 21st.

Members of the Association having received communications from certain papermakers who wish to introduce a new clause into the contract note, empowering them to entirely reject deliveries of pulp when they are found to be inferior in value to the contracted quality to the extent of 5s. per ton, the matter was discussed at some length, and it was decided to communicate with the Papermakers' Association on the subject.

Communications having taken place with the Statistical Office of the Custom House for the supply of weekly returns of the imports of wood pulp into each part of the United Kingdom, and comprising the particulars from the entries for this article as contained in

Bill of Entry B, it was decided to accept the offer made by the Custom House and to supply these returns weekly to members at a charge of £1 1s. 6d. per annum.

Disputes have arisen as to what the minimum percentage of variation in moisture in wood pulp, from the 10 per cent. basis, should be before either party could claim for the difference, analysts engaged in this class of work were consulted, and it was decided to lay their replies before the Papermakers' Association and ask for an expression of opinion. The majority of the analysts considered that one-half per cent. would be a fair allowance.

The arbitration submission form recommended at the annual general meeting was revised, and temporarily agreed to.

Some discussion took place as to the advisability of amending the "force majeure" clause of the Contract Note so as to better define its object, but no decision was arrived at.

### PULP NOTES.

The Thorold Pulp Company, which recently commenced operations at Thorold, Ont., has made a proposition to the town to start a paper mill.

It is reported that the demand for pulp wood in Quebec this fall shows a marked falling off from previous years. The price is lower, and the demand from the United States very light.

Through the efforts of the British Wood Pulp Association the statistical office of the London custom house now make separate returns of both dry and wet mechanical pulp and dry and wet chemical pulp.

It seems that a settlement in the arbitration case of Edward Lloyd versus Sturgeon Falls Pulp Company has not yet been reached, as proceedings are about to be again opened in the Superior Court at Toronto.

The wood pulp market in Great Britain is rather firmer than it was one month ago.

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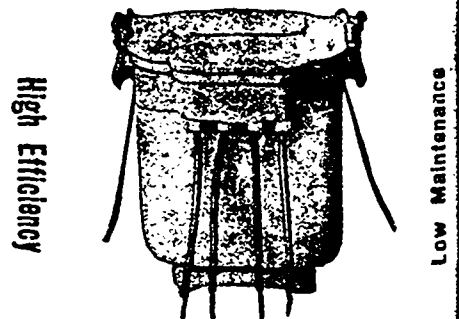
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Contracts for chemical pulp for delivery next year are being made more freely, whilst for mechanical enquiries show that paper-makers have still to buy very largely.

A representative of Messrs. Harmsworth, proprietor of the London, England, Daily Mail, has made an inspection of the pulp mill of the Laurentide Sulphite Fibre Company, at Chatham, N.B., with a view to purchase.

E. H. Humbert, manager of the Belgo-Canadian Pulp Company, of Shawinigan Falls, Que., was accidentally killed by his own gun while inspecting the limits of the company in the Lake Edward district. Deceased recently arrived in Canada from Belgium.

Progress is being made towards the formation of a combine of nearly all the sulphite pulp mills of the United States and Canada. It is said that the proposition provide that each

manufacturer shall be paid for his plant in stock, preferred and common, both going to makers whose mills show a profit, and common stock to mills not showing an earning capacity.

The progress of the pulp and paper industry of the Dominion is shown by the annual statement of the Laurentide Pulp Company, operating at Grand Mere, Que. The net profits for the past year were \$296,361 over and above interest on bonds on all other charges. This is upwards of 18 per cent. on the stock of the company. It is said that the entire product of the company is sold up to the end of the year 1902.

The paper and pulp industry of the United States, according to a preliminary census report issued the other day, has a total capital of \$167,507,713, a gain of 86.5 per cent. since 1890. The number of establishments is 763, a gain of 17.6 per cent. The value of products

is \$127,286,162, an increase of 61.2 per cent. The average number of wage earners is 49,656; total wages, \$20,746,429; miscellaneous expenses, \$10,184,106; cost of materials used, \$70,530,239.

The Sissiboo Pulp Mills Company, of Weymouth, N.S., has defaulted in the payment of interest on its bond issue. About two years ago the stock of the company was placed on the market, with a bond issue of \$250,000, secured by a mortgage upon the property owned by the company. The present inability to meet the interest is reported to be owing to internal difficulties on the part of the management. It is also probable that the recent low selling price of pulp has been a factor in the embarrassment. The company has an excellent directorate, and it is to be hoped that a satisfactory settlement will be made.

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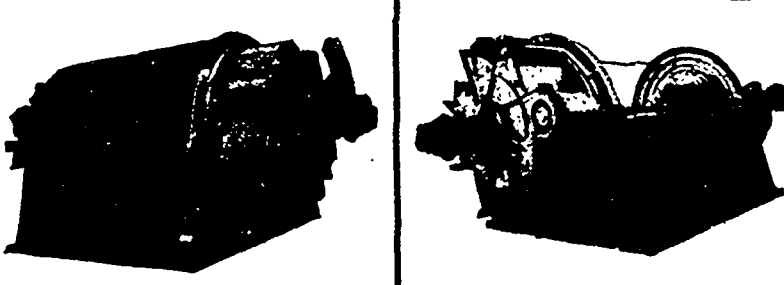
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## BAND RESAWS.

A few months ago a correspondent asked in these columns for some information in regard to 8-inch resaws. I happen to be taking care of just such saws this season in connection with a band log mill, writes J. S. Phillipi, in *The Wood-Worker*. The maximum feed with which the mill is equipped is 4 inches to the revolution of saw. You can figure what feed that is per minute, taking a maximum tooth travel of 8,000 feet and length of saw as 31 feet.

The stock we resaw comes from a band and a circular, generally in planks  $2\frac{1}{8}$  inches thick, and runs in widths from 40 inches down. It will be seen from this that with a 4-inch feed each tooth ( $1\frac{3}{4}$ -inch space) cuts a little less than 1-50-inch. This, to my notion, is not nearly enough feed on stock, especially from 16-inch down, on which I think my saws would stand up to from 75 to 150 per cent. more.

In regard to the width of lap, etc., of which he inquires, that matter has heretofore been well discussed here. However, in my practice right at the present time on these saws, I

make a lap ranging from 7-16 to  $\frac{1}{2}$ -inch, generally nearer the former than the latter. I find old saws here of 17-gage with laps  $\frac{3}{4}$  inch wide, which is  $\frac{1}{8}$ -inch wider than I make on 14-gage saws. I certainly prefer the narrow lap. The proper size brazing tongs for this gage is about  $\frac{5}{8} \times 1$  or  $1\frac{1}{8}$  inches.

In regard to his question about the crown in back of saw, there has been quite a change of opinion and practice in the last ten years. If the teachings of filers at that day were unquestionably correct, then such a thing as a double-cutting band would never have been invented, nor could they be a success. Fortunately, band filers and band saw mill men are progressive and not dependent on the traditions of the past.

I can easily recall the time when I was told of a certain filer who put up his saws "straight" (no reference here to the late circular controversy). I was told that his saws went well, and I immediately asked if they might not go better if they had crown in back. But at the present time, the only objection I have to a straight back is this: A single cut-

ting saw that is fitted this way will not be straight any longer after the first run of a few hours. The concave in saw at this time, of course, will be so little that it may not be possible to discover it. But a saw is all the time stretching more on tooth edge than on back, so it is certainly only a matter of a short time until it will be concave or sway-backed. While I can find no good objection to a straight back, the sway or concave back I would not regard as a desirable condition. Therefore, I prefer to fit them with crown back, say about 1-16 inch in 8 or 10 feet. In this condition they can be tensioned several times before they become concave. Furthermore, with the system of work I use, it is quite as easy to fit saws crowning as straight, and as easy to keep the back even.

An American firm has secured a contract to finish red gum block for street paving in England, to the extent of 100,000 square yards. The awarding of so large a contract for American material excited some opposition but in a trial of jarrah, Swedish yellow deal and red gum it developed that the gum lasted five months longer than the others, and was good for two years more of service.

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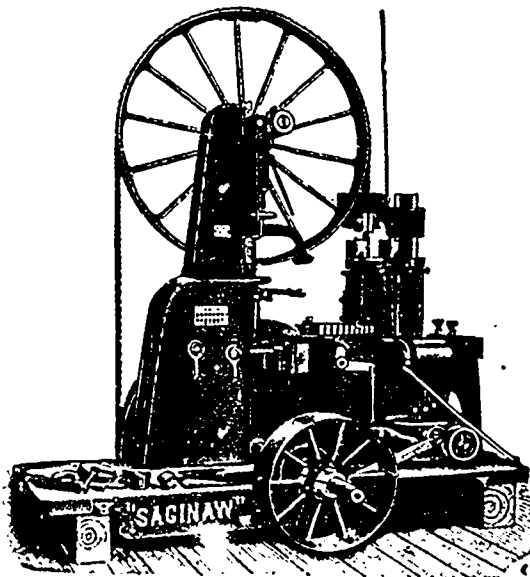
Owing to the rapid wholesale manner in which we move and handle lumber, we do not consider it practicable to issue a stock sheet or make standing quotations, for which reason we solicit your inquiries for any material that you are in the market to buy or will use in the future, and if you will take the time to furnish us the above information, we will make you some interesting quotations.

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**TRANSMITTING POWER BY ELECTRICITY TO SHOP TOOLS.**

A committee of one, and a very strong one, has been appointed by the Railway Master Mechanics' Association to investigate and report upon the subject of transmitting power by electricity in railway shops. This is a very reasonable subject, for while a few of our more enterprising superintendents of machinery are applying electric motors to their principal shop tools and thereby effecting a decided saving of expense, the majority are hanging off for the purpose of obtaining more information concerning the value of electrical motors. We have no doubt, says Railway and Locomotive Engineering, but the report of the committee referred to will have the effect of convincing many of the doubting Thomases that electrical motors are perfectly reliable.

Meanwhile we would advise those who are anxious to adopt electric motors and are hanging off on the edges of two opinions to read a paper on the "Influence of Electric Transmission Upon Workshop Expansion" read at the last meeting of the American Society of Mechanical Engineers.

This paper states briefly and comprehensively a number of the most important advantages of electricity as a motive power, not only where the future of the installation cannot be foretold, but where the gradual development of a plant or system of workshops may be in contemplation.

Future areas of power may be planned and arranged with the utmost freedom and entirely irrespective of power considerations. They can be located as desired, on separate floors, in various departments or in detached buildings. Original provision for prospective development is not necessary in the electric system, but is required by shafting transmission. There is no expense for contemplated additions till they are actually installed as required.

Permanent additions to the electric generating plant and the distributing system are made with a gradual and pro rata outlay of capital, instead of in disproportionate blocks of new equipment, as required by mechanical transmission.

Extensions of electric transmission and new centers of power distribution may be established at any time and of reasonable capacity, anywhere and at any distance, at minimum cost for labor and material. There is no crowding, overloading, or interference with existing conditions, or with the daily progress of routine work. Temporary extensions to meet sudden demands for power at any point are quickly made by running to the desired location electric wires or cables. These are easily removed when no longer required and as readily used elsewhere for similar purposes. The shifts are made with the least expense of time and labor in handling, and with no accompanying waste of material to suit different conditions.

Auxiliary power is always at hand for emergencies and to almost any reasonable extent, on account of the reserve nature of the electric supply.

On a number of creosoted beech railway sleepers laid on two railways in Elsass-Lothringen in 1868-69, about 86 per cent. were in use as late as 1897. In the Eberfeld district only 13 per cent. had to be renewed after thirty years' service; these were impregnated with a mixture of creosote and zinc chloride. On the Eastern of France Railway, after twenty-one years' service only 6.4 per cent. of beech-creosoted sleepers required renewal, as against 26.7 per cent. creosoted oak sleepers and 52 per cent. untreated oak sleepers.

**LUMBERMEN AT THE FAIR.**

The employees of the W. C. Edwards' saw mills at Rockland, accompanied by their wives, again this year visited the Central Canada Fair at Ottawa. The visitors, numbering about 800, were taken to the Capital on a special train at the expense of the Company. The latter also stood the cost of admission to the fair grounds. A general holiday was proclaimed at the mills, and all took advantage of this fact to take in the fair. This is the third year Mr. Edwards has provided this treat.

The St. John Ship Laborers' Society have decided to accept an offer made by William Thompson & Company to give them employment on three lines of steamers at the same rate of wages and conditions as last season, namely, 30 cents an hour.

The shingle mill burned at Marble Cove, N.B., last month was built in 1890 by the late Robert Roberts, and is now controlled by the sons of deceased, who, during the winter, carry on a general contracting business.

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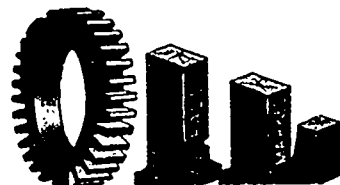


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**FORESTRY AWARDS.**

The directors of the Pan-American Exposition Company have announced the following awards to Canadian exhibitors in the Forestry Department :

Silver medals—Bureau of Forestry, Toronto, Ont., forestry products ; Columbia Handle and Lumber Co., London, Ont., turned wood (rough and manufactured) ; Sault Ste. Marie Paper and Pulp Co., Sault Ste. Marie, Ont., dry pulp.

Bronze medals—J. R. Booth, Ottawa, Ont., tree sections ; J. B. Smith & Sons, Toronto, Ont., house furnishings.

Honorable mention—Algoma Commercial Co., Sault Ste. Marie, Ont., square sections of birch ; British Canadian Lumber Co., Kearney, Ont., chair parts and birch specimens ; Lyn Last Co., Lyn, Ont., shoe lasts ; W. H. Morgan, Huntsville, Ont., inlaid baptismal font ; Mitchell Bros., Berkeley, Ont., maple rollers ; Sutherland, Innes Co., Limited, Chatham, tree sections, hoops and staves ; Standard Chemical Co., Deseronto, Ont., charcoal and wood alcohol.

Andrew Hutchinson, a young man 19 years of age, fell across the slash table in the saw mill of the Rat Portage Lumber Company at Beaver Mills, Ont., and was killed almost instantly.

**IMMENSE FORESTS.**

Hon. Mr. Duffy, one of the members of the Quebec Government, expresses himself very enthusiastically as to the prospects of his province. Only one-sixth of the timber lands are yet under lease, he says. He also declared that if the present rate of cutting on the licensed limits were continued for ten years, it would scarcely represent the product of one year's growth on the whole extent of the Crown lands. Further, he stated, that if all the public lands were put under lease, it would place the finances on a safe footing and would in no way jeopardize the interests of the province.

**TRADE NOTES.**

The Syracuse Smelting Works, of Montreal, have secured a large order for babbitt metal to be shipped to Holland. It seems strange that the Boer sympathisers should thus show loyalty to Canadians.

Messrs. Geo. T. Houston & Co., of Chicago, have recently purchased 157,000 acres of hardwood timber land in the Delta Valley on the Yazoo river, Miss., and are about to erect a large mill and install four bands. This will give them in the new mill a capacity double that of their present mill at Bigbee.

**WANTS PAVING BLOCKS.**

The Canadian Manufacturers Association, Toronto, is advised by a firm of commission agents in London, Eng., that they are prepared to take up the sole agency in the United Kingdom and the continent for Canadian manufacturers of the following goods :

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Coakley—Yes ; that's my Jetsam. He's a promising marine painter ; and, do you know, he started life as a humble lumberman.

Joakley—Ah! once a hewer of wood and now a drawer of water.—Philadelphia Press.

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in. by 5 ft. 2 in. ; one section red oak log, 3 ft. 6 in. ; one section white oak log, 3 ft. 6 in. ; one section sycamore, 3 ft. 6 in. ; one section black ash, 3 ft. 6 in. ; one section basswood, 3 ft. 6 in. ; elm staves, maple staves, red oak staves, basswood staves, white ash staves, black ash staves, elm hoops, red oak, basswood, elm, black ash, and maple heading, separate bundles, and bark for decorative purposes.

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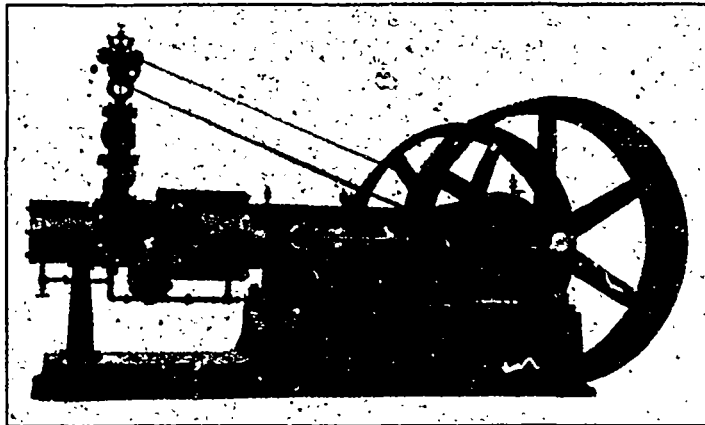
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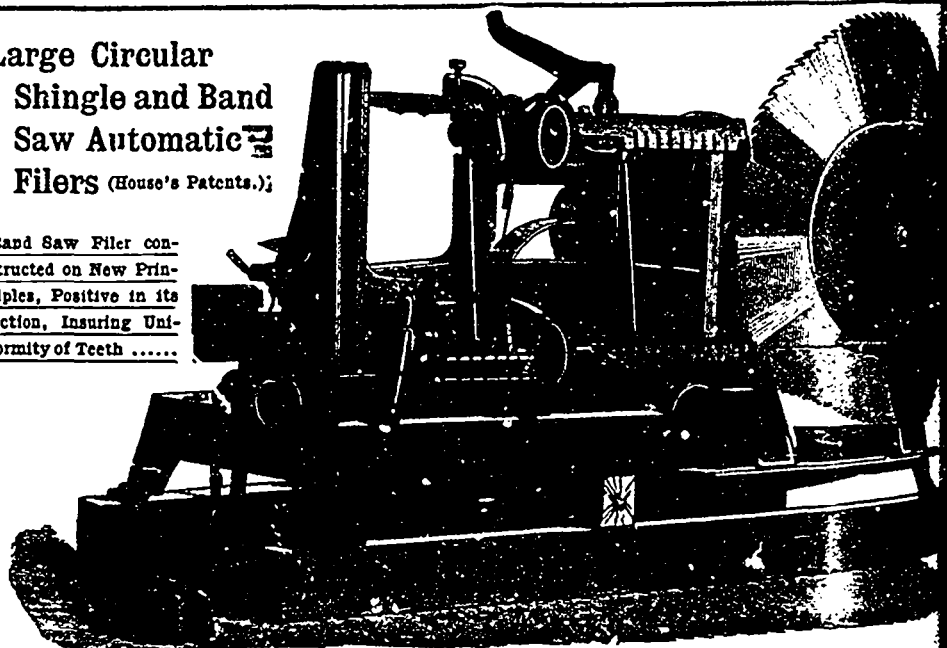
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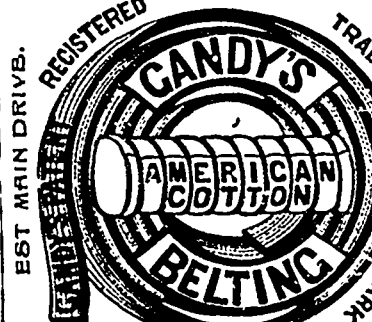
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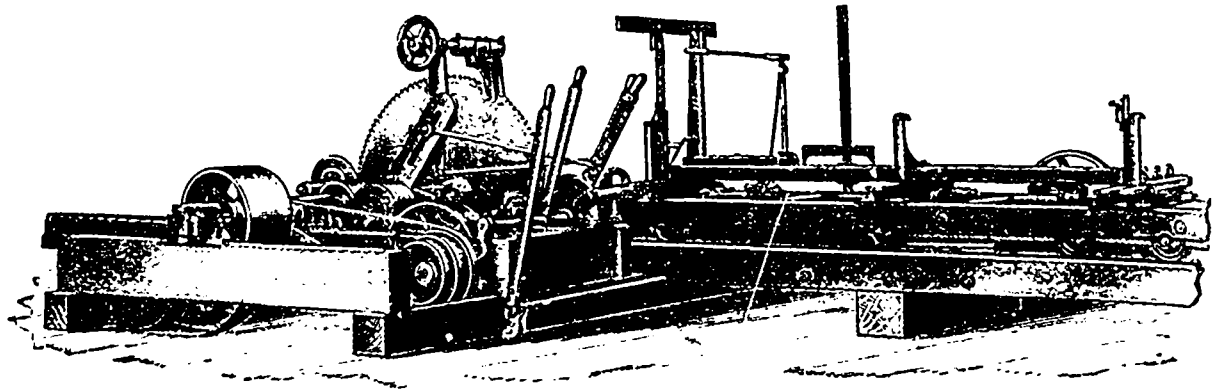


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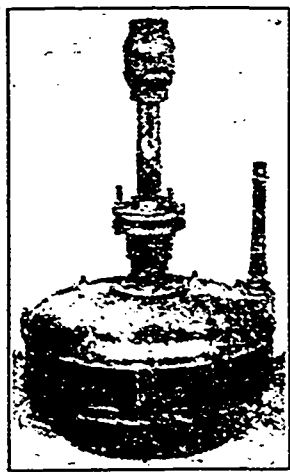


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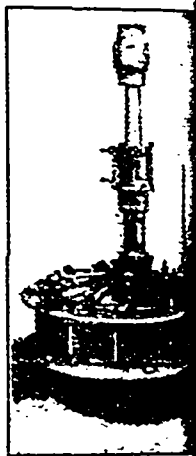
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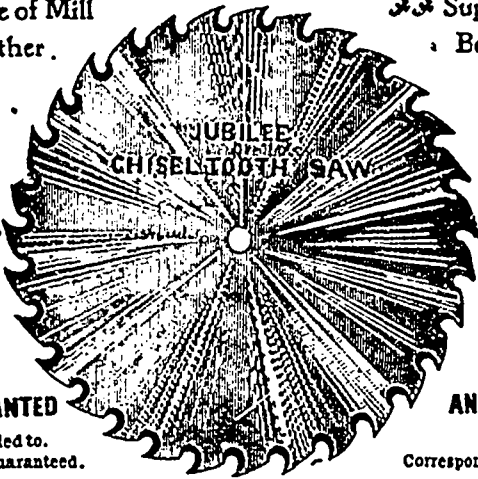
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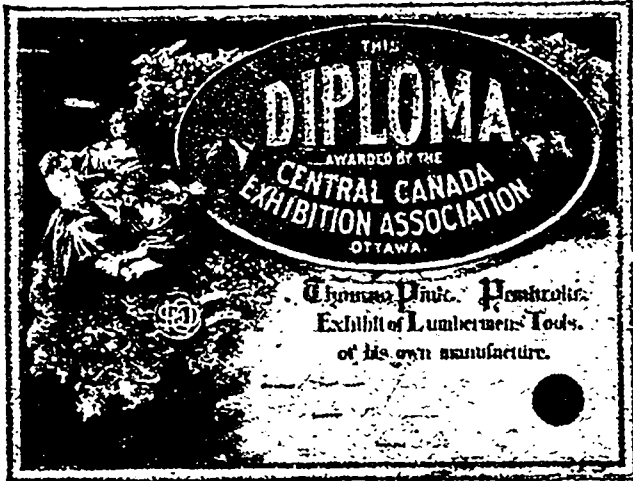
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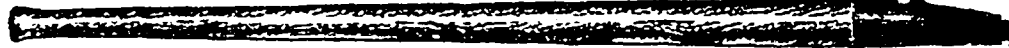
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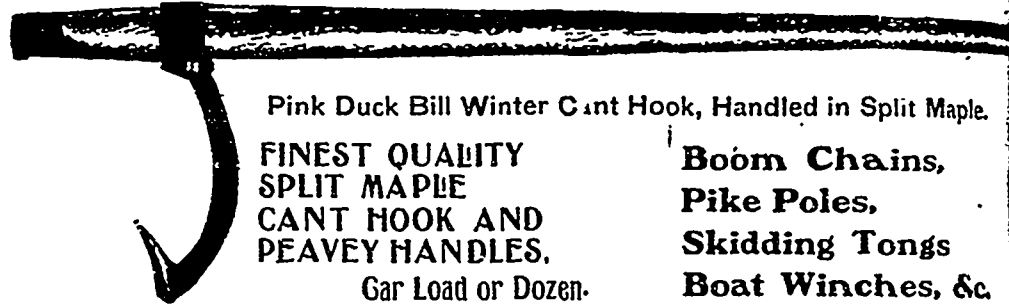
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